Dell U2415 User's Guide

Model: U2415

Regulatory model: U2415b



Notes, Cautions, and Warnings



NOTE: A NOTE indicates important information that helps you make better use of your computer.



data if instructions are not followed.



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

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About Your Monitor

Package Contents

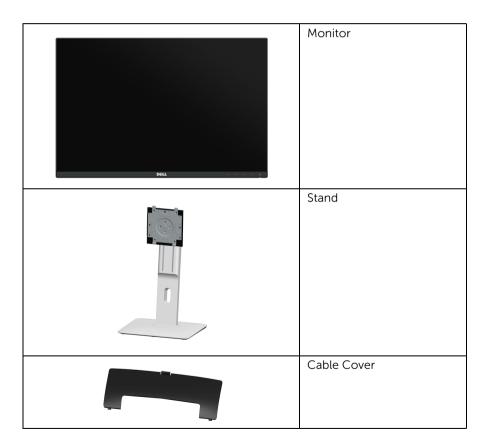
Your monitor ships with the components shown below. Ensure that you have received all the components and Contact Dell if something is missing.



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



NOTE: To set up with any other stand, please refer to the respective stand setup guide for setup instructions.



	Power Cable (Varies by Countries)
	DP Cable (Mini-DP to DP)
	USB 3.0 Upstream Cable (Enables the USB Ports on the Monitor)
Hard Reports Was and R	 Drivers and Documentation Media Quick Setup Guide Factory Calibration Report Safety and Regulatory Information

Product Features

The **Dell U2415** flat panel display has an active matrix, Thin-Film Transistor (TFT), Liquid Crystal Display (LCD) and LED backlight. The monitor features include:

- 61.13 cm (24.1-inch) viewable area display (measured diagonally). 1920 x 1200 resolution, plus full-screen support for lower resolutions.
- Wide viewing angle to allow viewing from a sitting or standing position, or while moving from side-to-side.
- Tilt, swivel, vertical extension and rotate adjustment capabilities.
- Ultra-thin bezel minimizes the bezel gap in multi-monitor usage, enabling easier set up with an elegant viewing experience.
- Removable stand and Video Electronics Standards Association (VESA™) 100 mm mounting holes for flexible mounting solutions.
- Extensive all digital connectivity with DisplayPort, mini DisplayPort, HDMI (MHL), USB 3.0 helps future proof your monitor.
- Plug and play capability if supported by your system.
- Color gamut of 99% sRGB with an average Delta E ≤ 3.
- 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 included (comes in the CD shipped with the monitor).
- Energy Saver feature for Energy Star compliance.
- Security lock slot.
- Stand lock.
- Capability to switch from wide aspect to standard aspect ratio while maintaining the image quality.
- EPEAT Gold Rating.
- U2415 monitor is BFR/PVC-free (Halogen-free) excluding external cables.
- TCO-Certified Displays.
- Meets NFPA 99 leakage current requirements.
- Arsenic-Free glass and Mercury-Free for the panel only.
- High Dynamic Contrast Ratio (2,000,000:1).
- 0.5 W standby power when in the sleep mode.
- Energy Gauge shows the energy level being consumed by the monitor in real time.
- Analogue backlight dimming control for flicker free display.

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

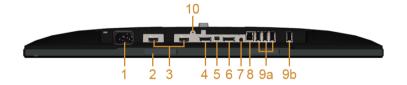
Label	Description	Use	
1	VESA mounting holes (100 mm x 100 mm - behind attached VESA Cover)	Wall mount monitor using VESA-compatible wall mount kit (100 mm x 100 mm).	
2	Regulatory label	Lists the regulatory approvals.	
3	Stand release button	Releases stand from monitor.	
4	Security lock slot	Secures monitor with security lock (security lock not included).	
5	Barcode serial number label	Refer to this label if you need to contact Dell for technical support.	
6	USB downstream port*	Connects your USB device. You can only use this connector after you have connected the USB cable to the computer and USB upstream connector on the monitor.	
7	Cable management slot	Use to organize cables by placing them through the slot.	

^{*}It is recommended to use this port for your wireless USB device whenever possible.

