Dell P2421 Monitor

User's Guide

Model: P2421
Regulatory model: P2421b

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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Rev. A02

Contents

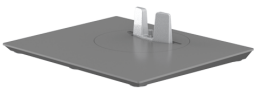
About your monitor

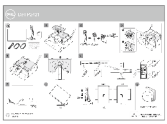
Package contents

Your monitor ships with the components shown in the table below. If any component is missing, contact Dell technical support. For more information, see Contact Dell.

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

NOTE: If you are attaching a stand that you purchased from any other source, follow the set up instructions that were included with the stand.

	Display
	Stand riser
	Stand base

	Power cable (varies by country)
	DisplayPort cable (DisplayPort to DisplayPort)
	VGA cable (Japan only)
	USB 3.0 upstream cable (enables the USB ports on the monitor)
 	• Quick Setup Guide • Safety, Environmental, and Regulatory Information

Product features

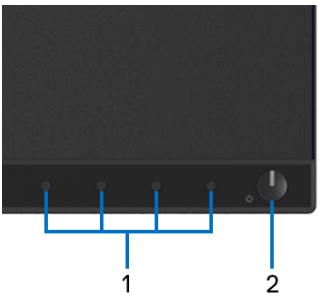
The **Dell P2421** monitor has an active matrix, Thin-Film Transistor (TFT), Liquid Crystal Display (LCD) and LED backlight. The monitor features include:

- 61.13 cm (24.1 in.) viewable area (measured diagonally).
  1920 x 1200 (16:10) resolution, plus full-screen support for lower resolutions.
- Wide viewing angle to allow viewing from a sitting or standing position.
- Color gamut of 99% sRGB.
- Digital connectivity with DVI, DisplayPort and HDMI.
- Tilt, swivel, height, and rotate adjustment capabilities.
- Removable stand and Video Electronics Standards Association (VESA™) 100 mm mounting holes for flexible mounting solutions.
- Equipped with 1 USB upstream port and 4 USB downstream ports.
- Plug and play capability if supported by your system.
- On-Screen Display (OSD) adjustments for ease of set-up and screen optimization.
- Power and OSD buttons lock.
- Security lock slot.
- Stand lock.
- ≤ 0.3 W in Standby Mode.
- Optimize eye comfort with a flicker-free screen.

⚠ **WARNING: The possible long-term effects of blue light emission from the monitor may cause damage to the eyes, including eye fatigue, digital eye strain, and so on. ComfortView feature is designed to reduce the amount of blue light emitted from the monitor to optimize eye comfort.**

Identifying parts and controls

Front view



Front panel controls

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

Back view

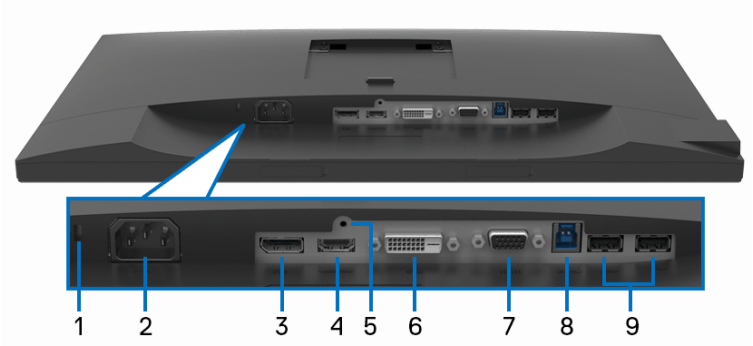
Back view with monitor stand

Label	Description	Use
1	VESA mounting holes (100 mm x 100 mm - behind attached VESA Cover)	Wall mount monitor using VESA-compatible wall mount kit (100 mm x 100 mm).
2	Regulatory label	Lists the regulatory approvals.
3	Stand release button	Releases stand from the monitor.
4	Barcode, serial number, and Service Tag label	Refer to this label if you need to contact Dell for technical support.
5	Cable-management slot	Use to organize cables by inserting them through the slot.

Side view

Label	Description	Use
1	USB 3.0 downstream ports (2)	Connect your USB device. **NOTE:** To use these ports, you must connect the USB cable (shipped with your monitor) to the USB-upstream port on the monitor and to your computer.

Bottom view



Bottom view without monitor stand

Label	Description	Use
1	Security lock slot	Secures the monitor with security lock (security lock not included).
2	Power connector	Connect the power cable (shipped with your monitor).
3	DisplayPort	Connect your computer with the DisplayPort cable (shipped with your monitor).
4	HDMI port	Connect your computer with the HDMI cable.
5	Stand lock feature	To lock the stand to the monitor using a M3 x 6 mm screw (screw not included).
6	DVI port	Connect your computer with the DVI cable.
7	VGA connector	Connect your computer with the VGA cable (shipped with your monitor, for Japan only).
8	USB 3.0 upstream port	Connect the USB cable (shipped with your monitor) to this port and your computer to enable the USB ports on your monitor.
9	USB 2.0 downstream port (2)	Connect your USB device. **NOTE:** To use this port, you must connect the USB cable (shipped with your monitor) to the USB-upstream port on the monitor and to your computer.

Monitor specifications

Model	**P2421**
Screen type	Active matrix - TFT LCD
Panel technology	In-Plane Switching Technology
Aspect ratio	16:10
Viewable image	
Diagonal Width (active area) Height (active area) Total area	611.3 mm (24.10 in.) 518.4 mm (20.41 in.) 324.0 mm (12.76 in.) 167961.6 mm^2 (260.34 $in.^2$)
Pixel pitch	0.270 mm x 0.270 mm
Pixel per inch (PPI)	94
Viewing angle	178° (vertical) typical 178° (horizontal) typical
Luminance output	300 cd/m² (typical)
Contrast ratio	1000 to 1 (typical)
Faceplate coating	AG type, 3H hard coating, Haze 25
Backlight	White LED edgelight system
Response time	8 ms (Normal) 5 ms (Fast)
Color depth	16.7 million colors
Color gamut	99% sRGB
Built-in devices	• USB 3.0 Super-Speed hub (with 1 x USB 3.0 upstream port) • 2 x USB 3.0 downstream ports • 2 x USB 2.0 downstream ports

Connectivity	• 1 x DisplayPort version 1.2 • 1 x HDMI port version 1.4 • 1 x DVI port • 1 x VGA port • 1 x USB 3.0 upstream port • 2 x USB 3.0 downstream ports • 2 x USB 2.0 downstream ports
Border width (edge of monitor to active area)	6.3 mm (Top) 6.3 mm (Left/Right) 19.2 mm (Bottom)
Adjustability	
Height adjustable stand Tilt Swivel Pivot	130 mm -5° to 21° -45° to 45° -90° to 90°
Dell Display Manager compatibility	Easy Arrange and other key features
Security	Security lock slot (cable lock sold separately)

Resolution specifications

Model	**P2421**
Horizontal scan range	30 kHz to 83 kHz (automatic)
Vertical scan range	56 Hz to 76 Hz (automatic)
Maximum preset resolution	1920 x 1200 at 60 Hz

Supported video modes

Model	**P2421**
Video display capabilities (VGA & DVI & HDMI & DisplayPort playback)	480p, 480i, 576p, 576i, 720p, 1080i, 1080p,

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 x 1024	64.0	60.0	108.0	+/+
VESA, 1280 x 1024	80.0	75.0	135.0	+/+
VESA, 1600 x 1200	75.0	60.0	162.0	+/+
VESA, 1920 x 1080	67.5	60.0	148.5	+/+
VESA, 1920 x 1200	74.0	60.0	154.0	+/+

Electrical specifications

Model	P2421
Video input signals	• Analog RGB, 0.7 V ± 5%, positive polarity at 75 Ω input impedance • Digital DVI-D TMDS, 600 mV for each differential line, positive polarity at 50 Ω input impedance • HDMI 1.4, 600 mV for each differential line, 100 Ω input impedance per differential pair • DisplayPort 1.2, 600 mV for each differential line, 100 Ω input impedance per differential pair
AC input voltage/ frequency/current	100 VAC to 240 VAC / 50 Hz or 60 Hz ± 3 Hz / 1.2 A (typical)

Inrush current	• 120 V: 30 A (Max.) at 0°C (cold start) • 240 V: 60 A (Max.) at 0°C (cold start)
Power consumption	• 0.2 W (Off mode)[1] • 0.2 W (Standby Mode)[1] • 14.8 W (On mode)[1] • 42 W (Max.)[2] • 12.2 W (Pon)[3] • 38.5 kWh (TEC)[3]

[1] As defined in EU 2019/2021 and EU 2019/2013.

