

# User's Guide

Dell D2216H

Model No.: D2216H

Regulatory model: D2216Hc



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## FOR YOUR SAFETY

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Before operating the monitor, please read this manual thoroughly. This manual should be retained for future reference.

### **WARNING:**

To prevent fire or shock hazard, do not expose the monitor to rain or moisture. Dangerously high voltages are present inside the monitor. Do not open the cabinet. Refer servicing to qualified personnel only.

### **PRECAUTIONS**

- Do not use the monitor near water, e.g. near a bathtub, washbowl, kitchen sink, laundry tub, swimming pool or in a wet basement.
- Do not place the monitor on an unstable cart, stand, or table. If the monitor falls, it can injure a person and cause serious damage to the appliance. Use only a cart or stand recommended by the manufacturer or sold with the monitor. If you mount the monitor on a wall or shelf, use a mounting kit approved by the manufacturer and follow the kit instructions.
- Slots and openings in the back and bottom of the cabinet are provided for ventilation. To ensure reliable operation of the monitor and to protect it from overheating, be sure these openings are not blocked or covered. Do not place the monitor on a bed, sofa, rug, or similar surface. Do not place the monitor near or over a radiator or heat register. Do not place the monitor in a bookcase or cabinet unless proper ventilation is provided.
- The monitor should be operated only from the type of power source indicated on the label. If you are not sure of the type of power supplied to your home, consult your dealer or local power company.
- The monitor is equipped with a three-pronged grounded plug, a plug with a third (grounding) pin. This plug will fit only into a grounded power outlet as a safety feature. If your outlet does not accommodate the three-wire plug, have an electrician install the correct outlet, or use an adapter to ground the appliance safely. Do not defeat the safety purpose of the grounded plug.
- Unplug the unit during a lightning storm or when it will not be used for long periods of time. This will protect the monitor from damage due to power surges.
- Do not overload power strips and extension cords. Overloading can result in fire or electric shock.
- Never push any object into the slot on the monitor cabinet. It could short circuit parts causing a fire or electric shock. Never spill liquids on the monitor.

- Do not attempt to service the monitor by yourself; opening or removing covers can expose you to dangerous voltages and other hazards. Please refer all servicing to qualified service personnel.
- To ensure satisfactory operation, use the monitor only with UL listed computers which have appropriate configured receptacles marked between 100 - 240V AC, Min. 5A.
- The wall socket should be installed near the equipment and should be easily accessible.

## **SPECIAL NOTES ON LCD MONITORS**

The following symptoms are normal with LCD monitors and do not indicate a problem.

### **NOTES**

- You may find slightly uneven brightness on the screen depending on the desktop pattern you use.
- The LCD screen has effective pixels of 99.99% or more. It may include blemishes of 0.01% or less such as a missing pixel or a pixel lit all of the time.
- Due to the nature of the LCD screen, an afterimage of the previous screen may remain after switching the image when the same image has been displayed for a long time. The monitor will slowly recover from this.
- When the screen becomes black or flashing, or cannot illuminate any more, contact your dealer or service center to replace parts. Do not repair the screen by yourself!

# **BEFORE YOU OPERATE THE MONITOR**

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## **FEATURES**

- 546.1mm (21.5”) TFT Color LCD Monitor
- Crisp, Clear Display for Windows 7, Windows 8, Windows 8.1 and Windows 10
- Recommend Resolutions: 1920 x 1080@60Hz
- Ergonomic Design
- Space Saving, Compact Case Design

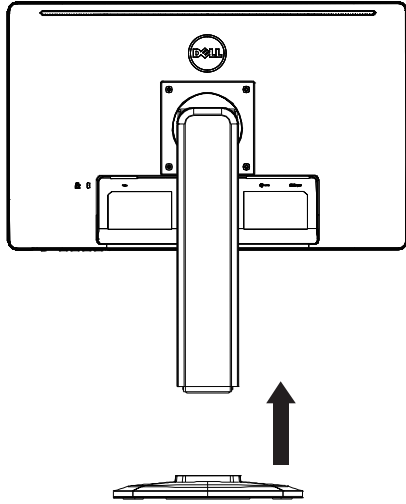
## **PACKING LIST**

The product package should include the following items:

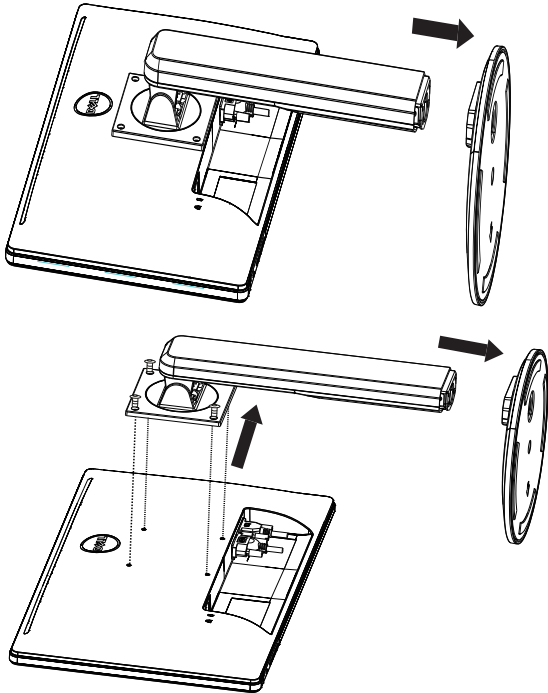
1. LCD Monitor
2. Drivers and Documentation media (CD)
3. Quick Setup Guide
4. Safety and Regulatory Information
5. Power Cord
6. D-SUB Cable
7. Stand Riser (attached on the LCD monitor)
8. Base

# INSTALLATION INSTRUCTIONS

**Attach base:**



**Detach base:**



## **POWER CORD**

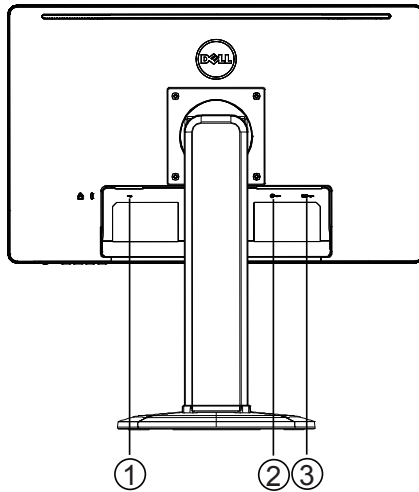
### **Power Source:**

1. Please ensure you are using the correct power cord in your area.
2. This LCD monitor allows operation in either 100/120V AC or 220/240V AC voltage area (No user adjustment is required.)
3. Connect the AC-power cord into your LCD monitor's power input socket. The AC-power cord may be connected to either a wall power outlet or the power outlet socket on your PC, depending on the type of power cord supplied with your LCD monitor.

# CONTROLS AND CONNECTORS

## SIGNAL CABLE

- **Connecting the Signal Cable:** Connect the 15-pin VGA cable to the back of the monitor and the computer's VGA port.
- **Connecting the Power Cord:** Connect the AC-power cord to the LCD monitor's AC input socket and the wall outlet.
- **Connecting the DVI Cable:** Connect the 24-pin DVI cable (not supplied) to the back of the monitor and the computer's DVI port.
- **Caution:** If the AC wall outlet is not grounded (with three holes), install the proper grounding adapter (not supplied).