Side View



Bottom View



Bottom view without monitor stand

Label	Description	Use
1	AC power cord connector	Connect the power cable.
2	Dell Soundbar mounting slots	Attach the optional Dell Soundbar. (Concealed below removable plastic sheets)
3	HDMI (MHL) port connector	Connect your MHL devices with MHL cable.
4	DisplayPort in connector	Connect your computer with DP cable.
5	Mini DisplayPort in connector	Connect your computer with Mini-DP to DP cable.

6	DisplayPort out (MST) connector	DisplayPort output for MST (Multi-Stream Transport) capable monitor. DP 1.1 monitor can only be connected as the last monitor in the MST chain. To enable MST, refer to instruction on section "Connecting the monitor for DP Multi-Stream Transport (MST) function".	
7	Audio-Line out	Connect your speakers*.	
8	USB upstream port	Connect the USB cable that came with your monitor to the computer. Once this cable is connected, you can use the USB connectors on the monitor.	
9 (a, b)	USB downstream port	Connect your USB device. You can only use this connector after you have connected the USB cable to the computer and USB upstream connector on the monitor.**	
10	Stand lock feature	To lock the stand to the monitor using a M3 x 6 mm screw (screw not included).	

^{*} Headphone usage is not supported for the audio line out connector.

^{**}It is recommended to use either the port (9b) or the USB downstream port on the rear side for your wireless USB device whenever possible.

Monitor Specifications

Flat Panel Specifications

Model	U2415	
Screen type	Active matrix - TFT LCD	
Panel type	In Plane Switching	
Viewable image		
Diagonal	611.30 mm (24.1 inches)	
Horizontal, Active Area	518.40 mm (20.41 inches)	
Vertical, Active Area	324.00 mm (12.75 inches)	
Area	167961.60 mm ² (260.35 inch ²)	
Pixel pitch	0.27 mm x 0.27 mm	
Viewing angle	178° (vertical) typical	
	178° (horizontal) typical	
Luminance output	300 cd/m² (typical)	
	50 cd/m ² (minimum)	
Contrast ratio	1000 to 1 (typical)	
	2M to 1 (typical Dynamic Contrast On)	
Faceplate coating	Anti-Glare with 3H hardness	
Backlight	LED edgelight system	
Response time	NORMAL mode: 8 ms grey to grey (typical)	
	FAST mode: 6 ms grey to grey (typical)	
	On/Off: 19 ms black to white (typical)	
Color depth	16.78 million colors	
Color gamut	CIE1976 (91%), CIE 1931 (76%), and sRGB coverage 99%	

Resolution Specifications

Model	U2415
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	U2415
Video display capabilities (HDMI & DP playback)	480p, 480i, 576p, 720p, 1080p, 576i, 1080i

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	+/-

MHL Source Display Modes

Display Mode	Frequency (Hz)
640 x 480p	60
720 x 480p	60
720 x 576p	50
1280 x 720p	60
1280 x 720p	50
1920 x 1080i	60
1920 x 1080i	50
1920 x 1080p	30
1920 x 1080p	60

1920 x 1080p	50
720 (1440) x 480i	60
720 (1440) x 576i	50

MST Multi-Stream Transport (MST) Modes

MST Source	Maximum number of external monitor can be supported		
Monitor	1920 x 1200 at 60Hz	1920 x 1080 at 60Hz	
1920 x 1200 at 60Hz	3	3	
1920 x 1080 at 60Hz	3	3	

Electrical Specifications

Model	U2415
Video input signals	 HDMI 1.4 (MHL 2.0)*, 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 / 1.5 A
current	(typical)
Inrush current	• 120 V: 42 A (Max.) at 0 °C (cold start)
	• 240 V: 80 A (Max.) at 0 °C (cold start)

^{*} Not Support HDMI 1.4 optional specification, include HDMI Ethernet Channel (HEC), Audio Return Channel (ARC), standard for 3D format and resolutions, standard for 2K and 4K digital cinema resolution.

^{**} Support DP1.2 (CORE) specification, include HBR2, MST and DP audio.