[2] Max brightness and contrast setting with maximum power loading on all USB ports.

[3] Pon: 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.

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.

Physical characteristics

Model	**P2421**
Signal cable type	• Digital: DisplayPort, 20 pins • Digital: HDMI, 19 pins (cable not included) • Digital: DVI-D, 24 pins (cable not included) • Analog: D-Sub, 15 pins (cable not included, except for Japan) • Universal Serial Bus: USB, 9 pins
NOTE: 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.	
Dimensions (with stand)	
Height (extended)	500.8 mm (19.72 in.)
Height (compressed)	370.8 mm (14.60 in.)
Width	531.0 mm (20.91 in.)
Depth	166.0 mm (6.54 in.)
Dimensions (without stand)	
Height	349.5 mm (13.76 in.)
Width	531.0 mm (20.91 in.)
Depth	44.1 mm (1.73 in.)
Stand dimensions	
Height (extended)	400.8 mm (15.78 in.)
Height (compressed)	353.4 mm (13.91 in.)
Width	206.0 mm (8.11 in.)
Depth	166.0 mm (6.54 in.)
Base	206.0 mm x 166.0 mm (8.11 in. x 6.54 in.)
Weight	
Weight with packaging	7.3 kg (16.14 lb)

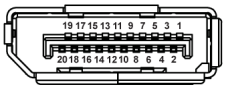
Weight with stand assembly and cables	5.6 kg (12.26 lb)
Weight without stand assembly (For wall mount or VESA mount considerations - no cables)	3.5 kg (7.63 lb)
Weight of stand assembly	1.6 kg (3.53 lb)
Front frame gloss	2-4 (only front chin)

Environmental characteristics

Model	**P2421**
Compliant standards	
• ENERGY STAR certified monitor • EPEAT registered where applicable. EPEAT registration varies by country. See www.epeat.net for registration status by country. • RoHS-compliant • TCO Certified • BFR/PVC free monitor (excluding external cables) • Arsenic-free glass and Mercury-free for the panel only	
Temperature	
Operating	0°C to 40°C (32°F to 104°F)
Non-operating	• Storage: -20°C to 60°C (-4°F to 140°F) • Shipping: -20°C to 60°C (-4°F to 140°F)
Humidity	
Operating	20% to 80% (non-condensing)
Non-operating	• Storage: 10% to 90% (non-condensing) • Shipping: 10% to 90% (non-condensing)
Altitude	
Operating	5000 m (16404 ft) (maximum)
Non-operating	12192 m (40000 ft) (maximum)
Thermal dissipation	• 143.3 BTU/hour (maximum) • 54.6 BTU/hour (typical)

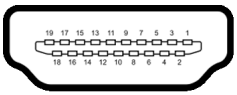
Pin assignments

DisplayPort connector



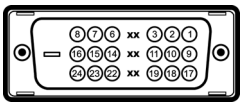
Pin number	20-pin side of the connected signal cable
1	ML3 (n)
2	GND
3	ML3 (p)
4	ML2 (n)
5	GND
6	ML2 (p)
7	ML1 (n)
8	GND
9	ML1 (p)
10	ML0 (n)
11	GND
12	ML0 (p)
13	GND
14	GND
15	AUX (p)
16	GND
17	AUX (n)
18	Hot Plug Detect
19	Re-PWR
20	+3.3 V DP_PWR

HDMI connector



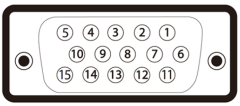
Pin number	19-pin side of the connected signal cable
1	TMDS DATA 2+
2	TMDS DATA 2 SHIELD
3	TMDS DATA 2-
4	TMDS DATA 1+
5	TMDS DATA 1 SHIELD
6	TMDS DATA 1-
7	TMDS DATA 0+
8	TMDS DATA 0 SHIELD
9	TMDS DATA 0-
10	TMDS CLOCK+
11	TMDS CLOCK SHIELD
12	TMDS CLOCK-
13	CEC
14	Reserved (N.C. on device)
15	DDC CLOCK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

DVI connector



Pin number	24-pin side of the connected signal cable
1	TMDS RX2-
2	TMDS RX2+
3	TMDS Ground
4	Floating
5	Floating
6	DDC Clock
7	DDC Data
8	Floating
9	TMDS RX1-
10	TMDS RX1+
11	TMDS Ground
12	Floating
13	Floating
14	+5 V/+3.3 V power
15	Self test
16	Hot Plug Detect
17	TMDS RX0-
18	TMDS RX0+
19	TMDS Ground
20	Floating
21	Floating
22	TMDS Ground
23	TMDS Clock+
24	TMDS Clock-

VGA connector



Pin number	15-pin side of the connected signal cable
1	Video-Red
2	Video-Green
3	Video-Blue
4	GND
5	Self-test
6	GND-R
7	GND-G
8	GND-B
9	Computer 5 V/3.3 V
10	GND-sync
11	GND
12	DDC data
13	H-sync
14	V-sync
15	DDC clock

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 that the system can configure itself and optimize the monitor settings. Most monitor installations are automatic; you can select different settings if desired. For more information about changing the monitor settings, see Operating the monitor.

Universal Serial Bus (USB) interface

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

NOTE: This monitor is Super-Speed USB 3.0 and High-Speed USB 2.0 compatible.

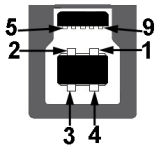
USB 3.0

Transfer speed	Data rate	Power consumption
Super-Speed	5 Gbps	4.5 W (Max, each port)
High speed	480 Mbps	4.5 W (Max, each port)
Full speed	12 Mbps	4.5 W (Max, each port)

USB 2.0

Transfer speed	Data rate	Power consumption
High speed	480 Mbps	2.5 W (Max, each port)
Full speed	12 Mbps	2.5 W (Max, each port)
Low speed	1.5 Mbps	2.5 W (Max, each port)

USB 3.0 upstream connector



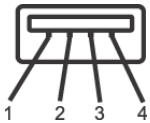
Pin number	9-pin side of the connector
1	VCC
2	D-
3	D+
4	GND
5	SSTX-
6	SSTX+
7	GND

8	SSRX-
9	SSRX+

USB 3.0 downstream connector

Pin number	9-pin side of the connector
1	VCC
2	D-
3	D+
4	GND
5	SSRX-
6	SSRX+
7	GND
8	SSTX-
9	SSTX+

USB 2.0 downstream connector



Pin number	4-pin side of the connector
1	VCC
2	DMD
3	DPD
4	GND

USB ports

- 1 upstream - bottom
- 2 downstream - bottom
- 2 downstream - side

NOTE: USB 3.0 functionality requires a USB 3.0-capable computer.

NOTE: The USB ports on the monitor work only when the monitor is turned On or in Standby mode. If you turn Off the monitor and then turn it On, the attached peripherals may take a few seconds to resume normal functionality.

LCD monitor quality and pixel policy

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

Maintenance guidelines

Cleaning your monitor

CAUTION: Read and follow the Safety instructions before cleaning the monitor.

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

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

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

Setting up the monitor

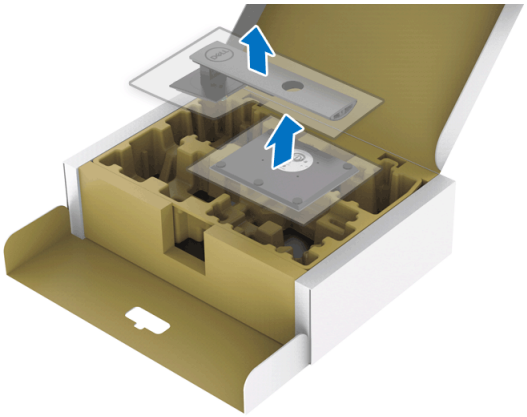
Attaching the stand

NOTE: The stand is not installed at the factory when shipped.

