User's Guide

Dell E2414H

Model No.: E2414H

Regulatory model: E2414Ht

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

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

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

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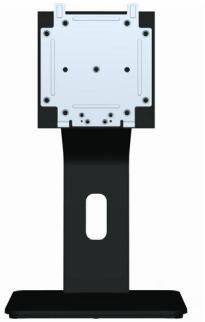
About Your Monitor

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.

	• Monitor
	• Stand
	• Cable Cover
	• VGA Cable
	• DVI Cable
	• Power Cable (varies by countries)
	• Drivers and Documentation media • Quick Setup Guide • Product and Safety Information Guide

Product Features

The Dell E2414H flat panel display has an active matrix, thin-film transistor (TFT), liquid crystal display (LCD), and LED backlight. The monitor features include:

- 60.97 cm (24-inch) active area display (Measured diagonally) 1920 X 1080 resolution, plus full-screen support for lower resolutions.
- Tilt adjustment capability.
- Removable pedestal and Video Electronics Standards Association (VESA™) 100 mm mounting holes for flexible mounting solutions.
- Plug and play capability if supported by your system.
- 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), Dell Display Manager software application and product documentation. Dell Display Manager included

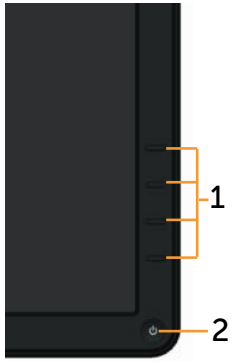
(comes in the CD attached with the monitor).

- Security lock slot.
- Stand lock.
- Asset Management Capability.
- Energy Star Compliant.
- EPEAT Gold Compliant.
- RoHS compliant.
- BFR/PVC- reduced.
- Arsenic-Free glass and Mercury Free for Panel only.
- Energy Gauge shows the energy level being consumed by the monitor in real time.
- TCO Certified Displays.

Identifying Parts and Controls

Front View

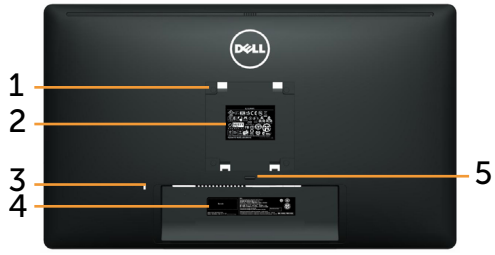
Front View



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



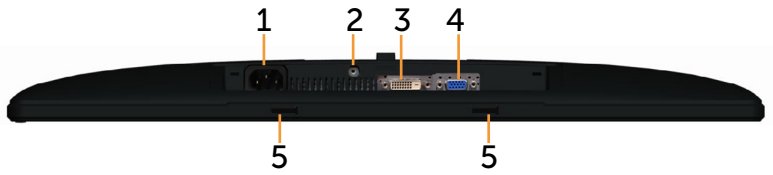
Back view

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	Security lock slot	Secures monitor with security lock. (security lock not included)
4	Barcode serial number label	Refer to this label if you need to contact Dell for technical support.
5	Stand release button	Release stand from monitor.
6	Cable management slot	Use to organize cables by placing them through the slot.

Side View

Bottom View



Bottom view

Label	Description	Use
1.	AC power connector	To connect the monitor power cable.
2.	Stand lock	To lock the stand to the monitor using a M3 x 6mm screw (screw not included).
3	DVI connector	To connect your computer to the monitor using a DVI cable.
4	VGA connector	To connect your computer to the monitor using a VGA cable.
5	Dell Soundbar mounting slots	Attaches the optional Dell Soundbar.

Monitor Specifications

Flat Panel Specifications

Screen type	Active matrix - TFT LCD
Panel type	TN
Viewable image dimensions Diagonal Horizontal Vertical	 60.97 cm (24-inches viewable image size) 531.36 mm (20.92 inches) 298.89 mm (11.77 inches)
Pixel pitch	0.277 mm
Viewing angle	160° (vertical) typ, 170° (horizontal) typ
Luminance output	250 cd/m ^{2}(typ)
Contrast ratio	1000:1 (typ)
Faceplate coating	Antiglare with hard-coating 3H
Backlight	LED edgelight system
Response Time	5 ms typical
Color depth	16.7 million colors
Color gamut (Typical)	83%* (CIE1976)

*[E2414H] color gamut (typical) is based on CIE1976 (83%) and CIE1931 (72%) test standards.

Resolution Specifications

Horizontal scan range	30 kHz to 83 kHz (automatic)
Vertical scan range	56 Hz to 75 Hz (automatic)
Maximum resolution	1920 X 1080 at 60 Hz

Video Supported Modes

Video display capabilities (DVI playback)	480p, 576p, 720p, 1080p and 1080i

Preset Display Modes

Display Mode	Horizontal Frequency (kHz)	Vertical Frequency (Hz)	Pixel Clock (MHz)	Sync Polarity (Horizontal/ Vertical)
720 x 400	31.5	70.0	28.3	-/+
640 x 480	31.5	60.0	25.2	-/-
640 x 480	37.5	75.0	31.5	-/-
800 x 600	37.9	60.0	40.0	+/+
800 x 600	46.9	75.0	49.5	+/+
1024 x 768	48.4	60.0	65.0	-/-
1024 x 768	60.0	75.0	78.8	+/+
1152 x 864	67.5	75.0	108.0	+/+
1280 x 1024	64.0	60.0	108.0	+/+
1280 x 1024	80.0	75.0	135.0	+/+
1600 x 900	60.0	60.0	108.0	+/-
1920 x 1080	67.5	60.0	148.5	+/+

Electrical Specifications

Video input signals	Analog RGB, 0.7 Volts +/-5%, positive polarity at 75 ohm input impedance Digital DVI-D TMDS, 600mV for each differential line, positive polarity at 50 ohm input impedance
Synchronization input signals	Separate horizontal and vertical synchronizations, polarity-free TTL level, SOG (Composite SYNC on green)
AC input voltage/ frequency/current	100 to 240 VAC/50 or 60 Hz + 3 Hz/1.5 A (Max.)
Inrush current	120V:30A (Max.) 240V:60A (Max.)