Physical Characteristics

Model	U2415	
Connector type	DP, black connector (include DP in and DP out); Mini DisplayPort; HDMI (MHL); USB 3.	
• Digital: detachable, HDMI, 19 p • Digital: detachable, MHL, 19 pi • Digital: detachable, Mini-DP to pins • Universal Serial Bus: detachable pins		
Dimensions (with stand)		
Height (extended)	517.9 mm (20.39 inches)	
Height (compressed)	402.9 mm (15.86 inches)	
Width	532.2 mm (20.95 inches)	
Depth	205.0 mm (8.07 inches)	
Dimensions (without stand)		
Height	350.6 mm (13.80 inches)	
Width	532.2 mm (20.95 inches)	
Depth	45.7 mm (1.80 inches)	
Stand dimensions		
Height (extended)	417.3 mm (16.43 inches)	
Height (compressed)	371.6 mm (14.63 inches)	
Width	245.0 mm (9.65 inches)	
Depth	205.0 mm (8.07 inches)	
Weight		
Weight with packaging	9.00 kg (19.80 lb)	
Weight with stand assembly and cables	6.69 kg (14.72 lb)	
Weight without stand assembly (For wall mount or VESA mount considerations - no cables)	4.25 kg (9.35 lb)	
Weight of stand assembly	2.10 kg (4.62 lb)	
Front frame gloss	Black Frame - 8%-13% gloss unit	

Environmental Characteristics

Model	U2415		
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	10% to 80% (non-condensing)		
Non-operating	Storage: 5% to 90% (non-condensing)		
	 Shipping: 5% to 90% (non-condensing) 		
Altitude			
Operating	5,000 m (16,404 ft) (maximum)		
Non-operating	12,192 m (40,000 ft) (maximum)		
Thermal dissipation	• 255.91 BTU/hour (maximum)		
	• 78.63 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.

VESA Modes	Horizontal Sync	Vertical Sync	Video	Power Indicator	Power Consumption
Normal operation	Active	Active	Active	White	75 W (maximum)** 23 W (typical)
Active-off mode	Inactive	Inactive	Blanked	White (glowing)	Less than 0.5 W
Switch off	-	-	-	Off	Less than 0.5 W

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

^{**} Maximum power consumption with max luminance, and USB active.

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

HDMI (MHL)/Mini DisplayPort/DP input



HDMI (MHL) input



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

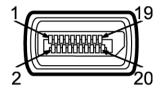


NOTE: This monitor is **ENERGY STAR**®-compliant.



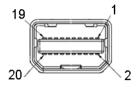
Pin Assignments

DisplayPort Connector



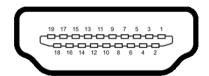
Pin Number	20-pin Side of the Connected Signal Cable
1	ML0(p)
2	GND
3	ML0(n)
4	ML1(p)
5	GND
6	ML1(n)
7	ML2(p)
8	GND
9	ML2(n)
10	ML3(p)
11	GND
12	ML3(n)
13	GND
14	GND
15	AUX(p)
16	GND
17	AUX(n)
18	GND
19	Re-PWR
20	+3.3 V DP_PWR

Mini DisplayPort Connector

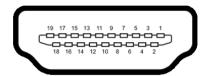


Pin Number	20-pin Side of the Connected Signal Cable	
1	GND	
2	Hot Plug Detect	
3	ML3(n)	
4	GND	
5	ML3(n)	
6	GND	
7	GND	
8	GND	
9	ML2(n)	
10	MLO(p)	
11	ML2(p)	
12	MLO(p)	
13	GND	
14	GND	
15	ML1(n)	
16	AUX(p)	
17	ML1(p)	
18	AUX(n)	
19	GND	
20	+3.3 V DP_PWR	

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	+5V POWER	
19	HOT PLUG DETECT	



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	GND	
6	TMDS DATA 1-	
7	MHL+	
8 TMDS DATA 0 SHIELD		
9	MHL-	
10	TMDS CLOCK+	
11	GND	
12	TMDS CLOCK-	
13	CEC	
14	Reserved (N.C. on device)	
15	DDC CLOCK (SCL)	
16	DDC DATA (SDA)	
17	GND	
18	VBUS (+5V, 900mA maximum)	
19	CBUS	

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 the Monitor.

Universal Serial Bus (USB) Interface

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

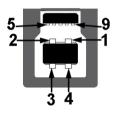


NOTE: This monitor is Super-Speed USB 3.0 compatible.

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)

^{*} Up to 2A on USB downstream port (port with sset) lightning icon) with BC1.2 compliance devices or normal USB devices.

USB 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 Downstream 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 Ports

- 1 upstream back
- 5 downstream back
- Power Charging Port- the port with seed 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.