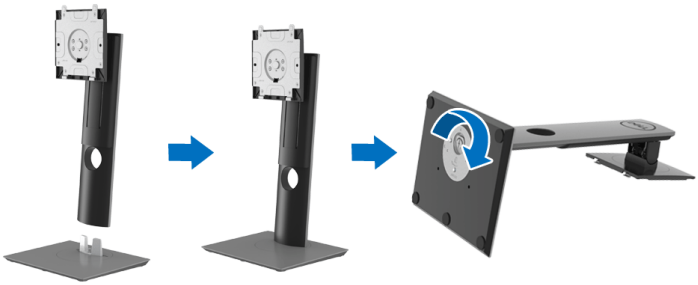
NOTE: The following instructions are applicable only for attaching the stand that was shipped with your monitor. If you are attaching a stand that you purchased from any other source, follow the set up instructions that were included with the stand.

To attach the monitor stand:

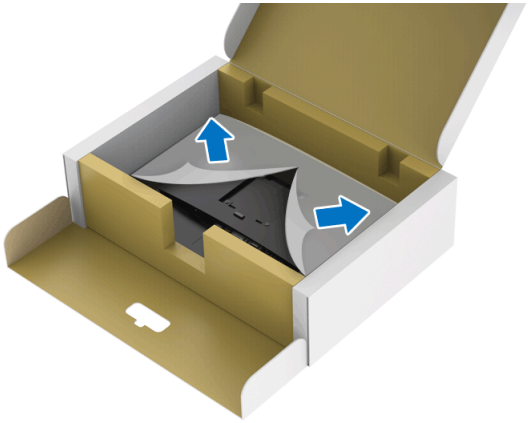
1. Follow the instructions on the flaps of carton to remove the stand from the top cushion that secures it.
2. Remove the stand riser and stand base from the packaging cushion.



3. Insert the stand base blocks fully into the stand slot.
4. Lift the screw handle and turn the screw clockwise.
5. After fully tightening the screw, fold the screw handle flat within the recess.



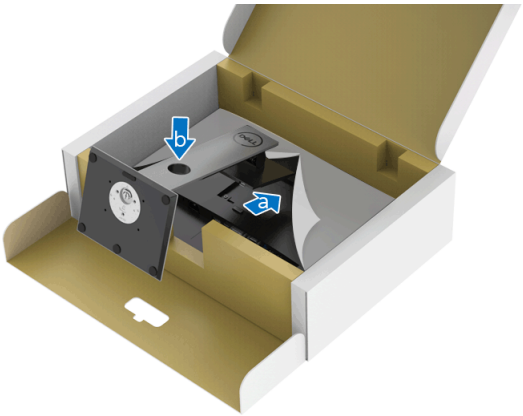
6. Lift the cover, as shown, to access the VESA area for stand assembly.



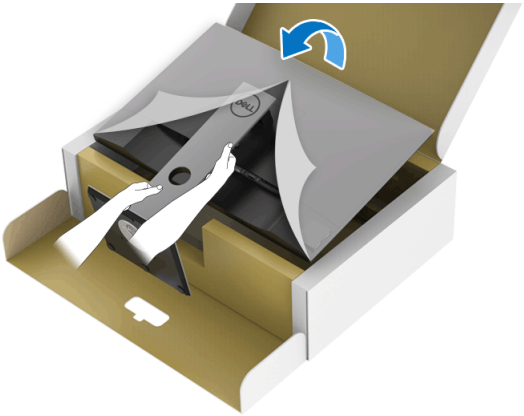
7. Attach the stand assembly to the monitor.

a. Fit the two tabs on the upper part of the stand to the groove on the back of the monitor.

b. Press the stand down till it snaps into place.



8. Place the monitor upright.



NOTE: Lift the monitor carefully to prevent it from slipping or falling.

9. Remove the cover from the monitor.

Connecting your monitor

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

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.

NOTE: Route the cables through the cable-management slot before connecting them.

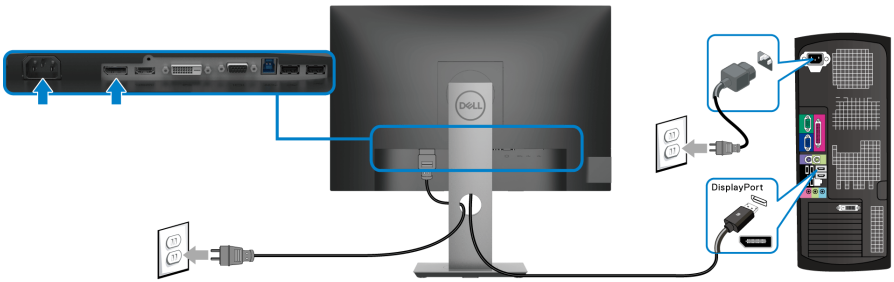
NOTE: Do not connect all cables to the computer at the same time.

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

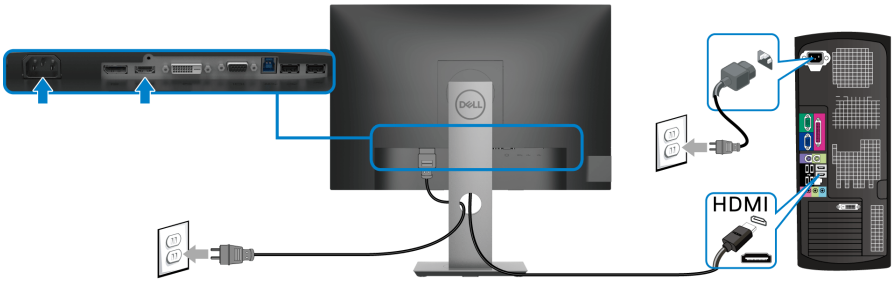
To connect your monitor to the computer:

1. Turn Off your computer and disconnect the power cable.
2. Connect the DisplayPort, HDMI, VGA or DVI cable from your monitor to the computer.

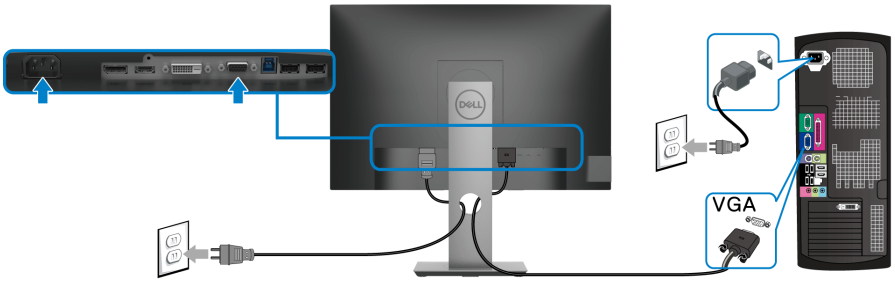
Connecting the DisplayPort (DisplayPort to DisplayPort) cable



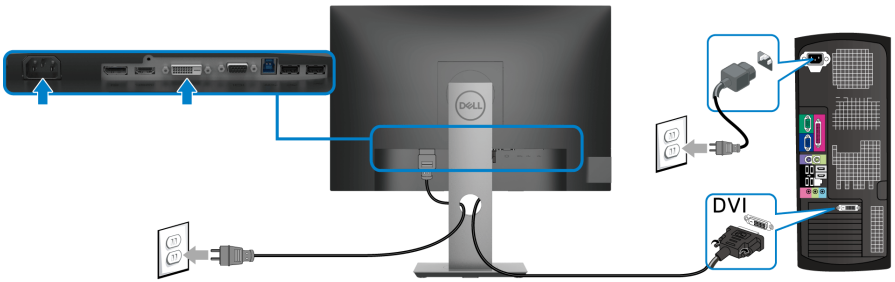
Connecting the HDMI cable (optional)