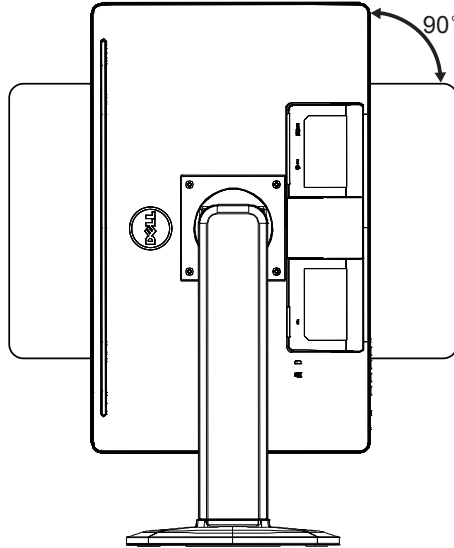


1.	Power input
2.	DVI Signal input
3.	D-SUB Signal input



## ADJUSTING THE VIEWING ANGLE

- For optimal viewing, it is recommended to look at the full face of the monitor and then adjust the monitor's angle to your own preference.
- Hold the stand so you do not topple the monitor when you adjust the monitor's angle.
- You can adjust the tilted angle from 0° to 90°.



## NOTES

- Do not touch the LCD screen when you adjust the angle. It may cause damage or break the LCD screen.
- Careful attention is required not to catch your fingers or hands when you adjust the angle.

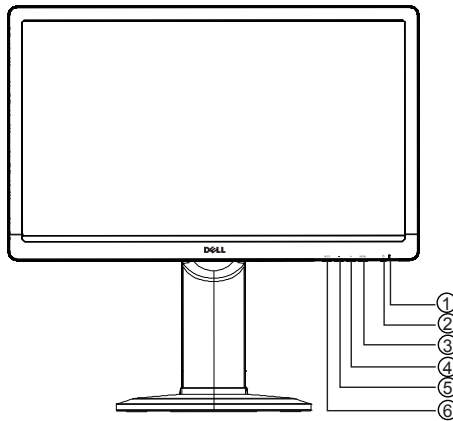
# OPERATING INSTRUCTIONS

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## GENERAL INSTRUCTIONS

Press the power button to turn the monitor on or off. The other control buttons are located on the side of the monitor. By changing these settings, the picture can be adjusted to your personal preferences.

- The power cord should be connected.
- Connect the video cable from the monitor to the computer.
- Press the power button to turn on the monitor. The power indicator will light up.



## EXTERNAL CONTROLS

1.	Power indicator
2.	Power button
3.	MENU / ENTER
4.	+ / Image Ratio
5.	- / ECO
6.	Auto Config. button / Input Select / Exit

## FRONT PANEL CONTROL

- **Power Button:**

Press to switch the monitor on or off.

- **Power Indicator:**

Blue — Power On mode.

Orange — Standby mode.

LED off — Off mode.

- **MENU / ENTER:**

Activate OSD menu or function adjust confirm or Exit OSD menu when in Brightness/Contrast OSD status.

- **+ / Image Ratio:**

Activate the Image Ratio control when the OSD is OFF, navigate through adjustment icons when OSD is ON, or adjust a function when function is activated.

- **- / ECO:**

Activate the ECO function when the OSD is OFF, navigate through adjustment icons when OSD is ON, or adjust a function when function is activated.

- **Auto Config. button / Input Select / Exit:**

1. When OSD menu is off, press and hold to activate the Auto Adjustment function (only for VGA source).

The Auto Adjustment function is used to optimize the H.Pos, V.Pos, Clock and Focus.

2. When OSD menu is off, press to select input source;

3. When OSD menu is on, press to exit the OSD menu.

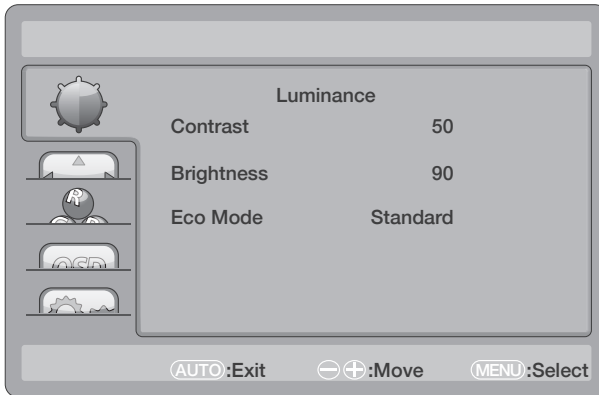
**OSD Lock Function:** To lock the OSD, press and hold the MENU button while the monitor is off and then press power button to turn the monitor on. To un-lock the OSD, press and hold the MENU button while the monitor is off and then press power button to turn the monitor on.