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: http://www.dell.com/support/monitors.

Maintenance Guidelines

Cleaning Your Monitor

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



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 Remove the cover and place the monitor on it.
- **2** Fit the two tabs on the upper part of the stand to the groove on the back of the monitor.
- **3** Press the stand till it snaps into place.

Connecting Your Monitor



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



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

To connect your monitor to the computer:

1 Turn Off your computer and disconnect the power cable.

Connect the DP/Mini-DP to DP/HDMI cable from your monitor to the computer.

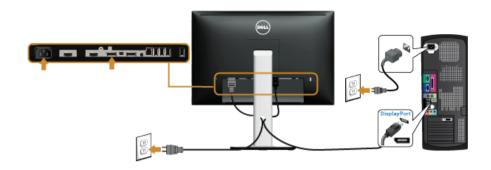
Connecting the HDMI cable



Connecting the black DisplayPort (Mini-DP to DP) cable



Connecting the black DisplayPort (DP to DP) cable



Connecting the monitor for DP Multi-Stream Transport (MST) function



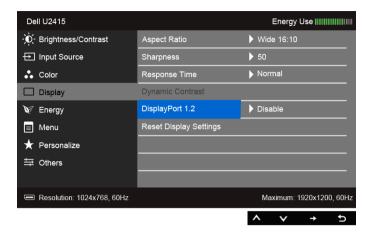
NOTE: U2415 supports the DP MST feature. To make use of this feature, your PC Graphics Card must be certified to DP1.2 with MST option.

The default out of factory setting in the U2415 is DP1.1a.

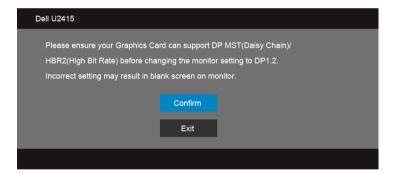
To enable MST connection, please use only DP cable as provided in box (or other DP1.2 certified cable) and change the DP setting to DP1.2 by performing the below steps:

A) Monitor is able to show content

1 Use OSD button to navigate to **Display**.



- 2 Go to DisplayPort 1.2 selection.
- 3 Select Enable or Disable accordingly
- 4 Follow the screen message to confirm selection of DP1.2 or DP1.1a.





B) Monitor fails to show any content (blank screen)

1 Use the and button to highlight DisplayPort or Mini DisplayPort.



- 2 Press and hold the button for approximately 8 seconds.
- **3** The DisplayPort configuration message will appear:



4 Use the button to enable DP1.2 or button to exit without making any changes.

Repeat the above steps to change the setting back to DP 1.1a if necessary.

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

Connecting the USB 3.0 cable

After you have completed connecting the Mini-DP to DP/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.



Using the Mobile-High Definition Link (MHL)



NOTE: This monitor is MHL certified.



NOTE: To use the MHL function, use only MHL certified cable and source devices that support MHL output.



NOTE: Some MHL source devices may take more than a few seconds or longer to output an image, depending on MHL source devices.

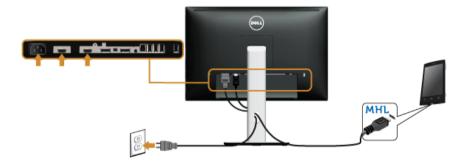


NOTE: When the connected MHL source device enters Standby mode, the monitor will display black screen or show the massage below, depending on MHL source device's output.



To enable MHL connection, please perform the below steps:

- 1 Plug the power cable on your monitor into a AC outlet.
- 2 Connect the (micro) USB port on you MHL source device to HDMI (MHL) 1 or HDMI (MHL) 2 port on the monitor with a MHL certified cable (See Bottom View for details).
- **3** Turn On the monitor and the MHL source device.



- 4 Select input source on monitor to HDMI (MHL) 1 or HDMI (MHL) 2 by using OSD Menu (See Using the On-Screen Display (OSD) Menu for details.)
- 5 If it does not display an image, see Mobile High-Definition Link (MHL) 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.

Attaching the Cable Cover



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



- 1 Fit the two tabs on the bottom part of the cable cover to the groove on the back of the monitor.
- 2 Press the cable cover till it snaps into place.

Removing the Monitor Stand



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

Removing the Cable Cover



- 1 Press the tab on the cable cover.
- 2 Remove the two tabs on the bottom part of the cable cover from the groove on the back of 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 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 by following the instructions that comes with the wall mounting kit.



