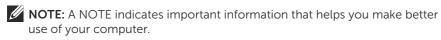
User's Guide Dell P2418HZ

Model No.: P2418HZ

Regulatory model: P2418HZc



Notes, Cautions, and Warnings



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

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

Information in this document is subject to change without notice. © 2016 Dell Inc. All rights reserved.

Reproduction of these materials in any manner whatsoever without the written permission of Dell Inc. is strictly forbidden.

Trademarks used in this text: *Dell* and the *DELL* logo are trademarks of Dell Inc.; *Microsoft* and *Windows* are either trademarks or registered trademarks of Microsoft. Corporation in the United States and/or other countries, *Intel* is a registered trademark of Intel Corporation in the U.S. and other countries; and ATI is a trademark of Advanced Micro Devices, Inc. ENERGY STAR is a registered trademark of the U.S. Environmental Protection Agency. As an ENERGY STAR partner, Dell Inc. has determined that this product meets the ENERGY STAR quidelines for energy efficiency.

Other trademarks and trade names may be used in this document to refer to either the entities claiming the marks and names or their products. Dell Inc. disclaims any proprietary interest in trademarks and trade names other than its own.

Contents

About your monit	or	5
Package contents		5
Product features		7
Identifying parts a	nd controls	8
Monitor specificat	ions	12
Universal serial bu	s (USB) interface	22
Plug and play capa	ability	25
LCD monitor qual	ity and pixel policy	25
Maintenance guid	elines	25
Setting up the mo	onitor	26
Attaching the stan	nd	26
Connecting your	monitor	28
Organizing cables		30
Disconnecting the	e monitor stand	31
Wall mounting (op	otional)	32
Operating your m	onitor	33
Power on the mor	nitor	33
Using the front pa	nel controls	33

	Using the on-screen display (OSD) menu	37
	Setting up your monitor	. 49
	Using the Tilt, Swivel, and Vertical Extension	. 50
	Operating the webcam cover shutter	52
	Installing the monitor IR Camera driver	52
	Setting up Windows Hello	54
	Setting up the monitor webcam as default setting	57
	Setting up the monitor speaker as default setting	. 60
Tr	oubleshooting	.63
	Self-test	63
	Built-in diagnostics	65
	Common problems	. 66
	Product-specific problems	. 68
	Universal serial bus (USB) specific problems	. 69
	Microsoft® Skype for Business® Specific Problems	. 69
Αŗ	pendix	. 71
	FCC notices (U.S. Only) and other regulatory information	71
	Contacting Dell	71

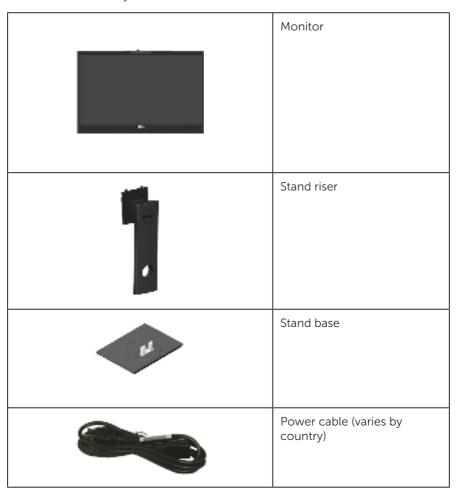
About your monitor

Package contents

Your monitor ships with the components shown below. Ensure that you have received all the components and Contacting Dell if something is missing.



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



	VGA cable
	DP Cable
0	USB 3.0 Upstream Cable (Enables the USB Ports on the Monitor)
	 Drivers and Documentation media Quick Setup Guide Safety and Regulatory Information

Product features

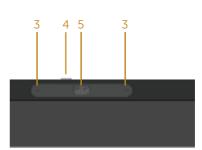
The **Dell P2418HZ** flat panel display has an active matrix, Thin-Film Transistor (TFT), Liquid Crystal Display (LCD), and LED backlight. The monitor features include:

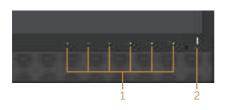
- **P2418HZ**:60.47 cm (23.8 inch) viewable area display (measured diagonally). 1920 x 1080 resolution, plus full-screen support for lower resolutions.
- Plug and play capability if supported by your system.
- Features built-in 2MP Full HD image sensor and dual IR LEDs with infrared camera at the top bezel for top notch video quality.
- Comes with 2 x 5W integrated front-firing speakers and dual mic array with noise cancellation to provide a rich audio experience.
- VGA, HDMI and DisplayPort connectivity.
- Equipped with 1 USB upstream port and 2x USB2.0/ 2x USB3.0 downstream ports (including 1x USB3.0 BC1.2 charging port).
- On-Screen Display (OSD) adjustments for ease of set-up and screen optimization.
- Software and documentation media includes an Information File (INF), Image Color Matching File (ICM), and product documentation.
- Dell Display Manager Software (in the CD shipped with the monitor).
- Security-cable slot.
- Tilt,swivel,height and rotate adjustment capabilities.
- Removable stand and Video Electronics Standards Association (VESA™) 100 mm mounting holes for flexible mounting solutions.
- 0.3 W power consumption when in the sleep mode.
- Optimize eye comfort with a flicker-free screen and ComfortView feature which minimizes blue light emission.
- Certified for Skype for Business.
- Certified for Windows Hello (Face Authentication) and supports Microsoft Cortana.

Identifying parts and controls

Front View







Front panel controls

Label	Description	
1	Function buttons (For more information, see Operating your monitor)	
2	Power on/off button (with LED indicator)	
3	Microphone	
4	Webcam cover shutter	
5	Webcam (Full HD)	



NOTE: For displays with glossy bezels the user should consider the placement of the display as the bezel may cause disturbing reflections from surrounding light and bright surfaces.