## NOTES

- Do not install the monitor in a location near heat sources such as radiators or air ducts, or in a place subject to direct sunlight, or excessive dust or mechanical vibration or shock.
- Save the original shipping carton and packing materials, as they will come in handy if you ever have to ship your monitor.
- For maximum protection, repackage your monitor as it was originally packed at the factory.
- To keep the monitor looking new, periodically clean it with a soft cloth. Stubborn stains may be removed with a cloth lightly dampened with a mild detergent solution. Never use strong solvents such as thinner, benzene, or abrasive cleaners, since these will damage the cabinet. As a safety precaution, always unplug the monitor before cleaning it.
- Do not scratch the screen with hard things; it may cause permanent damage.
- Do not spill liquids into the monitor which will result in the damage to components.





## HOW TO ADJUST A SETTING


1. Press the MENU-button to display the OSD menu.
2. Press + or - to navigate through the menu items. Once the desired item is highlighted, press the MENU-button to enter. Press + or - again to navigate through the sub-menu. Once the desired item is highlighted, press MENU-button to activate it.
3. Press + or - to adjust the setting.
4. To exit and save, press the EXIT-button. If you would like to adjust other settings, please repeat steps 2-3.



## ADJUSTING THE PICTURE

The descriptions for function control:

Main Menu Item	Main Menu Icon	Sub Menu Item	Sub Menu	Description	
Luminance		Contrast*		Contrast adjustment	
		Brightness*		Brightness adjustment	
		Eco	Standard		Standard Mode
			Text		Text Mode
			Internet		Internet Mode
			Game		Game Mode
			Movie		Movie Mode
Sports		Sports Mode			
Image Setup		Clock		Adjust picture Clock to reduce Vertical-Line noise.	
		Phase		Adjust Picture Phase to reduce Horizontal-Line noise	
		H.Position		Adjust the horizontal position of the picture.	
		V.Position		Adjust the vertical position of the picture.	
		Image Ratio**	Wide/4:3	Select Picture wide and 4:3	
Color Temp.		Warm		Recall Warm Color Temperature from EEPROM.	
		Normal		Recall Normal Color Temperature from EEPROM.	
		Cool		Recall Cool Color Temperature from EEPROM.	
		User	Red		Red gain adjustment
			Green		Green gain adjustment
			Blue		Blue gain adjustment
sRGB		Recall SRGB Color Temperature from EEPROM.			
OSD Setup		H.Position		Adjust the horizontal position of OSD	
		V.Position		Adjust the vertical position of OSD	
		Timeout		Adjust the OSD Timeout	
		Language		Select the OSD language	

Main Menu Item	Main Menu Icon	Sub Menu Item	Sub Menu	Description
Extra		Input Select	VGA/DVI	Select input source VGA and DVI
		DDC/CI		Turn ON/OFF DDC/CI Support
		Reset	yes or no	Reset the menu to default.
		Information		Show the information of the main image source.

\* Contrast / Brightness only can be adjusted under Standard Mode.

\*\* Image Ratio function will be greyed out if not available for a resolution.

## PLUG AND PLAY

### Plug & Play DDC2B Feature

This monitor is equipped with VESA DDC2B capabilities according to the VESA DDC STANDARD. It allows the monitor to inform the host system of its identity and, depending on the level of DDC used, communicate additional information about its display capabilities.

The DDC2B is a bidirectional data channel based on the I<sup>2</sup>C protocol. The host can request EDID information over the DDC2B channel.