NOTE: For use only with UL-listed wall mount bracket with minimum weight/load bearing capacity of 5.88 kg.

Operating the 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 adjust the characteristics of the image being displayed. As you use these buttons to adjust the controls, an OSD shows the numeric values of the characteristics as they change.

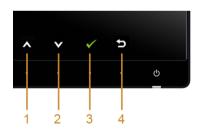


The following table describes the front panel buttons:

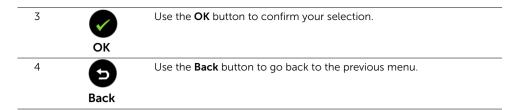
F	ront Panel Button	Description	
1	8	Use this button to choose from a list of preset color modes.	
	Shortcut key/ Preset Modes		
2	②	Use this button to directly access the Brightness/Contrast menu.	
	Shortcut key/ Brightness/Contrast		
3		Use the MENU button to launch the On-Screen Display (OSD) and select the OSD Menu. See Accessing the Menu	
	Menu	System.	
4	X	Use this button to go back to the main menu or exit the OSD main menu.	
	Exit		
5		Use the Power button to turn the monitor On and Off .	
	•	The white light indicates the monitor is On and fully	
	Power	functional. A glowing white light indicates the power save	
	(with power light indicator)	mode.	

Front Panel Button

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

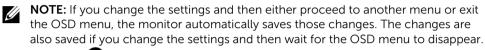


Front F	Panel Button	Description
1	O Up	Use the Up button to adjust (increase ranges) items in the OSD menu.
2	Down	Use the Down button to adjust (decrease ranges) items in the OSD menu.



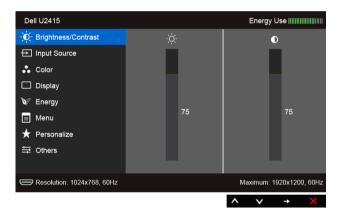
Using the On-Screen Display (OSD) Menu

Accessing the Menu System



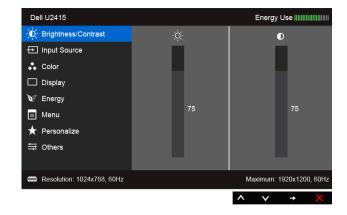
1 Press the button to launch the OSD menu and display the main menu.

Main Menu for digital (HDMI (MHL) 1/ HDMI (MHL) 2) input



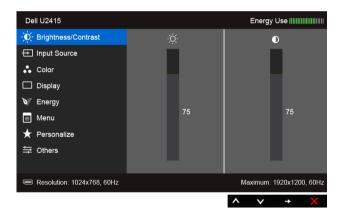
or

Main Menu for digital (mini DisplayPort) input



or

Main Menu for digital (DP) input



- 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 button once to activate the highlighted option.
- 4 Press A and V button to select the desired parameter.
- 5 Press to enter the slide bar and then use the A and v buttons, according to the indicators on the menu, to make your changes.
- 6 Select the **b**utton to return to the main menu.

lcon

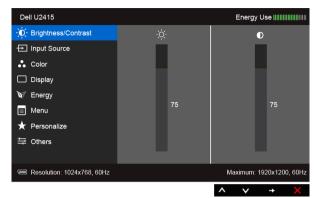
Menu and Submenus

Description



Brightness/ Contrast

Use this menu to activate Brightness/Contrast adjustment.



Brightness

Brightness adjusts the luminance of the backlight.

Press the **A** button to increase the brightness and press the **Y** 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.

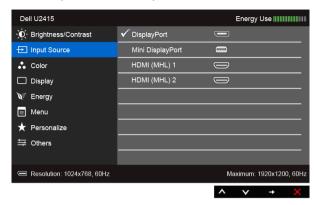
Press the button to increase the contrast and press the button to decrease the contrast (min. 0 / max. 100).



The Contrast function adjusts the degree of difference between darkness and lightness on the monitor screen.



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



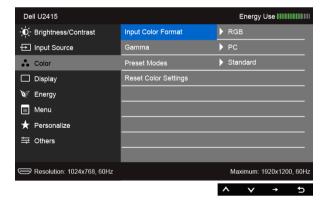
DisplayPort
Select the DisplayPort input when you are using the DisplayPort (DP) connector. Press to select the DisplayPort input source.