Connecting the VGA cable (optional)

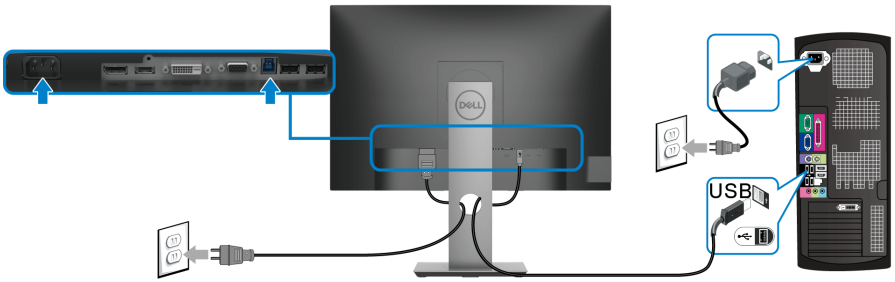


Connecting the DVI cable (optional)



Connecting the USB 3.0 cable

After you have completed connecting the VGA/DisplayPort/HDMI/DVI cable, follow the procedures below to connect the USB 3.0 cable to the computer and complete your monitor setup:

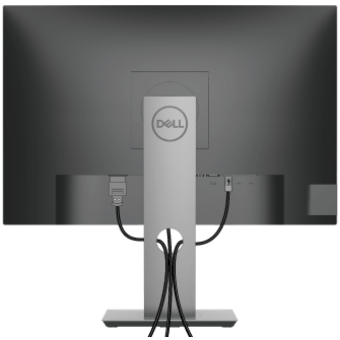


1. Connect the upstream USB 3.0 port (cable supplied) to an appropriate USB 3.0 port on your computer. (See Bottom view for details.)
2. Connect the USB 3.0 peripherals to the downstream USB 3.0 ports on the monitor.
3. Plug the power cables for your computer and monitor into a nearby outlet.

NOTE: Use the cable slot on the monitor stand to organize the cables.

4. Turn On the monitor and the computer.
   If your monitor displays an image, installation is complete. If it does not display an image, see Universal Serial Bus (USB) specific problems.

Organizing your cables

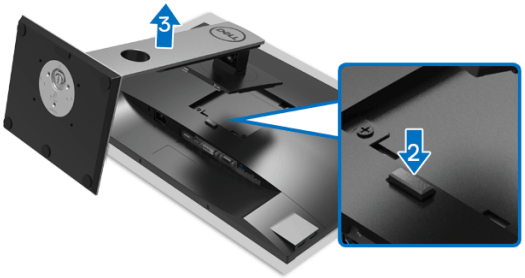


After attaching all necessary cables to your monitor and computer, (See Connecting your monitor for cable attachment,) organize all cables as shown above.

Removing the monitor stand

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

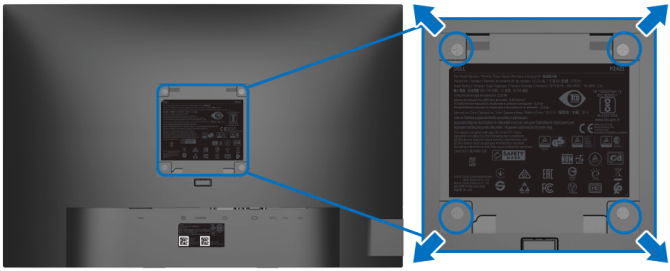
NOTE: The following instructions are applicable only for attaching the stand that was shipped with your monitor. If you are attaching a stand that you purchased from any other source, follow the set up instructions that were included with the stand.



To remove the stand:

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

VESA wall mounting (optional)



(Screw dimension: M4 x 10 mm).

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

1. Place the monitor panel on a soft cloth or cushion on a stable flat table.
2. Remove the stand. (See Removing the monitor stand)

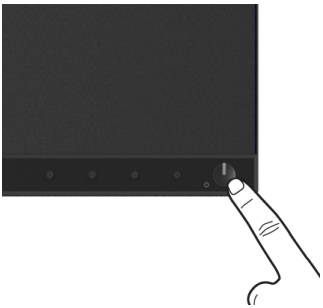
3. Use a Phillips crosshead screwdriver to remove the four screws securing the plastic cover.
4. Attach the mounting bracket from the wall mounting kit to the monitor.
5. Mount the monitor on the wall. For more information, see the documentation that shipped with the wall mounting kit.

NOTE: For use only with UL or CSA or GS-listed wall mount bracket with minimum weight or load bearing capacity of 14.0 kg.

Operating the monitor

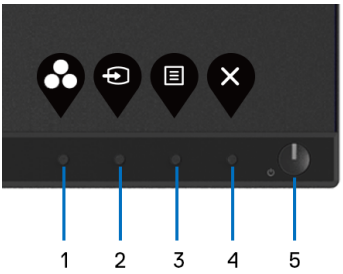
Power on the monitor

Press the Power button to turn On the monitor.



Using the front-panel controls

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



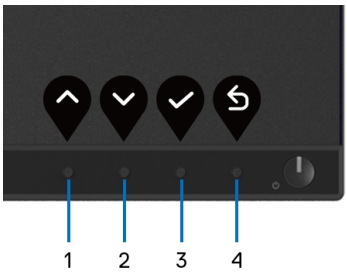
The following table describes the front-panel buttons:

Front-panel button		Description
1	**Shortcut key/ Preset Modes**	Use this button to choose from a list of preset color modes.
2	**Shortcut key/ Input Source**	Use this button to choose from a list of video signals that may be connected to your monitor.

3	**Menu**	Use the **MENU** button to launch the On-Screen Display (OSD). See Accessing the menu system.
4	**Exit**	Use this button to exit the OSD main menu.
5	**Power (with power light indicator)**	To turn the monitor on or off. Solid white light indicates that the monitor is turned on and functioning normally. Blinking white light indicates that the monitor is in Standby Mode.

Front-panel button

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



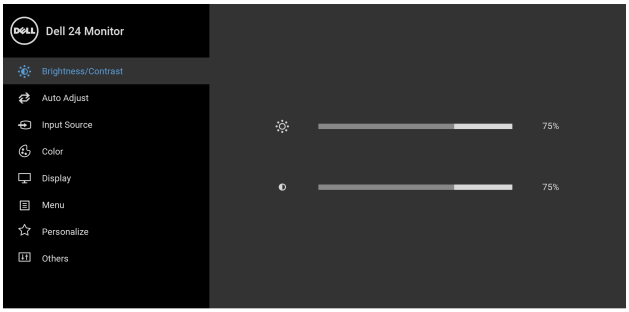
Front-panel button		Description
1	**Up**	Use the **Up** button to adjust (increase ranges) items in the OSD menu.
2	**Down**	Use the **Down** button to adjust (decrease ranges) items in the OSD menu.
3	**OK**	Use the **OK** button to confirm your selection.
4	**Back**	Use the **Back** button to go back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

Using the On-Screen Display (OSD) menu

Accessing the menu system

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

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

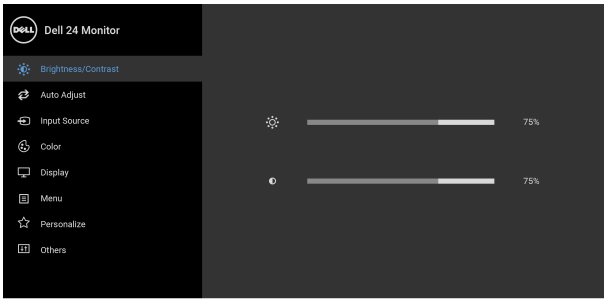


NOTE: Auto Adjust is only available when you use the analog (VGA) connector.