Back View





Back View without monitor stand

Back View with monitor stand

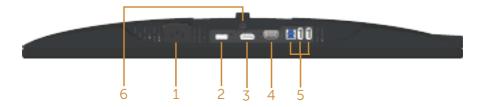
Label	Description	Use	
1	VESA mounting holes (100 mm x 100 mm - behind attached VESA Cover)	Wall mount monitor using VESA-compatible wall mount kit (100 mm x 100 mm).	
2	Regulatory label	Lists the regulatory approvals.	
3	Stand release button	Release stand from monitor.	
4	Security lock slot	Secures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

Side View



Label	Description	Use	
1	USB downstream port	Connect your USB device.	
	2x USB 3.0 downstream port (including 1x USB3.0 BC1.2 charging port)	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.	
2	Headphone-out / Microphone-in combo jack	Connect the headset.	

Bottom View



Bottom view without monitor stand

Label	Description	Use	
1	Power port	Connect the power cable.	
2	HDMI port	Connect your computer with HDMI cable(optional).	
3	DP port	Connect your computer to the monitor using a DP cable.	
4	VGA port	Connect your computer with VGA cable.	
5	USB connector (x2 downstream, x1 upstream)	Connect the USB cable that came with your monitor to the computer. Once the cable is connected, you can use the USB connectors on the rear side and bottom side of the monitor.	
6	Stand lock feature	To lock the stand to the monitor using a M3 x 6mm screw (screw not included).	

Monitor specifications

Model	P2418HZ		
Screen type	Active matrix - TFT LCD		
Panel type	In-Plane Switching Technology		
Viewable image			
Diagonal	604.70 mm (23.80 in)		
Horizontal, Active Area	527.04 mm (20.75 in)		
Vertical, Active Area	296.46 mm (11.67 in)		
Area	1562.46 cm ² (242.15 in ²)		
Pixel pitch	0.2745 mm x 0.2745 mm		
Pixel per inch (PPI)	93		
Viewing angle (vertical /	178° (vertical) typical		
horizontal)	178° (horizontal) typical		
Brightness	250 cd/m² (typical)		
Contrast ratio	1000: 1 (typical)		
	8 Million: 1 (Dynamic)		
Aspect ratio	16:9		
Display screen coating	Anti-glare with 3H hardness		
Backlight	White LED edgelight system		
Response time	6 ms (gray to gray)		
Color depth	16.7 million colors		
Color support	83% (CIE 1976), 72% (CIE 1931)		
Built-in devices	USB 3.0 super-speed hub (with 1x USB 3.0 upstream port, 2x USB 3.0 downstream ports and 2x USB2.0 downstream ports, including 1x USB 3.0 BC1.2 charging port)		
Dell Display Manager compatibility	Yes		

	T .		
Connectivity	1xDP (ver 1.2)		
	1xHDMI (ver 1.4)		
	1xVGA		
	1xUSB3.0 port - Upstream		
	2xUSB3.0 port - Side		
	2xUSB2.0 port - Bottom		
	1xHeadphone-out / Microphone-in combo jack		
Border width (edge of	19.8mm (Top)		
monitor to active area)	11.4mm(Left/Right)		
	43.3mm(Bottom)		
Security	Security lock slot (cable lock sold separately)		
Adjustability	Height adjustable stand (125mm)		
	Tilt (-5°/+21°)		
	Swivel (-45°/+45°)		
	Pivot (90°)		

Resolution specifications

Model	P2418HZ
Horizontal scan range	30 kHz to 83 kHz (automatic)
Vertical scan 56 Hz to 76 Hz (automatic) range	
Maximum preset resolution	1920 x 1080 at 60 Hz

Supported video modes

Model	P2418HZ		
Video display capabilities (VGA, HDMI & DP playback)	480i, 480p, 576i, 576p, 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 900	60.0	60.0	108.0	+/+
VESA, 1920 x 1080	67.5	60.0	148.5	+/+

Electrical specifications

Model	P2418HZ
Video input signals	Analog RGB, 0.7 Volts +/-5%, positive polarity at 75 ohm input impedance
	HDMI 1.4, 600mV for each differential line,100 ohm input impedance per differential pair
	DisplayPort 1.2, 600mV for each differential line, 100 ohm input impedance per differential pair
AC input voltage/frequency/	100 VAC to 240 VAC / 50 Hz or 60 Hz ± 3 Hz /
current	1.5A (typical)
Inrush current	• 120 V: 30 A (Max.) at 0°C (cold start)
	• 240 V: 60 A (Max.) at 0°C (cold start)

Webcam – microphone specifications

Lens	Field of view	77.5° for 1920 x 1080	
	Focus mode	Fixed Focus	
	Focus area	22 cm~Infinity	
	Focusing distance	50 cm	
	(normal mode)		
Image Sensor	Active array size	2.12 mega-pixel	
Video	Video frame rate	1920 x 1080 (Full HD)- up to 30 frames	
Specification	per second		
		640 x 480 (VGA) and below - up to 30	
		frames per second	
Audio	Microphone type	Omni-directional digital microphone x 2	
Specification			
Interface	USB 2.0 High Speed		
Power Supply	3.3 volts +/- 5%		

Speaker specifications

Model	P2418HZ
Speaker	2 x 5.0 W
Frequency	200 Hz - 20 kHz
Response	
Operating	-25 °C ~ 70 °C
Temperature	