Physical Characteristics

Connector type	15-pin D-subminiature, blue connector; DVI-D, white connector
Signal cable type	Digital: Detachable, DVI-D, Solid pins. Analog: Detachable, D-Sub, 15 pins
Dimensions (with stand)	
Height	418.3 mm (16.47 inches)
Width	570.0 mm (22.44 inches)
Depth	164.2 mm (6.46 inches)
Dimensions (without stand)	
Height	337.5 mm (13.29 inches)
Width	570.0 mm (22.44 inches)
Depth	46.5 mm (1.83 inches)
Stand dimensions	
Height	318.7 mm (12.55 inches)
Width	180.6 mm (7.11 inches)
Depth	164.2 mm (6.46 inches)
Weight	
Weight with packaging	5.87 kg (12.94 lb)
Weight with stand assembly and cables	4.48 kg (9.88 lb)
Weight without stand assembly (For wall mount or VESA mount considerations - no cables)	3.00 kg (6.75 lb)
Weight of stand assembly	1.03 kg (2.27 lb)

Environmental Characteristics

Temperature	
Operating	0° to 40 ° C
Non-operating	Storage: -20° to 60°C (-4° to 140°F) Shipping: -20° to 60°C (-4° 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 (16,400 ft) max
Non-operating	12,191 m (40,000 ft) max
Thermal dissipation	238.85 BTU/hour (maximum) 102.36 BTU/hour (typical)

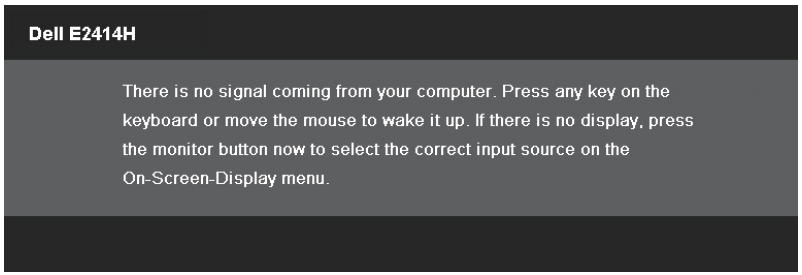
Power Management Modes

If you have VESA's DPM™ compliance display card or software installed in your PC, the monitor can automatically reduce its power consumption when not in use. This is referred to as Power Save Mode*. If the computer detects input from 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	20 W (typical)/30 W (maximum)
Active-off mode	Inactive	Inactive	Blanked	Glowing White	Less than 0.5 W
Switch off	-	-	-	Off	Less than 0.5 W

The OSD will only function in the normal operation mode. When any button

is pressed in Active-off mode, the following message will be displayed:



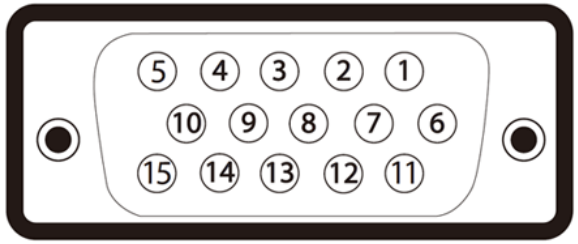
Activate the computer and the monitor to gain access to the OSD.

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

NOTE: Zero power consumption in OFF mode can only be achieved by disconnecting the main cable from the monitor.

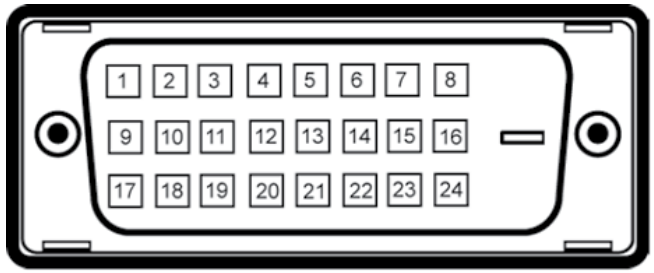
Pin Assignments

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
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

DVI Connector



Pin Number	24-pin Side of the Connected Signal Cable
1	TMDS RX2-
2	TMDS RX2+
3	TMDS Ground
4	Floating
5	Floating
6	DDC Clock
7	DDC Data
8	Floating
9	TMDS RX1-
10	TMDS RX1+
11	TMDS Ground
12	Floating

13	Floating
14	+5V/+3.3V power
15	Self test
16	Hot Plug Detect
17	TMDS RX0-
18	TMDS RX0+
19	TMDS Ground
20	Floating
21	Floating
22	TMDS Ground
23	TMDS Clock+
24	TMDS Clock-

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.

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

⚠ **WARNING:** 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 antistatic 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 dark-colored monitors may scratch and show white scuff marks more than light-colored monitors.
- 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 from monitor when it 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 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 its place.

Connecting Your Monitor

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

To connect your monitor to the computer:

1. Turn off your computer and disconnect the power cable.
2. Connect either the white (digital DVI-D) or the blue (analog VGA) display connector cable to the corresponding video port on the back of your computer. Do not connect both cables on the same computer. Use both the cables only when they are connected to two different computers with appropriate video systems.

Connecting the White DVI Cable

Connecting the Blue VGA Cable

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

Organizing the Cables

After attaching all necessary cables to your monitor and computer, (See Connecting Your Monitor for cable attachment,) use the cable management slot to organize all cables as shown above.

Attaching the Cable Cover

Removing the Stand

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

To remove the stand:

1. Pleace the monitor on a flat surface.
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 base mounting kit.

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

NOTE: For use only with UL Listed Wall Mount Bracket with minimum weight/load bearing capacity of 3.0 kg.

Operating 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:

Front panel Button		Description
1	Shortcut key/ Preset Modes	Use this button to choose from a list of preset color modes.
2	Shortcut key / Brightness/Contrast	Use this button to directly access the "Brightness/ Contrast" menu.
3	Menu	Use the MENU button to launch the on-screen display (OSD) and select the OSD Menu. See Accessing the Menu System.
4	Exit	Use this button to go back to the main menu or exit the OSD main menu.
5	Power (with power light indicator)	Use the Power button to turn the monitor on and off. The white LED indicates the monitor is On and fully functional. A glowing white LED indicates DPMS power save mode.