Mini
DisplayPort
DisplayPort
DisplayPort (Mini DP) connector. Press to select the Mini
DisplayPort input source.

HDMI (MHL)
Select the HDMI (MHL) 1 or HDMI (MHL) 2 input when you are using the HDMI connectors. Press to select the HDMI (MHL) 1 or HDMI (MHL)
HDMI (MHL)
input source.



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



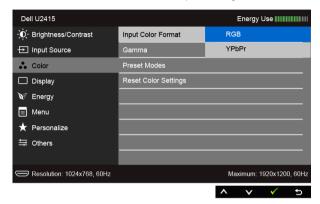
Input Color Format

Input Color Allows you to set the video input mode to:

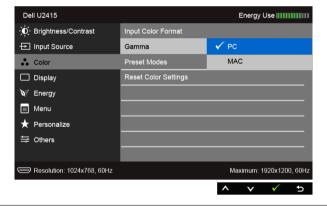
RGB: Select this option if your monitor is connected to a computer (or DVD player) using the HDMI cable (or DisplayPort cable); or MHL devices using MHL cable.

YPbPr: Select this option if your monitor is connected to a DVD player by YPbPr using HDMI cable (or DisplayPort cable); or MHL devices by YPbPr using MHL cable.

Or if the DVD (or MHL devices) color output setting is not RGB.



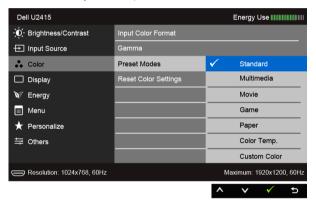
Gamma Allows you to set the **Gamma** to **PC** or **MAC**.



Preset Modes When you select Preset Modes, you can choose Standard, Multimedia, Movie, Game, Paper, Color Temp., or Custom Color from the list.

- **Standard**: Loads the monitor's default color settings. This is the default preset mode.
- Multimedia: Loads color settings ideal for multimedia applications.
- Movie: Loads color settings ideal for movies.
- Game: Loads color settings ideal for most gaming applications.
- **Paper**: Loads brightness and sharpness settings ideal for viewing text. Blend the text background to simulate paper media without affecting color images. Applies to RGB input format only.
- Color Temp.: Allows users to select the color temperature: 5000K, 5700K. 6500K. 7500K. 9300K and 10000K.
- 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.



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'.

Press 🛕 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 A to increase the monochrome appearance of the video image.

Press V to increase the colorful appearance of the video image.

NOTE: Saturation adjustment is available only when you select **Movie** or **Game** preset mode.

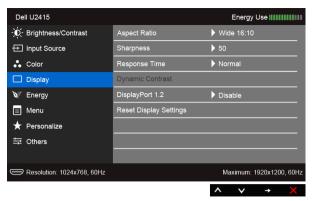
Reset Color Settings

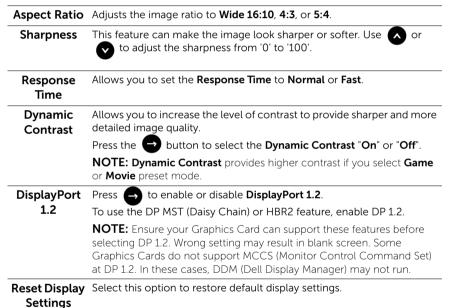
Reset your monitor color settings to the factory settings.



Display

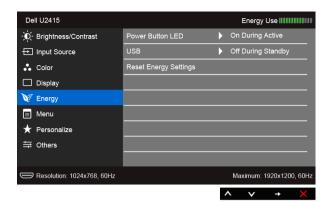
Use the **Display** to adjust image.







Energy

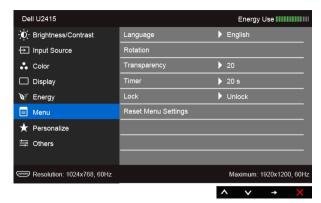


Power Button LED	Allows you to set the power LED indicator On or Off to save energy.		
USB Allows you to enable or disable USB function during monitor mode.			
	NOTE: USB ON/OFF under standby mode is only available when the USB upstream cable is unplugged. This option will be greyed out when the USB upstream cable plugs in.		
Reset Energy Settings	33		



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 eight 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 transparency by pressing the buttons (Minimum: 0 ~ Maximum: 100). and 🗸

Timer

OSD Hold Time: sets the length of time the OSD will remain active after the last time you pressed a button.