Physical characteristics

Model	P2418HZ	
Signal cable type	Digital: detachable, HDMI, 19 pins.	
	Digital: detachable, DP, 20 pins.	
	Analog: detachable, D-Sub, 15 pins	
	Universal Serial Bus: USB, 9 pins	
Dimensions (with stand)		
Height (extended)	500.6 mm (19.71 in)	
Height (compressed)	375.6 mm (14.79 in)	
Width	549.8 mm (21.65 in)	
Depth	180.0 mm (7.09 in)	
Dimensions (without stand)		
Height	359.6 mm (14.16 in)	
Width	549.8 mm (21.65 in)	
Depth	51.1 mm (2.01 in)	
Stand dimensions		
Height (extended)	401.5 mm (15.87 in)	
Height (compressed)	354.4 mm (13.95 in)	
Width	242.6 mm (9.55 in)	
Depth	180.0 mm (7.09 in)	
Weight		
Weight with packaging	8.25 kg (18.18 lb)	
Weight with stand assembly and cables	6.12 kg (13.49 lb)	
Weight without stand assembly (no cables)	3.60 kg (7.93 lb)	
Weight of stand assembly	1.96 kg (4.32 lb)	
Front-frame gloss	2 - 4	

Environmental characteristics

Model	P2418HZ
Compliant Standards	

Energy Saver feature for Energy Star certified Monitor

EPEAT Gold registered in the U.S. EPEAT registration varies by country.

See www.epeat.net for registration status by country.

TCO-certified display

BFR/PVC- Free monitor (excluding external cables)

Energy Gauge shows the energy level being consumed by the monitor in real time

Energy Gauge shows the energy level being consumed by the monitor in real time		
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 (maximum)	5,000 m (16,400 ft)	
Non-operating (maximum)	12,192 m (40,000 ft)	
They would dissination	• 218.52 BTU/hour(maximum)	
Thermal dissipation	• 64.87 BTU/hour(typical)	

Power management modes

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

^{*} Zero power consumption in off mode can only be achieved by disconnecting the main cable from the monitor.

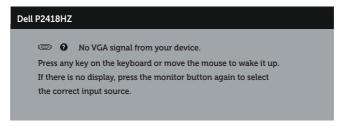
VESA Modes	Horizontal Sync	Vertical Sync	Video	Power Indicator	Power Consumption
Normal operation	Active	Active	Active	White	64 W (maximum)** 19 W (typical, without USB load)
Active-off mode	Inactive	Inactive	Blanked	White (Glowing)	Less than 0.3 W
Switch off	-	-	-	Off	Less than 0.3 W

Energy Star Power Consumption	
Pon	17.1 W
E _{TEC}	54 kWh

^{**} Maximum power consumption with max luminance.

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.

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



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





NOTE: This monitor is ENERGY STAR-compliant.



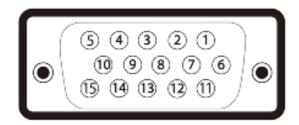
NOTE:

P_{on}: Power consumption of on mode as defined in Energy Star 7.0 version.

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

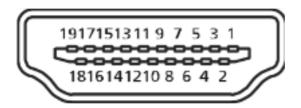
Pin assignments

VGA connector



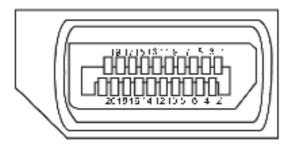
Pin Number	15-pin Side of the Connected Signal Cable
1	Video-Red
2	Video-Green
3	Video-Blue
4	GND
5	Self-test Self-test
6	GND-R
7	GND-G
8	GND-B
9	Computer 5V/3.3V
10	GND-sync
11	GND
12	DDC data
13	H-sync
14	V-sync
15	DDC clock

HDMI connector



Pin Number	19-pin Side of the Connected Signal Cable		
1	T.M.D.S. Data 2+		
2	T.M.D.S. Data 2 Shield		
3	T.M.D.S. Data 2-		
4	T.M.D.S. Data 1+		
5	T.M.D.S. Data 1 Shield		
6	T.M.D.S. Data 1 -		
7	T.M.D.S. Data 0+		
8	T.M.D.S. Data 0 Shield		
9	T.M.D.S. Data 0-		
10	T.M.D.S. Clock +		
11	T.M.D.S. Clock Shield		
12	T.M.D.S. Clock -		
13	CEC		
14	Reserved (N.C. on device)		
15	SCL		
16	SDA		
17	DDC/CEC Ground		
18	+5V Power		
19	Hot Plug Detect		

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	MLO (n)
11	GND
12	MLO (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

Universal serial bus (USB) interface

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



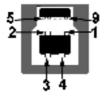
NOTE: This monitor is Super-Speed USB 3.0 and High-Speed USB 2.0 compatible.

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)

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)	

^{*}Up to 2A on USB downstream port (port with \$55 \(\bar{1} \) lightning icon) with BC1.2 compliance devices or normal USB devices.

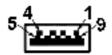
USB 3.0 upstream connector



Pin Number	9-pin Side of the Connector
1	VCC
2	D-
3	D+
4	GND
5	SSTX-
6	SSTX+

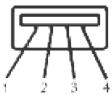
7	GND
8	SSRX-
9	SSRX+

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 x USB 3.0 upstream bottom
- 2 x USB 2.0 downstream bottom
- 2 x USB 3.0 downstream side
- Power Charging Port- the port with SS lightning icon; supports fast current charging capability if the device is BC1.2 compatible.



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



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



NOTE: USB2.0 and above is needed to support webcam video & audio functions.

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

Maintenance guidelines

Cleaning your monitor



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

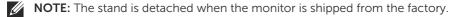


For best practices, follow the instructions in the list below while unpacking, cleaning or handling your monitor:

- To clean your anti-static screen, lightly dampen a soft, clean cloth with water. If possible, use a special screen-cleaning tissue or solution suitable for the antistatic 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

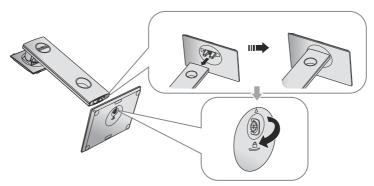
Attaching the stand



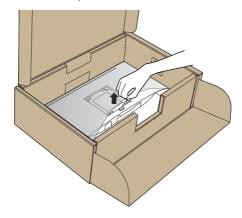
NOTE: This is applicable for a monitor with a stand. When any other stand is bought, please refer to the respective stand setup guide for the set up instructions.