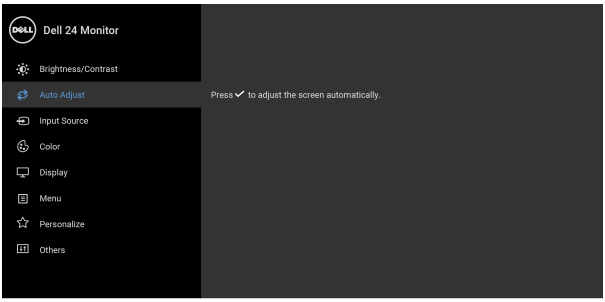
2. Press the and buttons to move between the setting options. As you move from one icon to another, the option name is highlighted. See the following table for a complete list of all the options available for the monitor.
3. Press the or or button once to activate the highlighted option.

NOTE: The directional buttons (and the OK button) displayed may differ according to the menu you've selected. Use available buttons to make your selection.

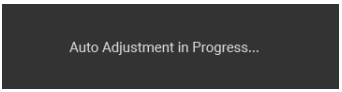
4. Press the and buttons to select the desired parameter.
5. Press to enter the submenu and then use the directional buttons, according to the indicators on the menu, to make your changes.
6. Select the button to return to the main menu.

Icon	Menu and Submenus	Description
	Brightness/ Contrast	Use this menu to activate **Brightness/Contrast** adjustment. 
	Brightness	**Brightness** adjusts the luminance of the backlight. Press the button to increase the brightness and press the button to decrease the brightness (min. 0 / max. 100).
	Contrast	Adjusts the **Brightness** first, and then adjust the **Contrast** only if further adjustment is necessary. Press the button to increase the contrast and press the button to decrease the contrast (min. 0 / max. 100). The **Contrast** function adjusts the degree of difference between darkness and lightness on the monitor screen.

Auto Adjust Use this menu to activate automatic setup and adjust menu.

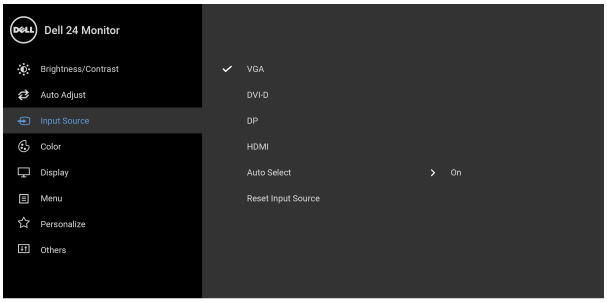


Auto Adjust allows the monitor to self-adjust to the incoming video signal. After using **Auto Adjust**, you can further tune your monitor by using the **Pixel Clock** (Coarse) and **Phase** (Fine) controls under **Display** settings.



NOTE: In most cases, **Auto Adjust** produces the best image for your configuration.

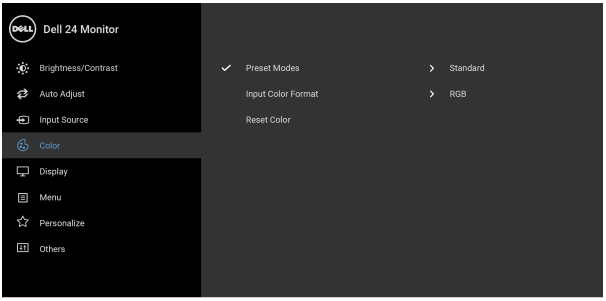
NOTE: Auto Adjust option is only available when you are using the analog (VGA) connector.

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

VGA	Select the **VGA** input when you are using the VGA connector. Press the button to confirm the selection.
DVI-D	Select the **DVI-D** input when you are using the DVI-D connector. Press the button to confirm the selection.
DP	Select the **DP** input when you are using the DisplayPort (DP) connector. Press the button to confirm the selection.
HDMI	Select the **HDMI** input when you are using the HDMI connector. Press the button to confirm the selection.
Auto Select	Turning on the function allows you to scan for available input sources.
Reset Input Source	Resets your monitor input settings to the factory settings.

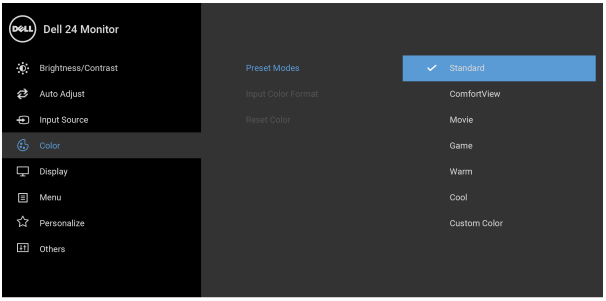
Color

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



Preset Modes

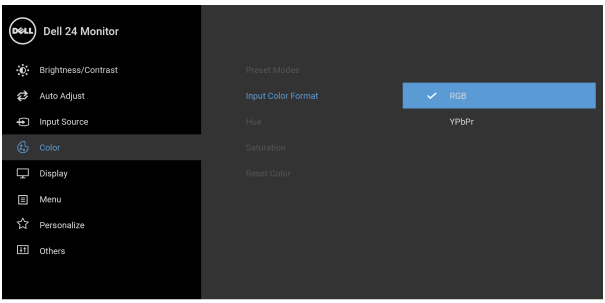
Allows you to choose from a list of preset color modes.



- **Standard**: Loads the monitor's default color settings. This is the default preset mode.
- **ComfortView**: Decreases the level of blue light emitted from the screen to make viewing more comfortable for your eyes.

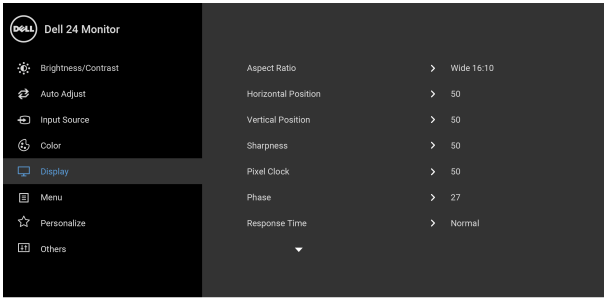
  WARNING: The possible long-term effects of blue light emission from the monitor may cause personal injury such as digital eye strain, eye fatigue and damage to the eyes. Using monitor for extended periods of time may also cause pain in parts of body such as neck, arm, back and shoulder.

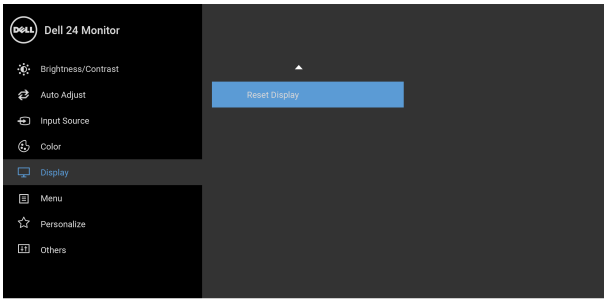
Preset Modes	To reduce the risk of eye strain and neck/arm/back/shoulder pain from using the monitor for long periods of time, we suggest you to: 1. Set the distance of the screen between 20 to 28 in. (50 - 70 cm) from your eyes. 2. Blink frequently to moisten your eyes or wet your eyes with water after prolonged usage of the monitor. 3. Take regular and frequent breaks for 20 minutes every two hours. 4. Look away from your monitor and gaze at a distant object at 20 feet away for at least 20 seconds during the breaks. 5. Perform stretches to relieve tension in the neck, arm, back, and shoulders during the breaks. • **Movie**: Loads color settings ideal for movies. • **Game**: Loads color settings ideal for most gaming applications. • **Warm**: Presents colors at lower color temperatures. The screen appears warmer with a red/yellow tint. • **Cool**: Presents colors at higher color temperatures. The screen appears cooler with a blue tint. • **Custom Color**: Allows you to manually adjust the color settings. Use the arrow buttons to adjust the three colors (R, G, B) values and create your own preset color mode.