Front Panel Button

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

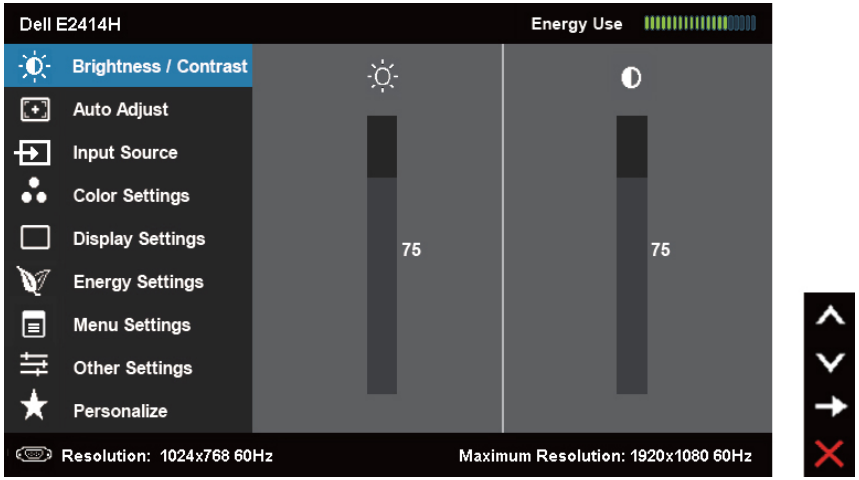
	Front panel Button	Description
1	Up	Use the Up key to adjust (increase ranges) items in the OSD menu.
2	Down	Use the Down key to adjust (decrease ranges) items in the OSD menu.
3	OK	Use the OK key to confirm your selection.
4	Back	Use the Back key to go back to the previous menu.

Using the On-Screen Display (OSD) Menu

Accessing the Menu System

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

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



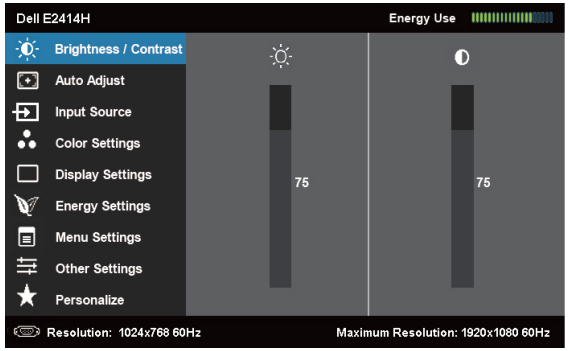
NOTE: AUTO ADJUST is only available when you use the analog (VGA) connector.

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

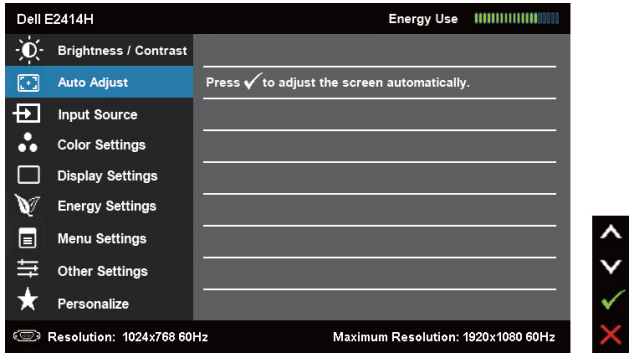
NOTE: AUTO ADJUST is only available when you use the analog (VGA) connector.

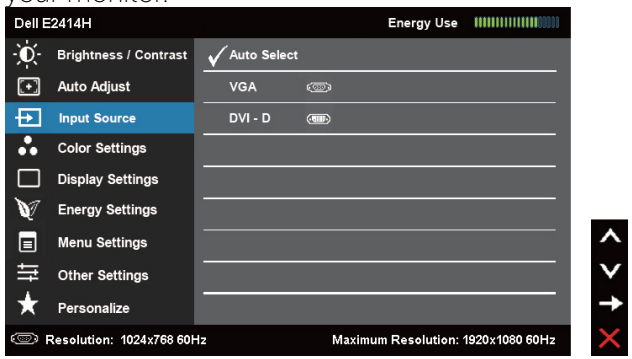
3. Press the or button once to activate the highlighted option.
4. Press the and buttons to select the desired parameter.
5. Press to enter the slide bar and then use the or button, according to the indicators on the menu, to make your changes.
6. Press the button once to return to the main menu to select another option or press the button two or three times to exit from the OSD menu.

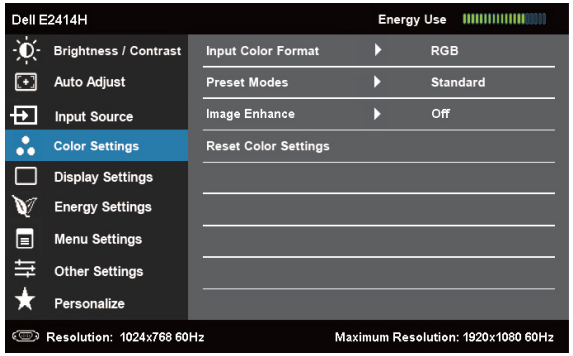
Icon	Menu and Submenus	Description
	Energy Use	This meter shows the energy level being consumed by the monitor in real time.
	Brightness/ Contrast	Use this menu to activate Brightness/Contrast adjustment.



	Brightness	Brightness adjusts the luminance of the backlight. Press the button to increase brightness and Press the button to decrease brightness (min 0 ~ max 100). **NOTE:** Brightness control will be greyed out during "Screen dim" in PowerNap option when screen saver is activated.
	Contrast	Adjust Brightness first, and then adjust Contrast only if further adjustment is necessary. Press the button to increase contrast and Press the button to decrease contrast (min 0 ~ max 100). The Contrast function adjusts the degree of difference between darkness and lightness on the monitor screen.

	AUTO ADJUST	Even though your computer recognizes your monitor on startup, the Auto Adjustment function optimizes the display settings for use with your particular setup. 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 and Phase controls under **Displays Settings**.  The following dialog appears on a black screen as the monitor automatically adjusts to the current input: **NOTE:** In most cases, Auto Adjust produces the best image for your configuration. **NOTE:** AUTO ADJUST option is only available when you are using the analog (VGA) connector.

	INPUT SOURCE	Use the **INPUT SOURCE** menu to select between different video signals that may be connected to your monitor. 
	Auto Select	Select Auto Select to scan for available input signals.
	VGA	Select VGA input when you are using the analog (VGA) connector. Press ✓ to select the VGA input source.
	DVI-D	Select DVI-D input when you are using the Digital (DVI) connector. Press ✓ to select the DVI input source.

	Color Settings	Use the **Color Settings** menu to adjust the monitor's color settings . 
	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 VGA and DVI cable or the HDMI to DVI adapter. • YPbPr: Select this option if your DVD player supports only YPbPr output.