To attach the monitor stand.

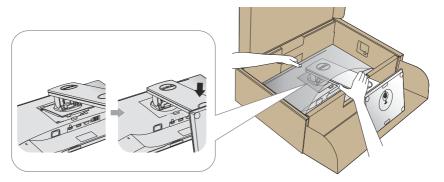
- 1. Follow the instructions on the flaps of carton to remove the stand from the top cushion that secures it.
- 2. Insert the stand base blocks fully into the stand slot.
- **3.** Lift the screw handle and turn the screw clockwise.
- **4.** After fully tightening the screw, fold the screw handle flat within the recess.



5. Lift the cover, as shown, to expose the VESA area for stand assembly.



- **6.** 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.



7. Place the monitor upright.



Connecting your monitor



MARNING: Before you perform 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 recommend to route the cables through the cable-management slot before you connect them to the monitor.

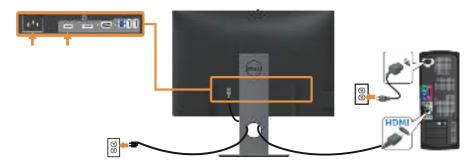
To connect your monitor to the computer:

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

Connecting the VGA cable



Connecting the HDMI cable (optional)



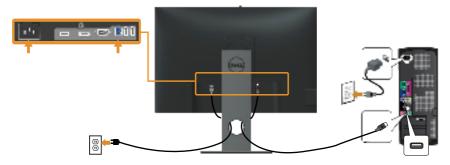
Connecting the DP cable



Connecting the USB 3.0 cable

After you have completed connecting the DP/HDMI 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.
- **4.** Turn on the monitor and the computer. If your monitor displays an image, installation is complete. If it does not display an image, see Universal serial bus (USB) specific problems.
- **5.** Use the cable slot on the monitor stand to organize the cables.



Organizing cables

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



Disconnecting the monitor stand



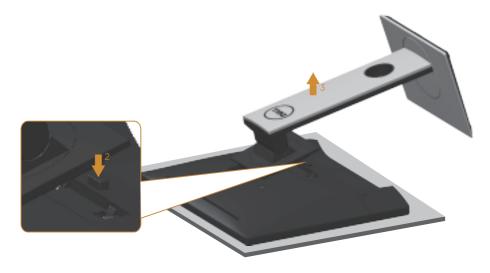
NOTE: To prevent scratches on the LCD screen while removing the stand, ensure that the monitor is placed on a soft and clean surface.



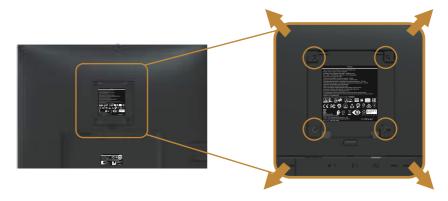
NOTE: This is applicable for a monitor with a stand. When any other stand is bought, please refer to the respective stand setup guide for the set-up instructions.

To remove the stand:

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



Wall mounting (optional)



(Screw dimension: M4 x 10 mm).

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

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



NOTE: For use only with UL or CSA or GS-listed wall mount bracket with minimum weight/load bearing capacity of 14.08 kg

Operating your monitor

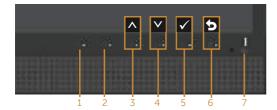
Power on the monitor

Press the button to turn on the monitor.



Using the front panel controls

Use the control buttons on the front of the monitor to link up Microsoft® Skype for Business® Software or adjust the characteristics of the image being displayed. As you use these buttons, an On-Screen Display (OSD) or LED indicator shows the numeric values or activities of the characteristics as they change.



The following table describes the front panel buttons:

	Front Panel Button / OSD Button	Description
1	Hook	Use the Hook button to accept an incoming invite notification.
2	MUTE	Use the Mute button to mute audio.
3	Volume Down Up	 Use Volume Down button to decrease OSD bar volume. Use the Up button to adjust (increase ranges) items in the OSD menu

4	Volume Up	Down	 Use Volume Up button to increase OSD bar volume. Use the Down button to adjust (decrease ranges) items in the OSD menu.
5	♠x Microphone Mute	OK OK	 Use the Microphone Mute button to mute microphone. Use the OK button to confirm your selection.
6	MENU	Back	 Use the MENU button to launch the OSD. Use the Back button to go back to the previous menu. See Accessing the Menu System.
7	Ø		Use the Power button to turn the monitor On and Off .
	Power (with power light indicator)		The white light indicates the monitor is On and fully functional. A breathing white light indicates the power save mode.

Accessing Microsoft® Skype for Business® with the Panel **Buttons**



NOTE: To enable Microsoft® Skype for Business® functions with your monitor, make sure that the USB upstream cable is connected between your computer and the monitor. If not, the following message will be displayed:



- NOTE: The front panel buttons, excluding Volume Up and Volume Down, function only when Microsoft® Skype for Business® is active on your computer.
 - 1. Hook The **Hook** button light flashes when someone calls you on Skype for Business. Press the **Hook** button to answer the incoming voice or video call.





To end an active voice or video call, press the **Hook** button.







2. Mute

To mute the audio, press the **Mute** button. The mute-button light turns on when audio is muted.



3. Volume Down/Volume Up
To adjust the volume, press the **Volume Down** or **Volume Up** buttons. The activated OSD shows the numeric values of the volume level.



4. Microphone Mute

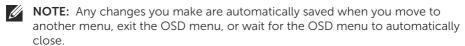
To mute the microphone, press the **Microphone Mute** button. The microphone-mute-button light turns on when the microphone is muted.