Input Color Format	Allows you to set the video input mode to: • **RGB**: Select this option if your monitor is connected to a computer (or media player) using the VGA, DVI-D, DisplayPort, or HDMI cable. • **YPbPr**: Select this option if your media player supports only YPbPr output. Press the button to confirm the selection. 
Hue	This feature can shift the color of the video image to green or purple. This is used to adjust the desired flesh tone color. Use or to adjust the hue from '0' to '100'. **NOTE: Hue** adjustment is available only when you select **Movie** or **Game** preset mode.
Saturation	This feature can adjust the color saturation of the video image. Use or to adjust the saturation from '0' to '100'. **NOTE: Saturation** adjustment is available only when you select **Movie** or **Game** preset mode.
Reset Color	Resets your monitor's color settings to the factory settings.

Display

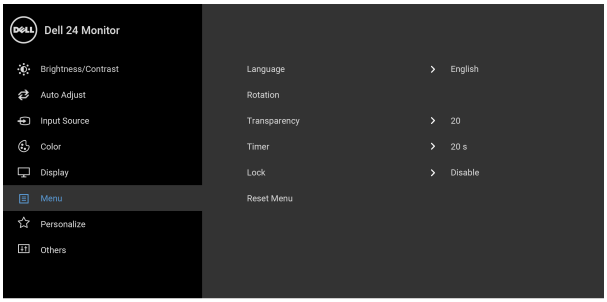
Use the **Display** menu to adjust images.

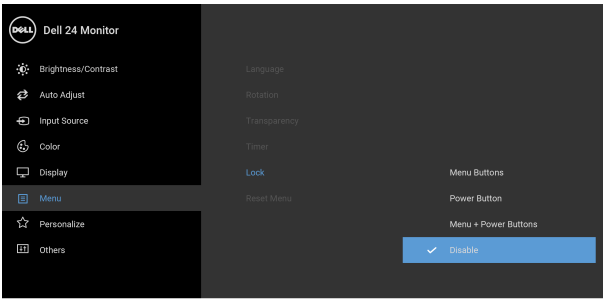




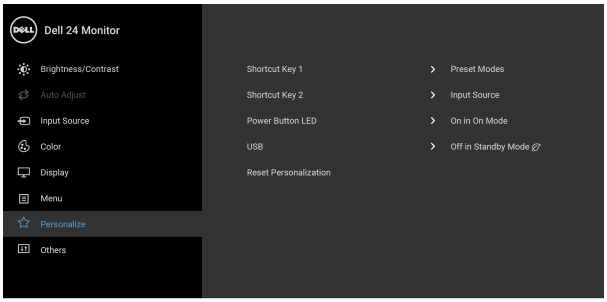
Aspect Ratio	Adjusts the image ratio to **Wide 16:10**, **4:3**, or **5:4**.
Horizontal Position	Use or to adjust the image left or right (min. 0 / max. 100).
Vertical Position	Use or to adjust the image up or down (min. 0 / max. 100). **NOTE: Horizontal Position** and **Vertical Position** adjustments are only available for VGA input.

Sharpness	This feature can make the image look sharper or softer. Use or to adjust the sharpness from '0' to '100'.
Pixel Clock	The **Phase** and **Pixel Clock** adjustments allow you to adjust your monitor to your preference. Use or to adjust for best image quality.
Phase	If satisfactory results are not obtained using the **Phase** adjustment, use the **Pixel Clock** (coarse) adjustment and then use **Phase** (fine), again. **NOTE: Pixel Clock** and **Phase** adjustments are only available for VGA input.
Response Time	Allows you to set the **Response Time** to **Normal** or **Fast**.
Reset Display	Resets all display settings to the factory preset values.

	Menu	Select this option to adjust the settings of the OSD, such as, the languages of the OSD, the amount of time the menu remains on screen, and so on. 
	Language	Sets the OSD display to one of the eight languages (English, Spanish, French, German, Brazilian Portuguese, Russian, Simplified Chinese, or Japanese).
	Rotation	Rotates the OSD by 90 degrees counter-clockwise and anticounter-clockwise. You can adjust the menu according to your Display Rotation.
	Transparency	Select this option to change the menu transparency by pressing the and buttons (min. 0 / max. 100).
	Timer	Sets the length of time the OSD will remain active after the last time you pressed a button. Use or to adjust the slider in 1 second increments, from 5 to 60 seconds.

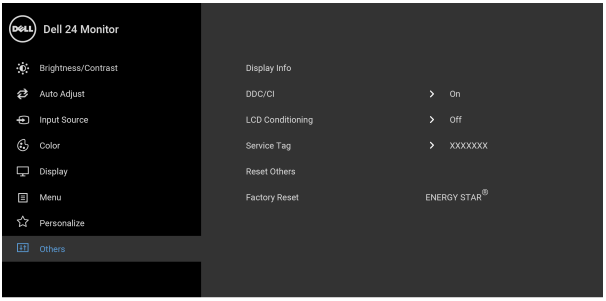
Lock	With the control buttons on the monitor locked, you can prevent people from accessing the controls. It also prevents accidental activation in multiple monitors side-by-side setup.  • **Menu Buttons**: All Menu/function buttons (except the Power button) are locked and not accessible by the user. • **Power Button**: Only the Power button is locked and not accessible by the user. • **Menu + Power Buttons**: Both the Menu/function & Power buttons are locked and not accessible by the user. The default setting is **Disable**. Alternative Lock Method [for Menu/function buttons]: You can also press and hold the Menu/function button next to the Power button for 4 seconds to set the lock options. **NOTE:** To unlock the button(s), press and hold the Menu/function button next to the Power button for 4 seconds.
Reset Menu	Resets all OSD settings to the factory preset values.

Personalize

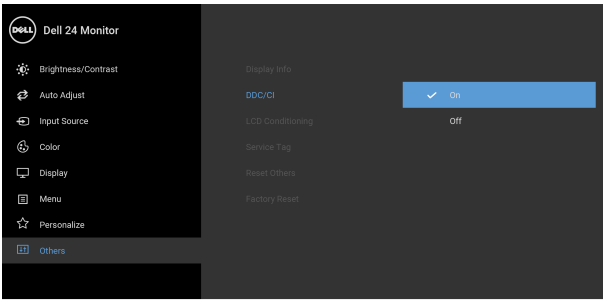


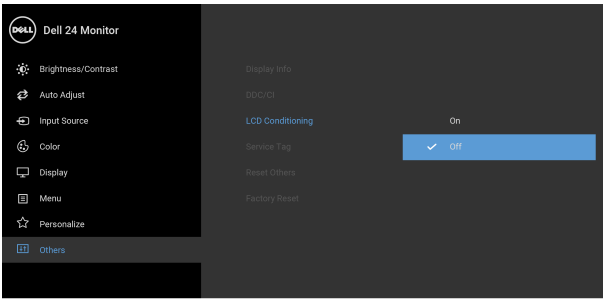
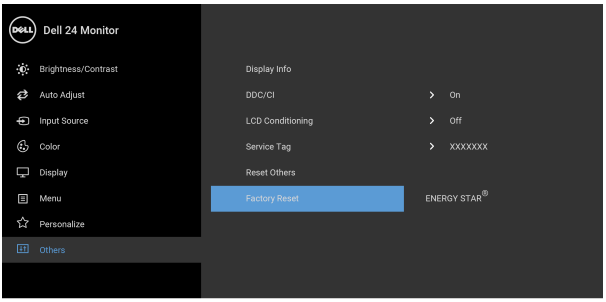
Shortcut Key 1 **Shortcut Key 2**	Allows you to choose a feature from **Preset Modes**, **Brightness/Contrast**, **Auto Adjust**, **Input Source**, **Aspect Ratio**, or **Rotation** and set it as a shortcut key.
Power Button LED	Allows you to set the power LED indicator on or off to save energy.
USB	Allows you to enable or disable USB function during monitor standby mode. **NOTE:** This option is only available when the USB upstream cable is unplugged. If the USB upstream cable is connected, **USB** follows the USB host power status and the option is not accessible.
Reset Personalization	Resets all settings under the **Personalize** menu to the factory preset values.