### **THIS MONITOR WILL APPEAR TO BE NON-FUNCTIONAL IF THERE IS NO VIDEO INPUT SIGNAL. IN ORDER FOR THIS MONITOR TO OPERATE PROPERLY, THERE MUST BE A VIDEO INPUT SIGNAL.**

This monitor meets the Green monitor standards as set by the Video Electronics Standards Association (VESA) and The Swedish Confederation Employees. This feature is designed to conserve electrical energy by reducing power consumption when there is no video-input signal present. When there is no video input signal this monitor, following a time-out period, will automatically switch to an Standby mode. This reduces the monitor's internal power supply consumption. After the video input signal is restored, full power is restored and the display is automatically redrawn. The appearance is similar to a "Screen Saver" feature except the display is completely off. The display is restored by pressing a key on the keyboard, or clicking the mouse.

# TROUBLESHOOTING

Problem & Question	Possible Solution
Power LED is not on	<ul style="list-style-type: none"> <li>• Check if the Power Switch is in the ON position.</li> <li>• Power Cord should be connected.</li> </ul>
No Plug & Play	<ul style="list-style-type: none"> <li>• Check if the PC system is Plug &amp; Play compatible.</li> <li>• Check if the Video Card is Plug &amp; Play compatible.</li> <li>• Check if the D-15 plug pin of Video Cable is bent.</li> </ul>
Picture is fuzzy	<ul style="list-style-type: none"> <li>• Adjust the Contrast and Brightness Controls.</li> </ul>
Picture bounces or a wave pattern is present in the picture	<ul style="list-style-type: none"> <li>• Move electrical devices that may cause electrical interference.</li> </ul>
The power LED is ON (blue) but there is no video or no picture.	<ul style="list-style-type: none"> <li>• Computer Power Switch should be in the ON position.</li> <li>• Computer Video Card should be snugly seated in its slot.</li> <li>• Make sure monitor's video cable is properly connected to the computer.</li> <li>• Inspect monitor's video cable and make sure none of the pins are bent.</li> <li>• Make sure computer is operational by pressing the CAPS LOCK key on the keyboard while observing the CAPS LOCK LED. The LED should either turn ON or OFF after pressing the CAPS LOCK key.</li> </ul>
Missing one of the primary colors (RED, GREEN, or BLUE)	<ul style="list-style-type: none"> <li>• Inspect the monitor's video cable and make sure that none of the pins are bent.</li> </ul>
Screen image is not centered or sized properly.	<ul style="list-style-type: none"> <li>• Adjust pixel frequency (CLOCK) and PHASE or press hot-key (auto adjustment).</li> </ul>
Picture has color defects (white does not look white)	<ul style="list-style-type: none"> <li>• Adjust RGB color or select color temperature.</li> </ul>
Poor brightness or contrast	<ul style="list-style-type: none"> <li>• When the brightness of the screen lowers after being used for a certain period and the function of the display is affected, send it to our authorized service center for repair.</li> </ul>
Horizontal or vertical disturbances on the screen	<ul style="list-style-type: none"> <li>• Adjust CLOCK and PHASE or perform hot- key (auto adjustment).</li> </ul>

CLOCK (pixel frequency) controls the number of pixels scanned by one horizontal sweep. If the frequency is not correct, the screen shows vertical stripes and the picture does not have correct width.

PHASE adjusts the phase of the pixel clock signal. With a wrong phase adjustment the picture has horizontal disturbances in light picture.

For PHASE and CLOCK adjustment best to use “dot-pattern”.

## **ERROR MESSAGE AND POSSIBLE SOLUTION**

### **NO SIGNAL**

1. Check that the signal-cable is properly connected. If the connector is loose, tighten the connector's screws.
2. Check the signal-cable's connection pins for damage.

### **INPUT NOT SUPPORTED**

Your computer has been set to unsuitable display mode. Set the computer to display mode given in the table on page 18.