Using the on-screen display (OSD) menu

Accessing the Menu System



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

Main menu for analog (VGA) input





- 2. Press the and buttons to move between the setting options. As you move from one icon to another, the option 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 A and V buttons, according to the indicators on the menu, to make your changes.
- **6.** Select the **5** button to return to the main menu.

lcon	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). NOTE: Manual adjustment of brightness is disabled when dynamic contrast is switched on.		
	Contrast	Adjust the brightness first, and then adjust the contrast only if further adjustment is necessary. Press the button to increase the contrast and press the button to decrease the contrast (min. 0 / max. 100). The contrast function adjusts the degree of difference between darkness and lightness on the monitor screen.		



Auto Adjust

Use this key to activate automatic setup and adjust menu.



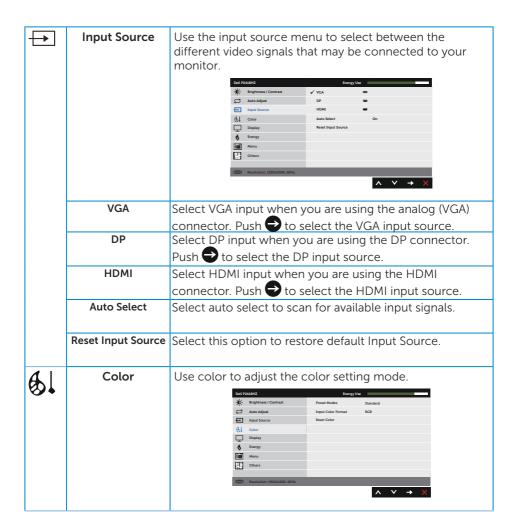
The following dialog appears on a black screen as the monitor self-adjusts to the current input:

Auto Adjustment in Progress...

Auto adjustment allows the monitor to self-adjust to the incoming video signal. After using auto adjustment, you can further tune your monitor by using the pixel clock (coarse) and phase (fine) controls under display settings.

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

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



Preset Modes

When you select preset modes, you can choose standard, comfortview, multimedia, movie, game, warm, cool, or custom color from the list.

- 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.
- Multimedia: Loads color settings ideal for multimedia applications.
- Movie: Loads color settings ideal for movies.
- Game: Loads color settings ideal for most gaming applications.
- Warm: Increases the color temperature. The screen appears warmer with a red/yellow tint.
- Cool: Decreases the color temperature. The screen appears cooler with a blue tint.
- Custom Color: Allows you to manually adjust the color settings.

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

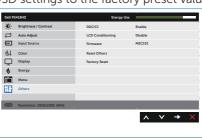


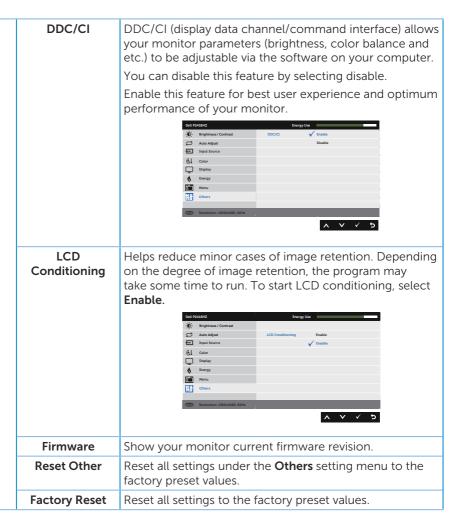
Input Color	Allows you to set the video input mode to:
Input Color Format	Allows you to set the video input mode to: RGB: Select this option if your monitor is connected to a computer or DVD player using the HDMI cable. YPbPr: Select this option if your DVD player supports only YPbPr output. Comparison Contract Contr
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 to adjust the hue from 0 to 100.
	Press A to increase the green shade of the video image.
	Press v to increase the purple shade of the video image.
	NOTE: Hue adjustment is available only when you select Movie or Game preset mode.
Saturation	This feature can adjust the color saturation of the video image. Use or to adjust the saturation from 0 to 100.
	Press to increase the monochrome appearance of the video image.
	Press to increase the colorful appearance of the video image.
	NOTE: Saturation adjustment is available only when you select movie or game preset mode.
Reset Color	Allows your monitor color settings to the factory settings.

	Display	Use the display to adjust image.		
_		Doll R2418HZ Energy Use D: Brightness / Contrast Aspect Ratio Wide 16:9		
		Auto Adjust Horizontal Position 50		
		Sharpness 50		
		Display Pixel Clock 50 Energy Phase 12		
		Merru Dynamic Contrast Others Response Time Normal		
		Reset Display		
		\(\text{\text{\$\sigma}}\) Mesocolom (120000000 60000)		
	Aspect Ratio	Adjusts the image ratio to wide 16:9, 4:3 or 5:4		
	Horizontal	Use 🐼 or 💟 the buttons to adjust image left and right.		
	Position	Minimum is 0 (-). Maximum is 100 (+).		
	Vertical Position	Use the \Delta or 💟 buttons to adjust image up and down.		
		Minimum is 0 (-). Maximum is 100 (+).		
		NOTE: Horizontal position and vertical position		
		adjustments are only available for "VGA" input.		
	Sharpness	This feature can make the image look sharper or softer.		
	·	Use \Lambda or 💟 to adjust the sharpness from 0 to 100.		
	Pixel Clock	The phase and pixel clock adjustments allow you to adju		
		your monitor to your preference. Use o or v buttons t		
		adjust for best image quality. Minimum is 0 (-). Maximum		
		is 100 (+).		
	Phase	If satisfactory results are not obtained using the phase		
		adjustment, use the pixel clock (coarse) adjustment and		
		then use phase (fine), again. Minimum is 0 (-). Maximum is		
		100 (+).		
		NOTE: Pixel clock and phase adjustments are only		
		available for "VGA" input.		
	Dynamic	Allows you to increase the level of contrast to provide		
	Contrast	sharper and more detailed image quality.		
		Press the 😝 button to select the dynamic contrast on or		
		off.		
		NOTE: Dynamic contrast provides higher contrast if you		
		select game or movie preset mode.		
	Response Time	User can select between fast or normal.		
	Reset Display	Select this option to restore default display settings.		
		beleet this option to restore default display settings.		