Use 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.

NOTF:

Lock function – Either soft lock (through the OSD menu) or hard lock (press and hold the button beside the power button for 10 seconds)

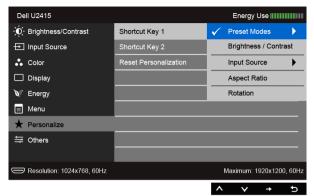
Unlock function - Only hard unlock (press and hold the button beside the power button for 10 seconds)

Reset Menu Settings

Reset all OSD settings to the factory preset values.

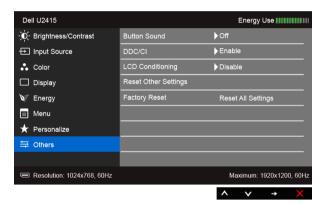


Personalize Users can choose a feature from Preset Modes, Brightness/Contrast, Input Source, Aspect Ratio, or Rotation and set it as a shortcut key.





Other



Button Sound

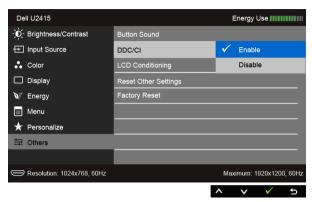
The monitor beeps every time a new option is selected in the menu. This feature enables or disables the sound.

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.

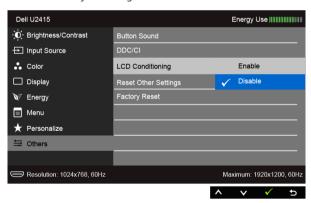
You can disable this feature by selecting **Disable**.

Enable this feature for best user experience and optimum performance of your monitor.



LCD

Helps reduce minor cases of image retention. Depending on the degree Conditioning of image retention, the program may take some time to run. You can enable this feature by selecting Enable.



Settings

Reset Other Reset all settings under the **Other** menu to the factory preset values.

Factory Reset Reset all settings to the factory preset values.



NOTE: This 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, 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.

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



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



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

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

HDMI (MHL)/Mini DisplayPort/DP input



HDMI (MHL) input



If either HDMI (MHL), Mini DisplayPort, or DP input is selected and the corresponding cable is not connected, a floating dialog box as shown below appears.



or



or



or



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

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 http://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.

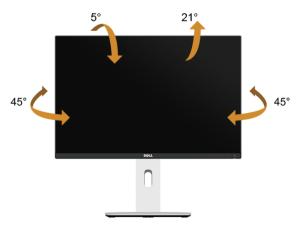
Using the Tilt, Swivel, and Vertical Extension



NOTE: 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 115 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



Reverse (180°) mount



NOTE: To reverse (180°) mount, remove the stand and use wall mounting solution (optional).





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.).

Dual-Monitor Setup

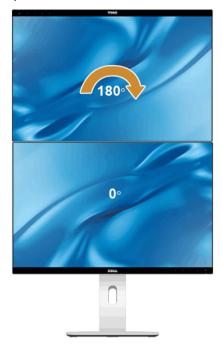
The ability to rotate 90° clockwise, 90° counterclockwise and reverse (180°) mount enable the thinnest borders of each monitor to be placed side by side to ensure minimum gap between display images.

The recommended dual-monitor setup:

Landscape (side by side)



Landscape (Top-bottom)



Supported by wall mounting solution (optional)

Portrait



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

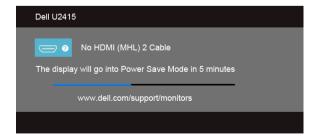
Your monitor provides a self-test feature that allows you to check whether your monitor is functioning properly. If your monitor and computer are properly connected but the monitor screen remains dark, run the monitor self-test by performing the following steps:

- 1 Turn off both your computer and the monitor.
- Unplug the video cable from the back of the computer. To ensure proper Self-Test operation, remove all digital cables from the back of computer.
- 3 Turn on the monitor.

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



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.