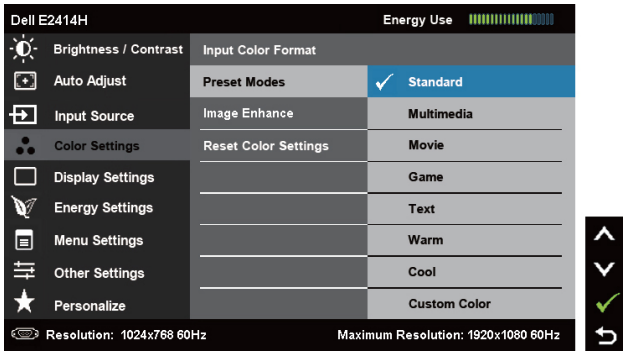
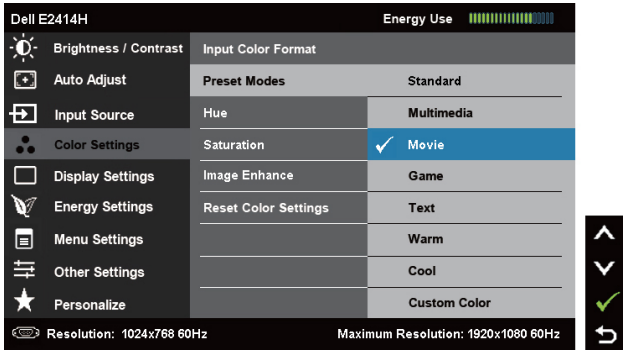
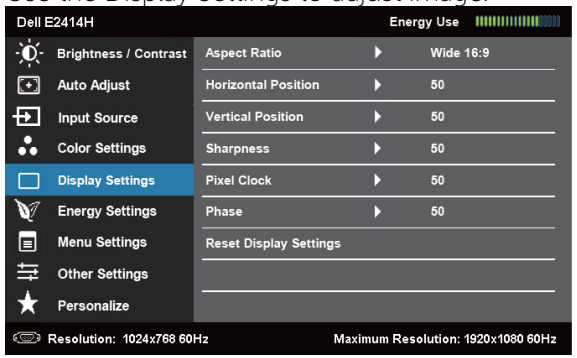
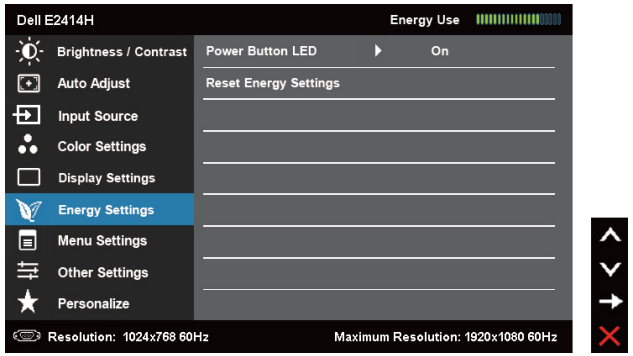
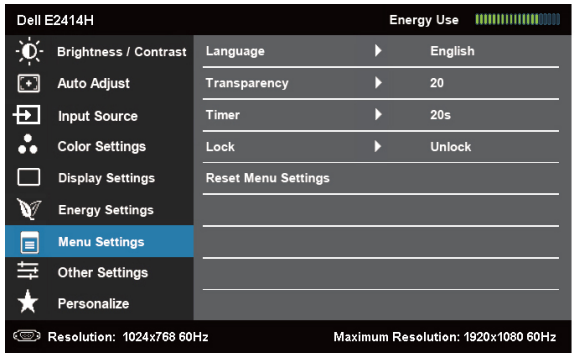
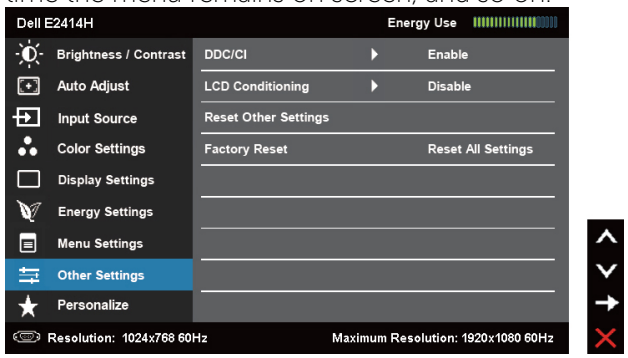
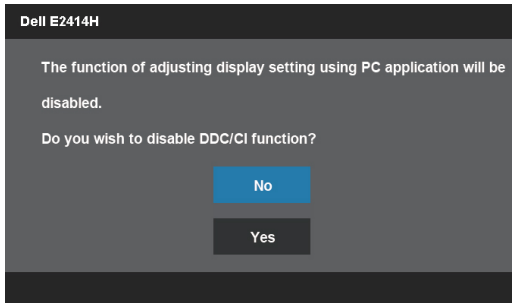
	Preset Mode	Allows you to choose from a list of preset color modes.   • **Standard:** Loads the monitor's default color settings. This is the default preset mode. • **Multimedia:** Loads color settings ideal for multimedia applications. • **Movie:** Loads color settings ideal for movies. • **Game:** Loads color settings ideal for most gaming applications. • **Text:** Loads color settings ideal for office • **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 Red, Green, and Blue values and create your own preset color mode.

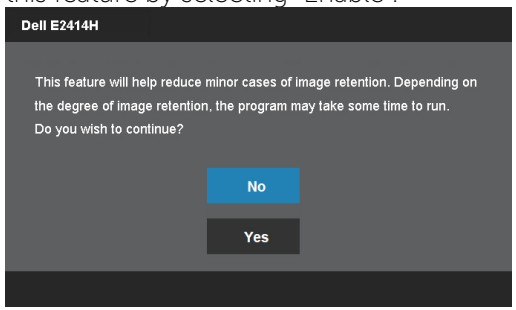
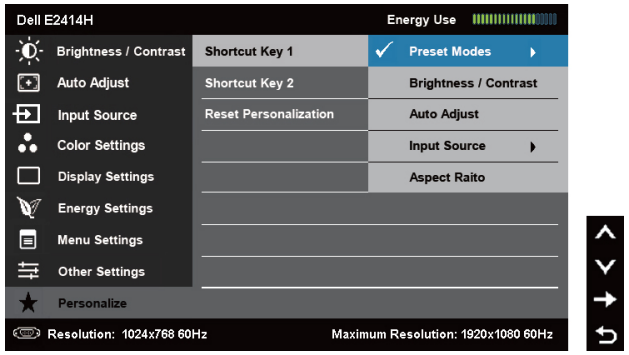
	Image Enhance	Which can automatically sharpen images, enhance hues and boost color contrast. To enhance image clarity. **NOTE:** Image Enhance is only available for Standard, Multimedia, Movie and Game mode.
	Hue	This feature can shift color of video image to green or purple. This is used to adjust the 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 ▼ to increase the purple shade of the video image. **NOTE:** Hue adjustment is available only for **Movie** and **Game** 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 for video input.
	Reset Color Settings	Resets your monitor's color settings to the factory defaults.