4	Energy	Collegation This process / Contrast Also Adjust Topul Source (6) Color Display A Enter /	Power Button LED USB Reset Energy	y Use On During Active Off During Standby	
		Maria Chers The Maria 1900/1000	60Hz	∧ ∨ → ×	
	Power Button LED	Allows you to set the power LED indicator on during active or off during active to save energy.			
monitor standby NOTE: USB ON/ when USB upstr		monitor standby mo NOTE: USB ON/OFF when USB upstream	i to enable or disable USB function during andby mode. 3 ON/OFF under standby mode is only availabl upstream cable unplugged. This option will be then USB upstream cable plug in.		
	Reset Energy	Select this option to	restore defa	ult Energy sett	ings.

	Menu	Select this option to adjust the settings of the OSD, such as, the languages of the OSD, the amount of time the menu remains on screen and so on.		
	Language	Language options set the OSD display to one of the eigh languages (English, Spanish, French, German, Brazilian Portuguese, Russian, Simplified Chinese, or Japanese).		
	Rotation	Rotates the OSD by 90 degrees counter-clockwise. You can adjust the menu according to your display rotation.		
	Transparency Select this option to change the menu to pressing the ♠ and ♥ buttons from 0			
	Timer	OSD hold time: sets the length of time the OSD will remain active after the last time you pressed a button. Use or to adjust the slider in 1 second increments, from 5 to 60 seconds.		
	Lock	Controls user access to adjustments. When lock is selected, no user adjustments are allowed. All buttons are locked. NOTE: When the OSD is locked, pressing the menu key takes you directly to the OSD settings menu, with 'OSD Lock' pre-selected on entry. Press and hold key for 6 seconds to unlock and allow user access to all applicable settings.		
	Reset Menu	Reset all OSD settings to the factory preset values.		
###	Others	Deligibles Devices Doccid Device Devi		







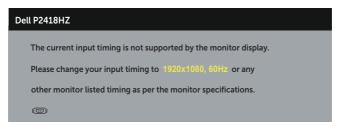
NOTE: Your monitor has a built-in feature to automatically calibrate the brightness to compensate for LED aging.

OSD warning messages

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

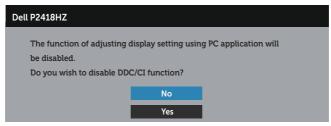


When the monitor does not support a particular resolution mode, the following message is displayed:



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 1920×1080 .

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

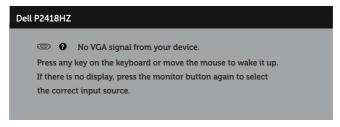


When the monitor enters the **Power Save Mode**, the following message appears:

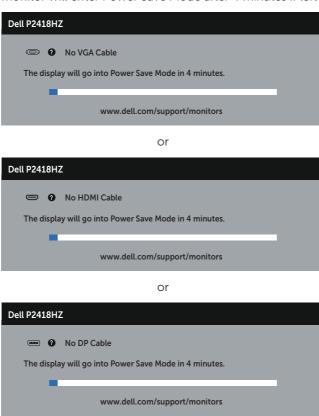


If you press any button other than the power button, the following messages will

appear depending on the selected input:



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



See Troubleshooting for more information.

Setting up your monitor

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, 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 1080
- 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 1080.
- 4. Click Apply.

If you do not see 1920×1080) as an option, you may need to update your graphics driver. Depending on your computer, complete one of the following procedures:

If you have a Dell desktop or portable computer:

 Go to www.dell.com/support, enter your computer's Service Tag, and download the latest driver for your graphics card.

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

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

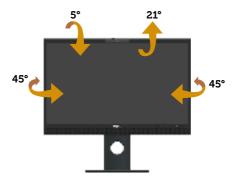
Using the Tilt, Swivel, and Vertical Extension



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

Tilt, Swivel

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



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

Vertical Extension

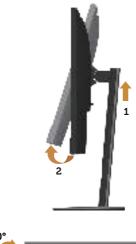


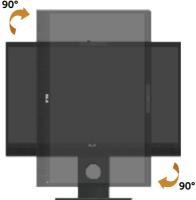
NOTE: The stand extends vertically up to 125 mm. The figure below illustrates how to extend the stand vertically.



Rotating the Monitor

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







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



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

Adjusting the Rotation Display Settings of Your System

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



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

To adjust the Rotation Display Settings:

- 1. Right-click on the desktop and click **Properties**.
- 2. Select the Settings tab and click Advanced.
- **3.** If you have an ATI graphics card, select the **Rotation** tab and set the preferred rotation.
- **4.** If you have an nVidia graphics card, click the **nVidia** tab, in the left-hand column select **NVRotate**, and then select the preferred rotation.
- 5. If you have an Intel® graphics card, select the Intel graphics tab, click Graphic Properties, select the Rotation tab, and then set the preferred rotation.
- **NOTE:** If you do not see the rotation option or it is not working correctly, go to **www.dell.com/support** and download the latest driver for your graphics card.

Operating the webcam cover shutter

Slide the shutter to the left: Uncover the webcam.



Slide the shutter to the right: Cover the webcam.

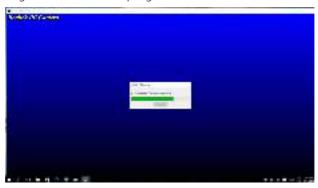


Installing the monitor IR Camera driver

Insert the driver disk into your computer's disk drive. If your computer do not have disk drives and only USB ports, you can use a external disk drive connected to your computer via USB cable. Wait for the disk to auto-load. If it does not, open the CD file, click **CDBrowse.exe**, and then click **Install IR Camera Driver**.