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



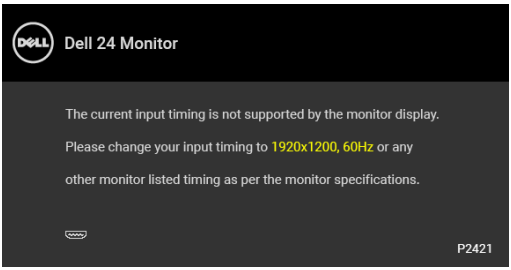
Display Info	Displays the monitor's current settings.
DDC/CI	**DDC/CI** (Display Data Channel/Command Interface) allows your monitor parameters (brightness, color balance, and etc.) to be adjustable via the software on your computer. You can disable this feature by selecting **Off**. Enable this feature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



LCD Conditioning	Helps reduce minor cases of image retention. Depending on the degree of image retention, the program may take some time to run. You can enable this feature by selecting **On**. 
Service Tag	Displays the service tag of your monitor. This string is required when you look for phone support, check your warranty status, update drivers on Dell's website, etc.
Reset Others	Resets all settings under the **Others** menu to the factory preset values.
Factory Reset	Restore all preset values to the factory default settings. These are also the settings for ENERGY STAR® tests. 

OSD warning message

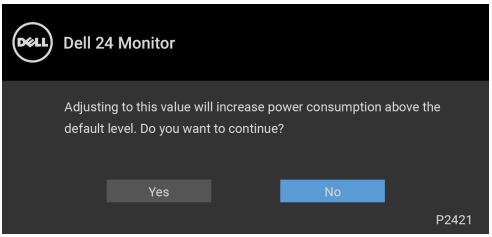
When the monitor does not support a particular resolution mode, you will see the following message:



This means that the monitor cannot synchronize with the signal that it is receiving from the computer. See Monitor specifications for the Horizontal and Vertical frequency ranges addressable by this monitor. Recommended mode is 1920 x 1200.

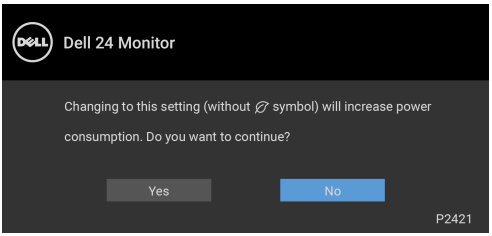
NOTE: The message may be slightly different according to the connected input signal.

When you adjust the **Brightness** level for the first time, the following message appears:



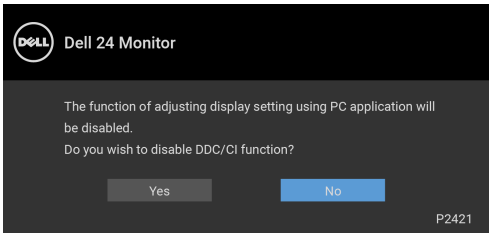
NOTE: If you select Yes, the message will not appear next time when you intend to change the Brightness setting.

When **USB** is set to **On in Standby Mode** for the first time, the following message appears:

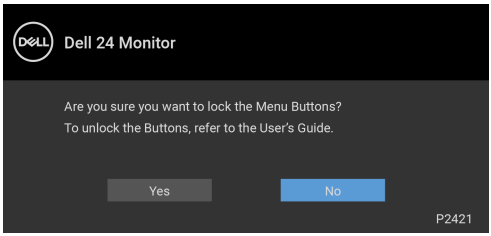


NOTE: If you select Yes, the message will not appear next time when you intend to change the USB setting.

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

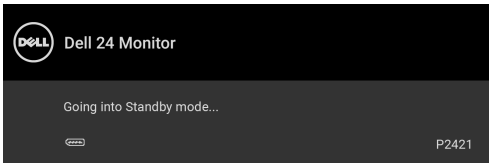


You will see the following message before the **Lock** function is activated:



NOTE: The message may be slightly different according to the selected settings.

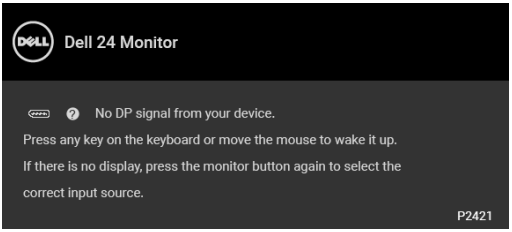
When the monitor goes into Standby mode, the following message appears:



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

NOTE: The message may be slightly different according to the connected input signal.

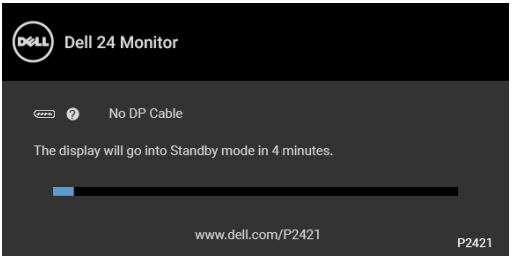
The OSD functions only in the normal operation mode. If you press any button other than the power button during the Standby mode, the following message will appear depending on the selected input:



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

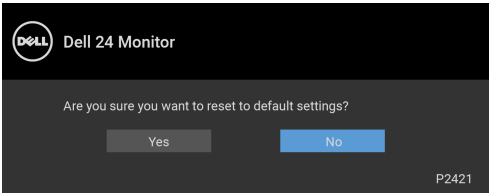
NOTE: The message may be slightly different according to the connected input signal.

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



NOTE: The message may be slightly different according to the connected input signal.

When **Factory Reset** is selected, the following message appears:



See Troubleshooting for more information.

Setting the maximum resolution

To set the maximum resolution for the monitor:

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

1. For Windows® 8 and Windows® 8.1 only, select the Desktop tile to switch to classic desktop.
2. Right-click on the desktop and click **Screen Resolution**.
3. Click the dropdown list of the **Screen Resolution** and select **1920 x 1200**.
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 **1920 x 1200**.
4. Click **Apply**.

If you do not see 1920 x 1200 as an option, you may need to update your graphics driver. Depending on your computer, complete one of the following procedures:

If you have a Dell desktop or portable computer:

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

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

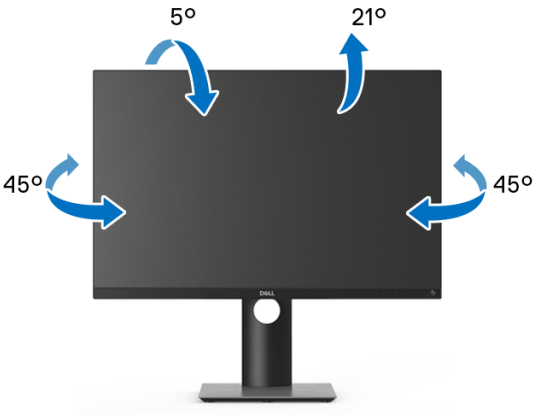
- Go to the support site for your computer and download the latest graphic drivers.
- Go to your graphics card website and download the latest graphic drivers.

Using the tilt, swivel, and vertical extension

NOTE: The following instructions are applicable only for attaching the stand that was shipped with your monitor. If you are attaching a stand that you purchased from any other source, follow the set up instructions that were included with the stand.

Tilt, swivel

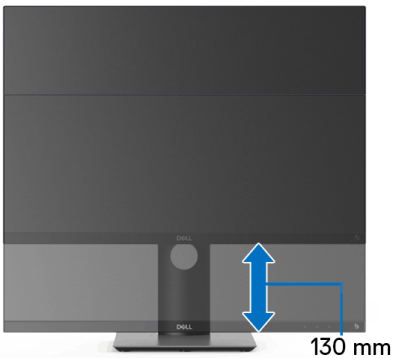
With the stand attached to the monitor, you can tilt and swivel the monitor for the most comfortable viewing angle.



NOTE: The stand is not installed at the factory when shipped.