	DISPLAY SETTINGS	Use the Display Settings to adjust image. 
	Wide Mode	Adjust the image ratio to Wide 16:9, 4:3, 5:4.
	Horizontal Position	Use the ^ and v buttons to adjust image left and right. Minimum is '0' (-). Maximum is '100' (+). **NOTE:** When using a DVI source, the Horizontal Position setting is not available.
	Vertical Position	Use the ^ and v buttons to adjust image up and down. Minimum is '0' (-). Maximum is '100' (+). **NOTE:** When using a DVI source, the Vertical Position setting is not available.
	Sharpness	This feature can make the image look sharper or softer. Use ^ or v to adjust the sharpness from '0' to '100'.
	Pixel Clock	The Phase and Pixel Clock adjustments allow you to adjust your monitor to your preference. Use the ^ and v buttons to adjust for best image quality.
	Phase	If satisfactory results are not obtained using the Phase adjustment, use the Pixel Clock (coarse) adjustment and then use Phase (fine), again. **NOTE:** Pixel Clock and Phase Adjustments are only available for "VGA" input.
	Reset Display Settings	Select this option to restore default display settings.

	ENERGY SETTINGS	
	Power Button LED	Allows you to set the power LED indicator on or off to save energy.
	Reset Energy Settings	Select this option to restore default Energy Settings.

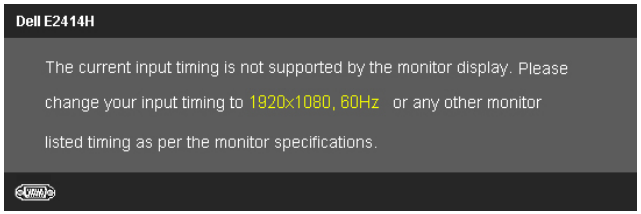
	MENU SETTINGS	
	Language	Language option to set the OSD display to one of eight languages (English, Espanol, Francais, Deutsch, Brazilian Portuguese, Russian, Simplified Chinese or Japanese).
	Transparency	This function is used to change the OSD background from opaque to transparent.
	Timer	OSD Hold Time: Sets the length of time the OSD will remain active after the last time you pressed a button. Use the ^ and v buttons 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:** **Lock function –** Either soft lock (through OSD menu) or hard lock (Press and hold the button above power button for 10 sec) **Unlock function–** Only hard unlock (Press and hold the button above power button for 10 sec)
	Reset Menu Settings	Select this option to restore default Menu settings.

	OTHER SETTINGS	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. 
	DDC/CI	DDC/CI (Display Data Channel/Command Interface) allows your monitor parameters (brightness, color balance etc) to be adjustable via 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 Conditioning	Helps reduce minor cases of image retention. Depending on the degree of image retention, the program may take some time to run. You can enable this feature by selecting "Enable". 
	Reset Other Settings	Select this option to restore default other settings, such as DDC/CI.
	Factory Reset	Reset all OSD settings to the factory preset values.
★	Personalize	User can select from "Preset Modes", "Brightness/ Contrast", "Auto Adjust", "Input Source", "Aspect Ratio" and set as shortcut key. 
	Reset Personalization	Allows you to restore shortcut key to the default setting.

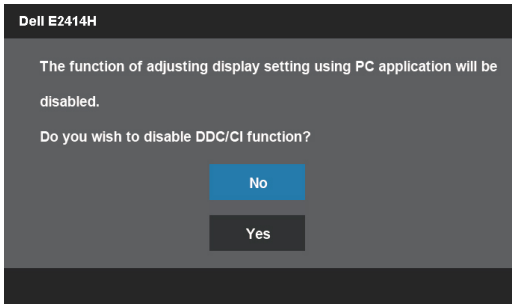
OSD Warning Messages

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

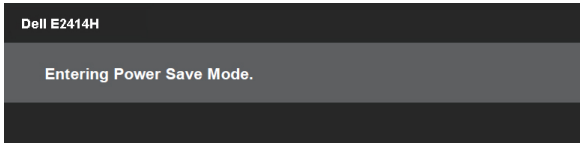


This means that the monitor cannot synchronize with the signal that it is receiving from the computer. See Monitor Specifications for the Horizontal and Vertical frequency ranges addressable by this monitor. Recommended mode is 1920 X 1080.

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

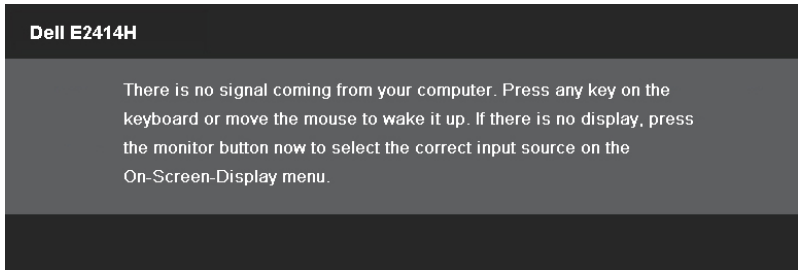


When monitor enters Power Save mode, the following message appears:

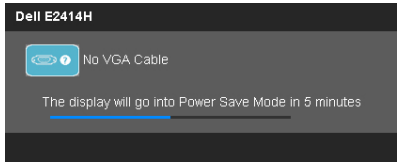


Activate the computer and wake up the monitor to gain access to the OSD

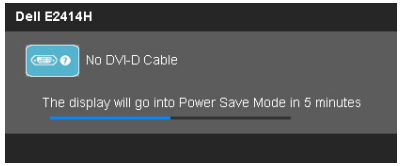
If you press any button other than the power button one of the following messages will appear depending on the selected input:



If either VGA or DVI-D input is selected and both VGA and DVI-D cables are not connected, a floating dialog box as shown below appears.



or



See Solving Problems for more information.

Setting the Maximum Resolution

In Windows Vista®, Windows® 7 or Windows® 8:

1. For Windows® 8 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 1080.
4. Click OK.

If you do not see 1920 x 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 service tag, and download the latest driver for your graphics card.