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 1** and **Button 4** on the front panel simultaneously for 2 seconds. A gray screen appears.
- 4 Carefully inspect the screen for abnormalities.
- 5 Press **Button 4** on the front panel again. The color of the screen changes to red.
- 6 Inspect the display for any abnormalities.
- **7** Repeat steps 5 and 6 to inspect the display in green, blue, black, white and text screens.

The test is complete when the text screen appears. To exit, press **Button 4** again.

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

Common Problems

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

Common Symptoms	What You Experience	Possible Solutions
No Video/Power LED off	No picture	 Ensure that the video cable connecting the monitor and the computer is properly connected and secure. Verify that the power outlet is functioning properly using any other electrical equipment. Ensure that the power button is depressed fully. Ensure that the correct input source is selected 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	 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	 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: http://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: http://www.dell.com/support/monitors.
Brightness Problems	Picture too dim or too bright	Reset the monitor to factory settings.Adjust brightness & contrast controls via OSD.
Geometric Distortion	Screen not centered correctly	Reset the monitor to factory settings.Adjust horizontal & vertical controls via OSD.
Horizontal/ Vertical Lines	Screen has one or more lines	 Reset the monitor to factory settings. 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	Screen is scrambled or appears torn	 Reset the monitor to factory settings. 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 Color menu OSD. Change the Input Color Format to PC RGB or YPbPr in the Color menu OSD. Run the built-in diagnostics.

Image retention	Faint shadow
from a static	from the static
image left on	image displayed
the monitor for	appears on the
a long period of	screen
time	

- Use the Power Management feature to turn off the monitor at all times when not in use (for more information, see Power Management Modes).
- Alternatively, use a dynamically changing screensaver.

Product Specific Problems

Specific Symptoms	What You Experience	Possible Solutions
Screen image is too small	Image is centered on screen, but does not fill entire viewing area	 Check the Aspect Ratio setting in the Display 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. Check whether the OSD menu is locked. If yes, press and hold the button above the Power button for 10 seconds to unlock (for more information, see Lock).
No Input Signal when user controls are pressed	No picture, the LED light is white	 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. Replug 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

Specific 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.
High Speed USB 3.0 interface is slow	High 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 mouse is not working or lagging	Do not respond or responds slowly	 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.

Mobile High-Definition Link (MHL) Specific Problems

Specific Symptoms	What You Experience	Possible Solutions
MHL interface is not working	Can not see MHL device image shown on monitor	 Ensure your MHL cable and MHL device are MHL certified. Check your MHL device is turned On. Check your MHL device is not in Standby mode. Check physical MHL cable connection is corresponding to input source selected on OSD Menu i.e., HDMI (MHL) 1 or HDMI (MHL) 2. Wait for 30 seconds after connecting MHL cable as some MHL devices require longer recovery time.

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 Product Information Guide.

FCC Notices (U.S. Only) and Other Regulatory Information

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

Contact Dell

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



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

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

To get online Monitor support content:

1 Visit www.dell.com/support/monitors.

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

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

Setting Up Your Monitor

Setting the display resolution

For maximum display performance with Microsoft[®] Windows[®] operating systems, set the display resolution to 1920×1200 pixels by performing the following steps:

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.

If you do not see the recommended resolution as an option, you may need to update your graphics driver. Please choose the scenario below that best describes the computer system you are using, and follow the given steps.

If you have a Dell[™] desktop or a Dell[™] portable computer with internet access

- 1 Go to **www.dell.com/support**, enter your service tag, and download the latest driver for your graphics card.
- 2 After installing the drivers for your graphics adapter, attempt to set the resolution to 1920 x 1200 again.

NOTE: If you are unable to set the resolution to 1920 x 1200, please contact $Dell^{TM}$ to inquire about a graphics adapter that supports these resolutions.

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

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

- 1 For Windows $^{\circledR}$ 8 and Windows $^{\circledR}$ 8.1 only, select the Desktop tile to switch to classic desktop.
- 2 Right-click on the desktop and click **Personalization**.
- 3 Click Change Display Settings.
- 4 Click Advanced Settings.
- 5 Identify your graphics controller supplier from the description at the top of the window (e.g. NVIDIA, ATI, Intel etc.).
- **6** Refer to the graphic card provider website for updated driver (for example, http://www.ATI.com OR http://www.ATI.com OR http://www.NVIDIA.com).
- 7 After installing the drivers for your graphics adapter, attempt to set the resolution to 1920 x 1200 again.



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