It will directly transfer to the Realtek PC Camera installation interface. Wait for automatic running of the installation program.



When the installation is complete, remove the disk and restart your computer if necessary.



Setting up Windows Hello

In Windows® 10:

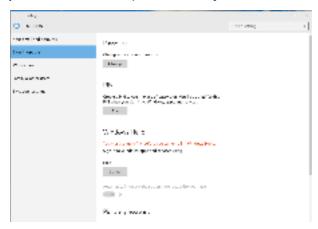
Click Windows start menu, click Settings.



Click Accounts.



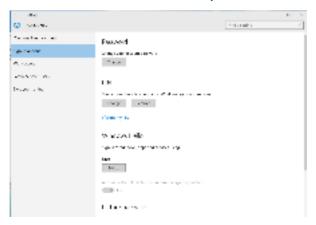
Click Sign-in options. You must set up a PIN before you can enroll in Windows Hello.



Click **Add** under **PIN** enter to **Set up a PIN**. Enter New PIN and Confirm PIN, and then click **OK**.



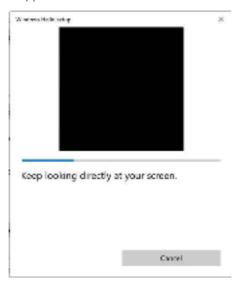
Once you've done that, the options to set up Windows Hello will unlock. Click **Set up** under **Windows Hello**, enter to **Windows Hello setup**.



The following message is displayed, click **Get started**.



Keep looking directly at your screen and position yourself so that your face is in the center of the frame that appears on screen. The webcam will then register your face.



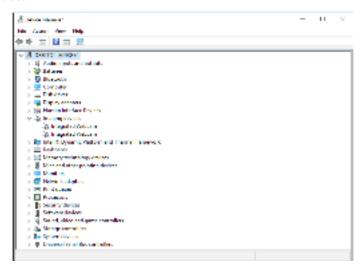
When the following message is displayed, click Close to exit Windows Hello setup.



Once you have set up, you have another option to improve the recognition. Click **Improve recognition** if necessary.

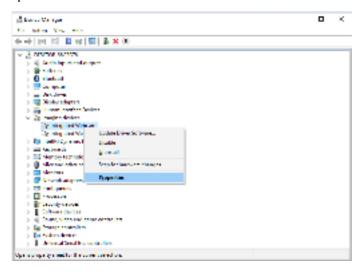
Setting up the monitor webcam as default setting

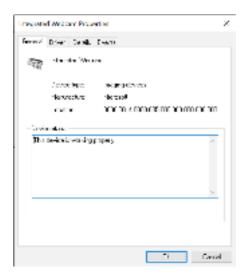
When using a notebook with built-in webcam to connect this monitor, in the device manager interface, you can find the notebook built-in webcam and the monitor webcam. Normally, they are in enable status, and the default setting is using notebook built-in webcam.



If you want to set up the monitor webcam as default setting, you need disable the notebook built-in webcam. To identify the notebook built-in webcam and disable it, please follow below instructions:

Right-click **Integrated Webcam**, and click **Properties** to open the **Integrated Webcam Properties**.

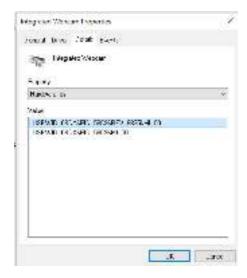




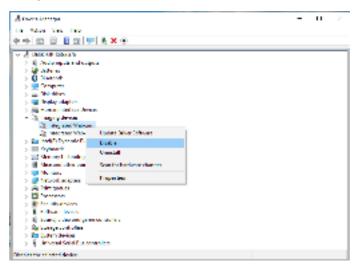
Click **Details > Property** and select **Hardware Ids**.



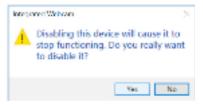
The **Value** will show the detail hardware ids of this integrated webcam. The hardware ids of the notebook built-in webcam and the monitor webcam are different. For P2418HZ, the monitor webcam hardware ids will show as below:



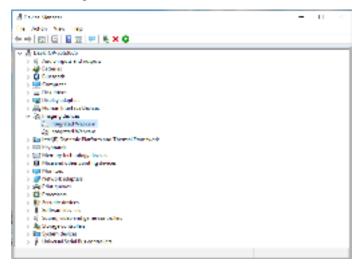
Right click the **Integrated Webcam** which has different hardware ids of the P2418HZ monitor webcam, and then click **Disable**.



The following message is displayed:



Click **Yes**. The notebook webcam is now disabled and the monitor webcam will be used as the default setting. Restart the notebook.



Setting up the monitor speaker as default setting

When your computer connects multiple speakers, if you want to set up the monitor speaker as default setting, please follow below instructions:

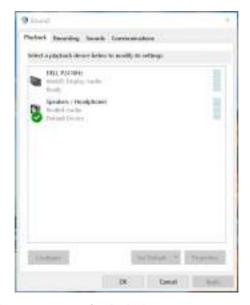
Right-click **Volume** in the Windows task bar notification area.



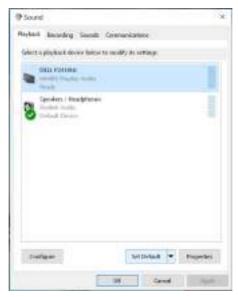
click **Playback devices** enter to **Sound** setting interface.



If only the HDMI or DP cable is connected from your monitor to the computer, only one speaker named **DELL P2418HZ** from the monitor will show in the **Sound** setting interface.



click **DELL P2418HZ**, and then click **Set Default**, the monitor speaker will be used as the default setting.