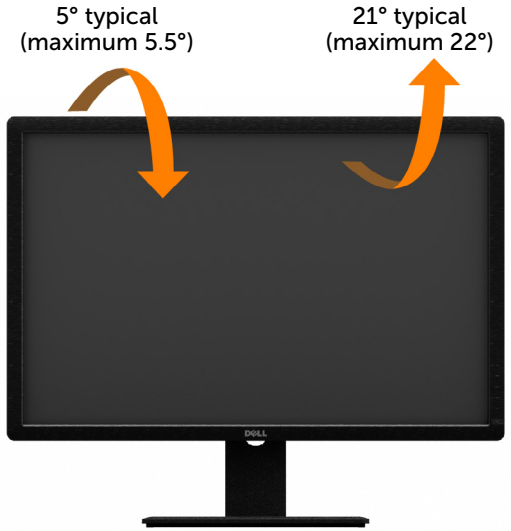
If you are using a non-Dell computer (portable or desktop):

- 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

Tilt

With the built-in pedestal, you can tilt the monitor for the most comfortable viewing angle.



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

Troubleshooting

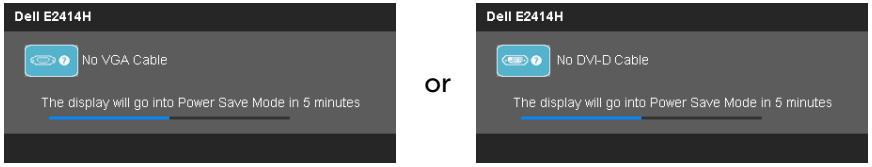
CAUTION: Before you begin any of the procedures in this section, follow the Safety Instructions

Self-Test

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

1. Turn off both your computer and the monitor.
2. Unplug the video cable from the back of the computer. To ensure proper Self-Test operation, remove both Digital (white connector) and the Analog (blue connector) 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 blue. Also, depending upon the selected input, one of the dialogs shown below will continuously scroll through the screen.



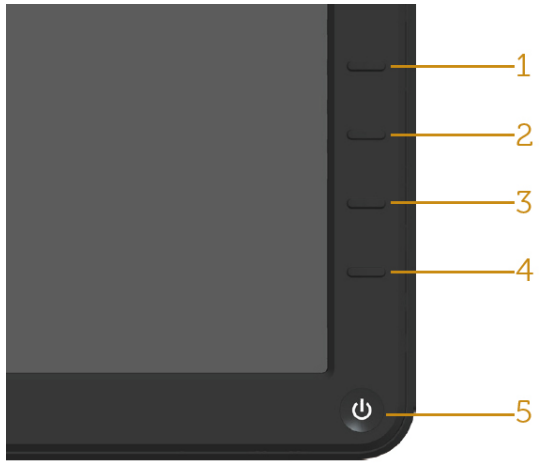
4. This box also appears during normal system operation, if the video cable becomes disconnected or damaged.
5. Turn off your monitor and reconnect the video cable; then turn on both your computer and the monitor.

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 the 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 the 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 screens.

The test is complete when the white screen appears. To exit, press the 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 via the Input Source Select button. • Check the "Power Button LED" option under Energy Settings in OSD 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 via the Input Source Select button.
Poor Focus	Picture is fuzzy, blurry, or ghosting	• Perform Auto Adjust via OSD. • Adjust the Phase and Pixel Clock controls via OSD. • Eliminate video extension cables. • Reset the monitor to Factory Settings. • Change the video resolution to the correct aspect ratio (16:9).
Shaky/Jittery Video	Wavy picture or fine movement	• Perform Auto Adjust via OSD. • Adjust the Phase and Pixel Clock controls via OSD. • Reset the monitor to Factory Settings. • Check environmental factors. • Relocate the monitor and test in another room.
Missing Pixels	LCD screen has spots	• Cycle power on-off. • Pixel that is permanently off is a natural defect that can occur in LCD technology. • For more information on Dell Monitor Quality and Pixel Policy, see Dell Support site at: 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. • Auto Adjust via OSD. • Adjust brightness & contrast controls via OSD.
Geometric Distortion	Screen not centered correctly	• Reset the monitor to Factory Settings. • Auto Adjust via OSD. • Adjust Horizontal Position & Vertical Position controls via OSD. **NOTE:** When using DVI-D input, the positioning adjustments are not available.
Horizontal/ Vertical Lines	Screen has one or more lines	• Reset the monitor to Factory Settings. • Perform Auto Adjust via OSD. • Adjust Phase and Pixel Clock controls via OSD. • Perform monitor self-test feature check and determine if these lines are also in self-test mode. • Check for bent or broken pins in the video cable connector. • Run the built-in diagnostics. **NOTE:** When using DVI-D input, the Pixel Clock and Phase adjustments are not available.
Synchronization Problems	Screen is scrambled or appears torn	• Reset the monitor to Factory Settings. • Perform Auto Adjust via OSD. • Adjust Phase and Pixel Clock controls via OSD. • Perform monitor self-test feature check to determine if the scrambled screen appears in self-test mode. • Check for bent or broken pins in the video cable connector. • Restart the computer in the safe mode.
Safety Related Issues	Visible signs of smoke or sparks	• Do not perform any troubleshooting steps. • Contact Dell immediately.

Intermittent Problems	Monitor malfunctions on & off	• Ensure that the video cable connecting the monitor to the computer is connected properly and is secure. • Reset the monitor to Factory Settings. • Perform monitor self-test feature check to determine if the intermittent problem occurs in self-test mode.
Missing Color	Picture missing color	• Perform monitor self-test feature check. • Ensure that the video cable connecting the monitor to the computer is connected properly and is secure. • Check for bent or broken pins in the video cable connector.
Wrong Color	Picture color not good	• Change the Color Setting Mode in the Color Settings OSD to Graphics or Video depending on the application. • Try different Color Preset Settings in Color Settings OSD. Adjust R/G/B value in Color Settings OSD if the Color Management is turned off. • Change the Input Color Format to PC RGB or YPbPr in the Advance Setting OSD. • Run the built-in diagnostics.

Image retention from a static image left on the monitor for a long period of time	Faint shadow from the static image displayed appears on the screen	• 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 Scaling Ratio setting in Image Setting 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 back, and then turn on the monitor.
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 to make sure Video Source to VGA or DVI-D is powered and playing video media. • Check whether the signal cable is plugged in properly. Re-plug the signal cable if necessary. • Reset the computer or video player.

The picture does not fill the entire screen.	The picture cannot fill the height or width of the screen	• Due to different video formats (aspect ratio) of DVDs, the monitor may display in full screen. • Run the built-in diagnostics.

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

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: http://www.dell.com/regulatory_compliance.