# APPENDIX

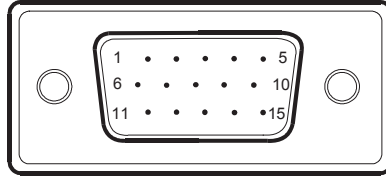
## SPECIFICATIONS

LCD Panel	Driving system	21.5" TFT Color LCD
	Size	546.1 mm diagonal
	Pixel Pitch	0.2482 mm(H)×0.2482 mm(V)
	Response Time (trise + tfall)	5ms (typ.)
	Luminance of White at Center	250 cd/m <sup>2</sup> (typ.)
Input	Video	R, G, B Analog Interface
		Digital
	Separate Sync.	H/V TTL
	H-Frequency	30 kHz – 83 kHz
V-Frequency	56 Hz - 76 Hz	
Display Colors		16.7 M Colors
Dot Clock		170 MHz
Max. Resolution		1920 x 1080 @ 60Hz
Plug & Play		VESA DDC2B™
Power Consumption	ON Mode	≤ 25 W
	Standby Mode	≤ 0.5 W
	OFF Mode	≤ 0.5 W
Input Connector	D-Sub 15 pin	
	DVI 24 pin	
Input Video Signal		Analog: 0.7Vp-p(standard), 75 OHM, Positive
Maximum Screen Size		Horizontal: 476.64 mm Vertical: 268.11 mm
Power Source		100~240 VAC, 50/60 Hz
Environmental Considerations		Operating Temp: 0° to 40°C Operating Height: 0~3658 m Storage Temp.: -20° to 60°C Operating Humidity: 20% to 80%
Dimensions		516.4(W) x 510.2(H) x 244.5(D) mm
Weight (N.W.):		4.80 kg
Weight (with packaging):		6.20 kg

## FACTORY PRESET TIMING TABLE

STANDARD	RESOLUTION	HORIZONTAL FREQUENCY (KHz)	VERTICAL FREQUENCY (Hz)
<b>VGA</b>	640 × 480@60Hz	31.469	59.940
	640 × 480@75Hz	37.500	75.000
	800 × 600@60Hz	37.879	60.317
	800 × 600@75Hz	46.875	75.000
<b>XGA</b>	1024 × 768@60Hz	48.363	60.004
	1024 × 768@75Hz	60.023	75.029
<b>SXGA</b>	1280 × 1024@60Hz	63.981	60.000
	1280 × 1024@75Hz	79.976	75.025
	1152 × 864@75Hz	67.500	75.000
<b>FULL HD</b>	1920 × 1080@60Hz	67.500	60.000
<b>DOS</b>	720 × 400@70Hz	31.469	70.087

## CONNECTOR PIN ASSIGNMENT



15 - Pin Color Display Signal Cable

PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1.	Red	9.	+5V
2.	Green	10.	Ground
3.	Blue	11.	Ground
4.	Ground	12.	DDC-Serial Data
5.	Detect Cable	13.	H-Sync
6.	R-Ground	14.	V-Sync
7.	G-Ground	15.	DDC-Serial Clock
8.	B-Ground		



24 - Pin Color Display Signal Cable

PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1.	TMDS Data 2-	13.	TMDS Data 3+
2.	TMDS Data 2+	14.	+5V Power
3.	TMDS Data 2/4 Shield	15.	Ground(for+5V)
4.	TMDS Data 4-	16.	Hot Plug Detect
5.	TMDS Data 4+	17.	TMDS Data 0-
6.	DDC Clock	18.	TMDS Data 0+
7.	DDC Data	19.	TMDS Data 0/5 Shield
8.	N.C.	20.	TMDS Data 5-
9.	TMDS Data 1-	21.	TMDS Data 5+
10.	TMDS Data 1+	22.	TMDS Clock Shield
11.	TMDS Data 1/3 Shield	23.	TMDS Clock +
12.	TMDS Data 3-	24.	TMDS Clock -