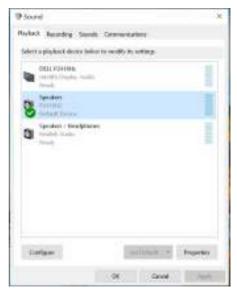


Click **OK** to exit the **Sound** setting.



If the USB cable and the HDMI or DP cable are connected from monitor to the computer, two speakers named **DELL P2418HZ** and **P2418HZ** respectively from the monitor will show in the **Sound** setting interface. The difference between **DELL P2418HZ** and **P2418HZ** is only different signal source. You can choose any one to set default, the monitor speaker will be used as the default setting.





Troubleshooting



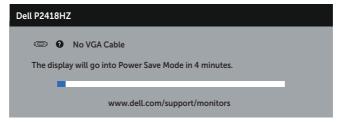
WARNING: Before you begin any of the procedures in this section, follow the Safety instructions.

Self-test

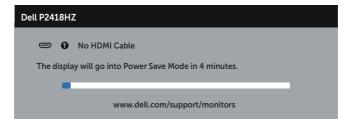
Your monitor provides a self-test feature that allows you to check if your monitor is functioning properly. If your monitor and computer are properly connected but the monitor screen remains dark, run the monitor self-test by performing the following steps:

- **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

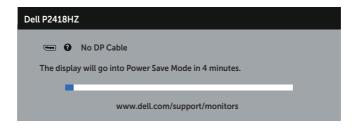
If the monitor is working correctly, it detects that there is no signal and one of the following message appears. While in self-test mode, the power LED remains white.



or



or



- **NOTE:** This box also appears during normal system operation, if the video cable is disconnected or damaged.
 - **4.** Turn off your monitor and reconnect the video cable; then turn on both your computer and the monitor.

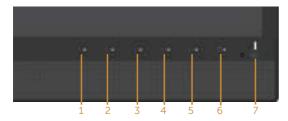
If your monitor remains dark after you reconnect the cables, check your video controller and computer.

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.



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



To run the built-in diagnostics:

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

The test is complete when the text screen appears. To exit, press **button 3** again.

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

Common problems

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

Common Symptoms	Possible Solutions
No video/power LED off	 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 correct input source is selected via the Input source menu.
No video/power LED on	 Increase brightness and contrast controls using the 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 via the Input source menu.
Poor focus	 Eliminate video extension cables. Reset the monitor to Factory Settings (Factory Reset). Change the video resolution to the correct aspect ratio.
Shaky/jittery video	 Reset the monitor to Factory Settings (Factory Reset). Check environmental factors. Relocate the monitor and test in another room.
Missing pixels	 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	 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	 Reset the monitor to Factory Settings (Factory Reset). Adjust brightness & contrast controls via OSD.
Geometric distortion	 Reset the monitor to Factory Settings (Factory Reset). Adjust horizontal & vertical controls via OSD.
Horizontal/vertical lines	 Reset the monitor to Factory Settings (Factory Reset). 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.

Synchronization problems	 Reset the monitor to Factory Settings (Factory Reset). 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	Do not perform any troubleshooting steps.Contact Dell immediately.
Intermittent problems	 Ensure that the video cable connecting the monitor to the computer is connected properly and is secure. Reset the monitor to Factory Settings (Factory Reset). Perform monitor self-test feature check to determine if the intermittent problem occurs in self-test mode.
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	 Change the Color Setting Mode in the Color Settings OSD to Graphics or Video depending on the application. Try different Preset Modes in Color settings OSD. Adjust R/G/B value in Custom Color in Color settings OSD. Change the Input Color Format to RGB or YPbPr in the Color settings OSD. Run the built-in diagnostics.
Image retention from a static image left on the monitor for a long period of time	 Use the Power Management feature to turn off the monitor at all times when not in use (for more information, see Power managemen modes). Alternatively, use a dynamically changing screensaver.
Video ghosting or overshooting	Change the Response Time in the Display OSD to Fast or Normal depending on your application and usage.

Product-specific problems

Specific Symptoms	Possible Solutions
Screen image is too small	 Check the Aspect Ratio setting in the Display settings OSD. Reset the monitor to Factory Settings (Factory Reset).
Cannot adjust the monitor with the buttons on the side panel	 Turn off the monitor, unplug the power cord, plug it back, and then turn on the monitor. Check if the OSD menu is locked. If yes, press and hold the button above the power button for 6 seconds to unlock. (For more information, see Lock).
No input signal when user controls are pressed	 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. Check if the video cable is plugged in properly. Disconnect and reconnect the video cable if necessary. Reset the computer or video player.
The picture does not fill the entire 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

Specific Symptoms	Possible Solutions
USB interface is 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.
Supre Speed USB 3.0 interface is slow	 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. 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	 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.

Microsoft® Skype for Business® Specific Problems

Specific Symptoms	Possible Solutions
The Hook button is not working	 Ensure that the USB upstream cable is connected between the monitor and the computer or notebook. Ensure that you have signed in to Skype for Business.
Webcam is not detected	 Ensure that the USB upstream cable is connected between the monitor and the computer or notebook. Reconnect the USB upstream cable to the computer or notebook.
The Mute button is not working	 Ensure that the USB upstream cable is connected between the monitor and the computer or notebook. Reconnect the USB upstream cable to the computer or notebook.
No sound coming from the speakers	 Ensure that you have set the default playback device as "DELL P2418HZ" on your system. Turn Off the monitor, unplug the monitor power cord, replug it, and then turn On the monitor. Reset the monitor to Factory Settings.

Wireless mouse is not working or lagging

- 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 mouse.
- 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 the Safety, Environmental, and Regulatory Information (SFRI)

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.

Contacting Dell

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

- 1. Go to www.dell.com/contactdell
- 2. Verify your country or region in the Choose a Country/Region drop-down list at the bottom of the page.
- 3. Select the appropriate service or support link based on your requirement or choose the method of contacting Dell that is convenient for you. 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.



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.