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

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

Setting Up Your Monitor

Setting the display resolution to 1920 X 1080 (maximum)

For maximum display performance while using the Microsoft Windows operating systems, set the display resolution to 1920 X 1080 pixels by performing the following steps:

In Windows XP®:

1. Right-click on the desktop and click Properties.

2. Select the Settings tab.

3. Move the slider-bar to the right by pressing and holding the left-mouse button and adjust the screen resolution to 1920 X 1080.

4. Click OK.

In Windows Vista® or Windows® 7:

1. Right-click on the desktop and click Personalization.

2. Click Change Display Settings.

3. Move the slider-bar to the right by pressing and holding the left-mouse button and adjust the screen resolution to 1920 X 1080.

4. Click OK.

If you do not see 1920 X 1080 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 provided directions:

1: If you have a Dell™ desktop or a Dell™ portable computer with internet access.

2: If you have non Dell™ desktop, portable computer, or graphic card.

Back to Contents Page.

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

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

2. After installing the drivers for your Graphics Adapter, attempt to set the resolution to 1920 X 1080 again.

NOTE: If you are unable to set the resolution to 1920 X 1080, please contact Dell™ to inquire about a Graphics Adapter that supports these resolutions.

If you have non Dell desktop, portable computer, or graphic card

In Windows XP®:

1. Right-click on the desktop and click Properties.

2. Select the Settings tab.

3. Select Advanced.

4. Identify your graphics controller supplier from the description at the top of the window (e.g. NVIDIA, ATI, Intel etc.).

5. Refer to the graphic card provider website for updated driver (for example, http://www.ATI.com OR http://www.NVIDIA.com).

6. After installing the drivers for your Graphics Adapter, attempt to set the resolution to 1920 X 1080 again.

In Windows Vista® or Windows® 7:

1. Right-click on the desktop and click Personalization.

2. Click Change Display Settings.

3. Click Advanced Settings.

4. Identify your graphics controller supplier from the description at the top of the window (e.g. NVIDIA, ATI, Intel etc.).

5. Refer to the graphic card provider website for updated driver (for example, http://www.ATI.com OR http://www.NVIDIA.com).

6. After installing the drivers for your Graphics Adapter, attempt to set the resolution to 1920 X 1080 again.

	NOTE: If you are unable to set the resolution to 1920 X 1080, please contact the manufacturer of your computer or consider purchasing a graphics adapter that will support the video resolution of 1920 X 1080.

Procedures for setting up dual monitors in Windows Vista®, Windows® 7 or Windows® 8

Content

(a) For Windows Vista®

(b) For Windows® 7

(c) For Windows® 8

(d) Setting Display Styles For Multiple Monitor

(a) For Windows Vista®

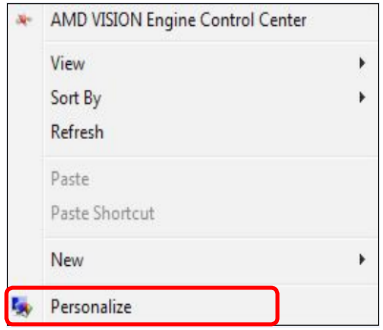
Connect the external monitor(s) to your laptop or desktop using a video cable (VGA, DVI, DP, HDMI etc.) and follow any of the below setup method.

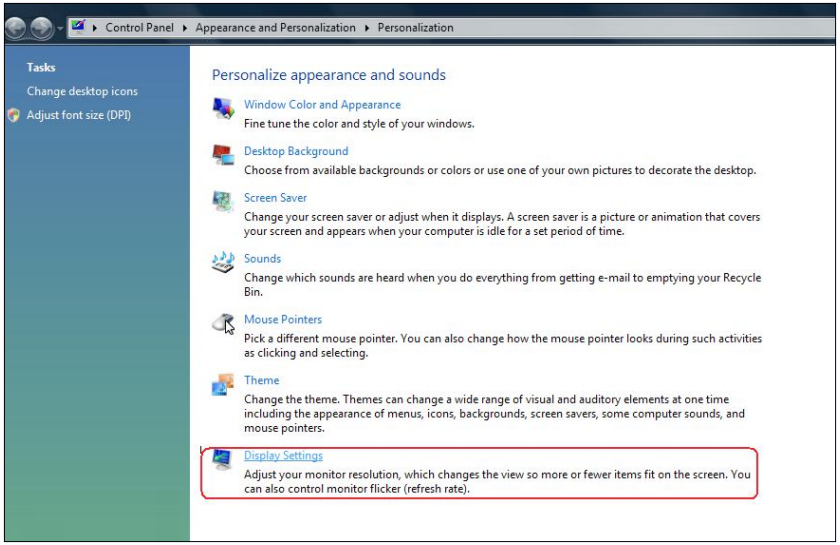
Method 1: Using keyboard shortcut "Win+P"

1. Press the **Windows logo key** + **P** on your keyboard.
2. While holding down the **Windows logo key**, press **P** to toggle between the display selections.

Method 2: Using the "Personalize" menu

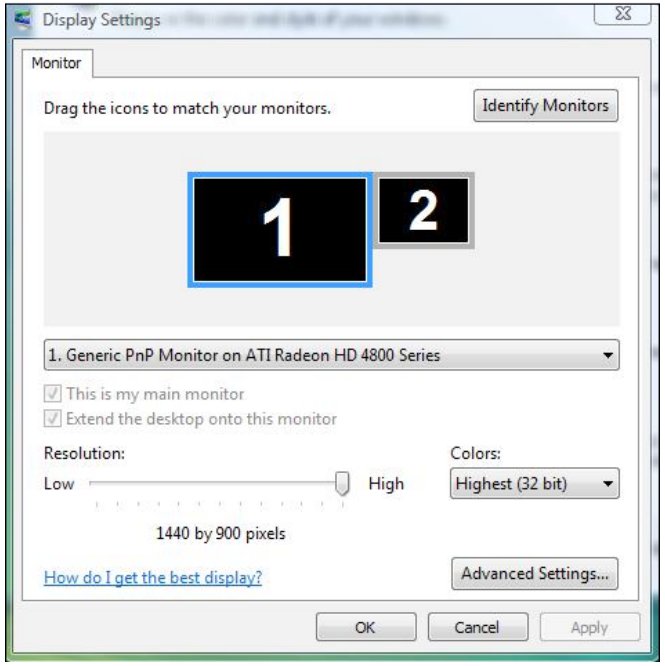
1. Right-click on the desktop and click **Personalize**.
2. Click **Display Settings**.





3. Click **Identify Monitors**.

   - You may need to restart your system and repeat steps 1 to 3 if the system does not detect the added monitor.