Vertical extension

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



Rotating the monitor

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

Rotate clockwise

Rotate counterclockwise

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

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

Adjusting the rotation display settings of your system

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

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

To adjust the Rotation Display Settings:

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

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

Troubleshooting

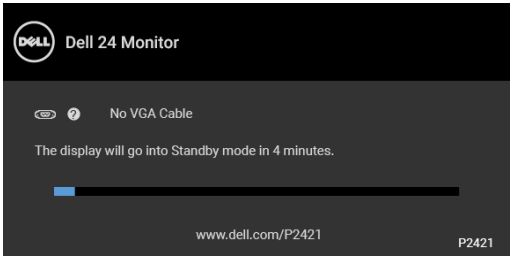
⚠ **WARNING: Before you begin any of the procedures in this section, follow the Safety instructions.**

Self-test

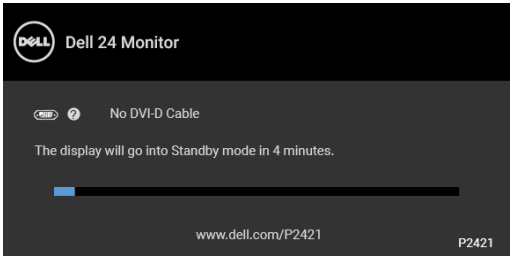
Your monitor provides a self-test feature that allows you to check whether your monitor is functioning properly. If your monitor and computer are properly connected but the monitor screen remains dark, run the monitor self-test by performing the following steps:

1. Turn Off both your computer and the monitor.
2. Unplug the video cable from the computer.
3. Turn On the monitor.

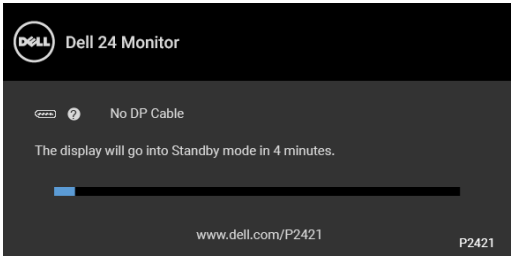
The floating dialog box should appear on-screen (against a black background), if the monitor cannot sense a video signal and is working correctly. While in self-test mode, the power LED remains white. Also, depending upon the selected input, one of the dialogs shown below will continuously scroll through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



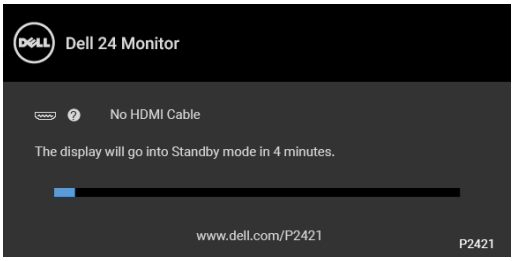
or



or



or

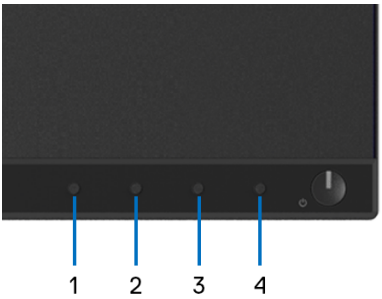


4. This box also appears during normal system operation, if the video cable becomes disconnected or damaged.
5. Turn Off your monitor and reconnect the video cable; then turn On both your computer and the monitor.

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

Built-in diagnostics

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



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 4** for about 4 seconds until a pop menu appears.
3. Use **Button 1** or **Button 2** to select the diagnostic tool and use **Button 3** to confirm. A gray test pattern appears at the beginning of the diagnostic program.
4. Carefully inspect the screen for abnormalities.
5. Press **Button 1** again to change the test patterns.
6. Repeat steps 4 and 5 to inspect the display in red, green, blue, black, white, and text screens.
7. Press **Button 1** 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	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 pressed fully. • Ensure that the correct input source is selected in the Input Source 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. • Run the built-in diagnostics. • Ensure that the correct input source is selected in the Input Source menu.
Poor Focus	Picture is fuzzy, blurry, or ghosting	• Perform **Auto Adjust** via OSD. • Adjust the **Phase** and **Pixel Clock** controls via OSD. • Eliminate video extension cables. • Reset the monitor to factory settings. • Change the video resolution to the correct aspect ratio.

Shaky/Jittery Video	Wavy picture or fine movement	• Perform **Auto Adjust** via OSD. • Adjust the **Phase** and **Pixel Clock** controls via OSD. • Reset the monitor to factory settings. • Check environmental factors. • Relocate the monitor and test in another room.
Missing Pixels	LCD screen has spots	• 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: www.dell.com/support/monitors.
Stuck-on Pixels	LCD screen has bright 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: www.dell.com/support/monitors.
Brightness Problems	Picture too dim or too bright	• Reset the monitor to factory settings. • Perform **Auto Adjust** via OSD. • Adjust brightness & contrast controls via OSD.
Geometric Distortion	Screen not centered correctly	• Reset the monitor to factory settings. • Perform **Auto Adjust** via OSD. • Adjust horizontal & vertical controls via OSD. • When using DVI-D/HDMI/DisplayPort input, 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 the **Phase** and **Pixel Clock** controls via OSD. • Perform monitor self-test feature check and determine if these lines are also in self-test mode. • Check for bent or broken pins in the video cable connector. • Run the built-in diagnostics. • When using DVI-D/HDMI/DisplayPort input, 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 the **Phase** and **Pixel Clock** controls via OSD. • Perform monitor self-test feature check to determine if the scrambled screen appears in self-test mode. • Check for bent or broken pins in the video cable connector. • Restart the computer in the 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 settings of the **Preset Modes** in the **Color** menu OSD depending on the application. • Adjust R/G/B value under **Custom Color** in the **Color** menu OSD. • Change the **Input Color Format** to RGB or YPbPr in the **Color** menu OSD. • Run the built-in diagnostics.
Image retention from a static image left on the monitor for a long period of time	Faint shadow from the static image displayed appears on the screen	• Set the screen to turn off after a few minutes of screen idle time. These can be adjusted in Windows Power Options or Mac Energy Saver setting. • Alternatively, use a dynamically changing screensaver.

NOTE: When choosing DVI-D/HDMI/DisplayPort mode, the Auto Adjust function will not be available.

Product specific problems

Common 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** menu OSD. • Reset the monitor to factory settings.
Cannot adjust the monitor with the buttons on the front panel	OSD does not appear on the screen	• Turn Off the monitor, unplug the power cord, plug it back, and then turn On the monitor. • The OSD menu may be locked. Press and hold the Menu/function button next to the Power button for 4 seconds to unlock.
No Input Signal when user controls are pressed	No picture, the LED light is white	• 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.

Universal Serial Bus (USB) specific problems

Common symptoms	What you experience	Possible solutions
USB interface is not working	USB peripherals are not working	• Check that your monitor is turned On. • Reconnect the upstream cable to your computer. • Reconnect the USB peripherals (downstream connector). • Switch Off and then turn On the monitor again. • Reboot the computer. • Some USB devices like external portable HDD require higher electric current; connect the device directly to the computer system.
Super Speed USB 3.0 interface is slow	Super Speed USB 3.0 peripherals working slowly or not working at all	• Check that your computer is USB 3.0-capable. • Some computers have USB 3.0, USB 2.0, and USB 1.1 ports. Ensure that the correct USB port is used. • Reconnect the upstream cable to your computer. • Reconnect the USB peripherals (downstream connector). • Reboot the computer.
Wireless USB peripherals stop working when a USB 3.0 device is plugged in	Wireless USB peripherals responding slowly or only working as the distance between itself and its receiver decreases	• Increase the distance between the USB 3.0 peripherals and the wireless USB receiver. • Position your wireless USB receiver as close as possible to the wireless USB peripherals. • Use a USB-extender cable to position the wireless USB receiver as far away as possible from the USB 3.0 port.

Appendix

WARNING: Safety instructions

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

For information on safety instructions, see Safety, Environmental, and Regulatory Information (SERI).

FCC notices (U.S. only) and other regulatory information

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

Contact Dell

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

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

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

- Online technical assistance — www.dell.com/support/monitors
- Contacting Dell — www.dell.com/contactdell

EU product database for energy label and product information sheet

P2421: https://eprel.ec.europa.eu/qr/344245