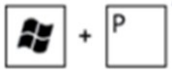


(b) For Windows® 7

Connect the external monitor(s) to your laptop or desktop using a video cable (VGA, DVI, DP, HDMI etc.) and follow any of the below setup method.

Method 1: Using keyboard shortcut "Win+P"

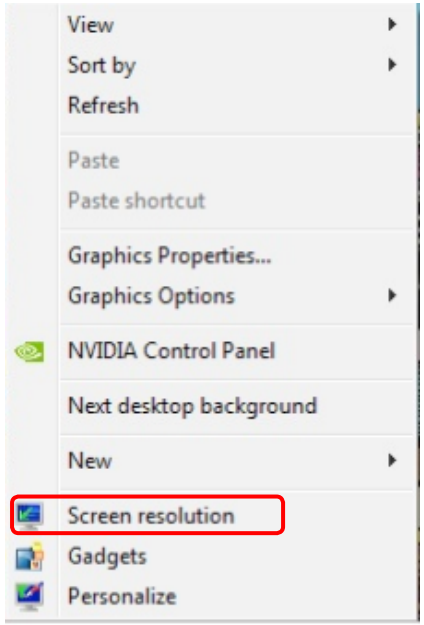
1. Press the **Windows logo key** + **P** on your keyboard.

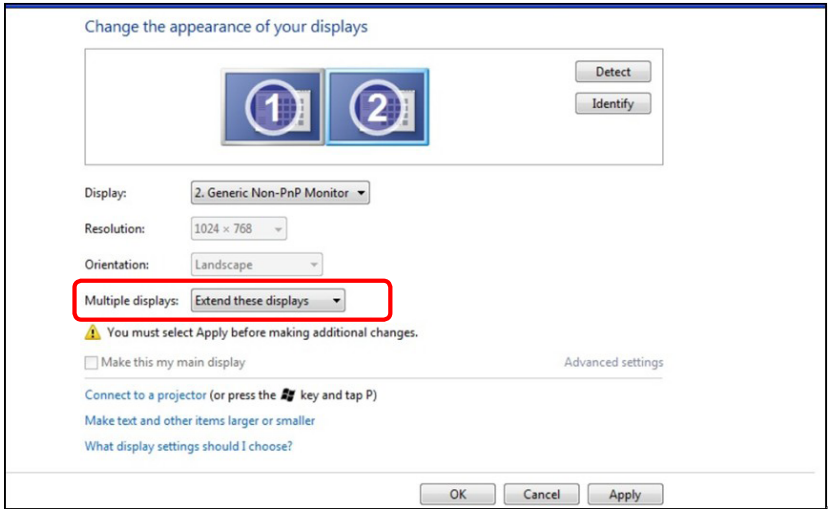


2. While holding down the **Windows logo key**, press **P** to toggle between the display selections.

Method 2: Using the "Screen Resolution" menu

1. Right-click on the desktop and click **Screen resolution**.
2. Click **Multiple displays** to choose a display selection. If you do not see the additional monitor listed, click **Detect**.
   - You may need to restart your system and repeat steps 1 to 3 if the system does not detect the added monitor.



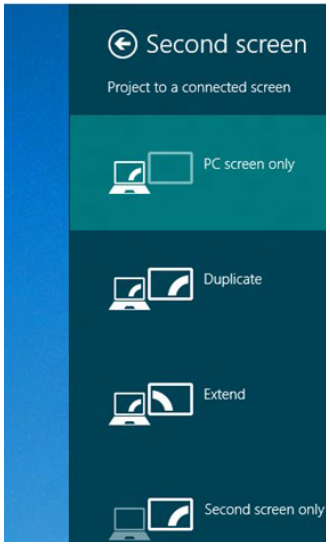


(c) For Windows® 8

Connect the external monitor(s) to your laptop or desktop using a video cable (VGA, DVI, DP, HDMI etc.) and follow any of the below setup method.

Method 1: Using keyboard shortcut "Win+P"

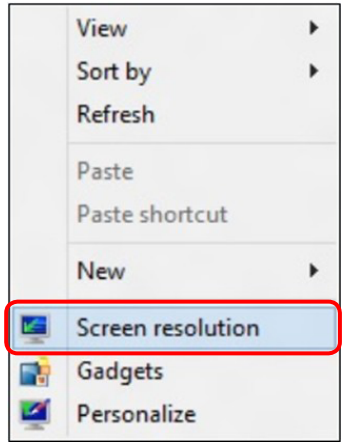
1. Press the **Windows logo key** + **P** on your keyboard.
2. While holding down the **Windows logo key**, press **P** to toggle between the display selections.

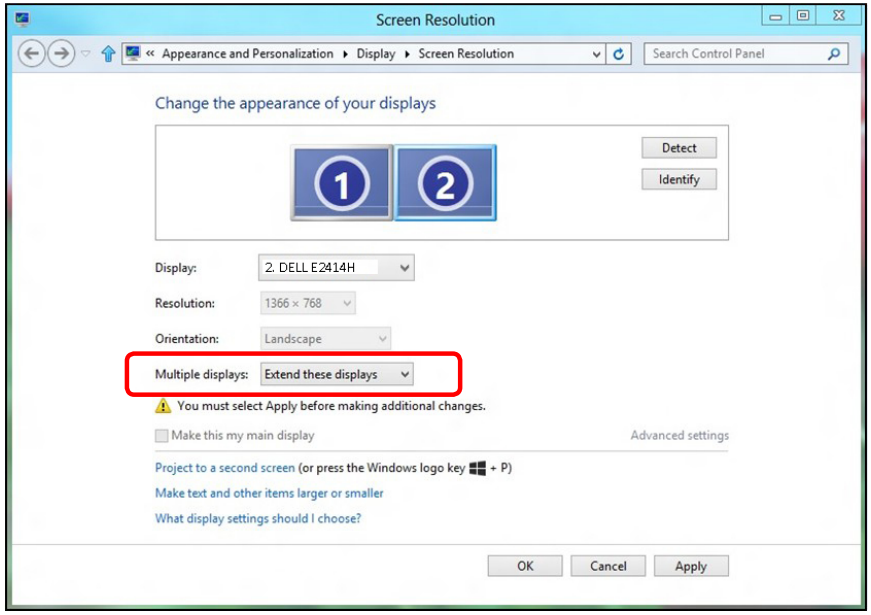


Method 2: Using the "Screen Resolution" menu

1. From the Start screen, select **Desktop** tile to switch to the Classic Windows desktop.

2. Right-click on the desktop and click **Screen resolution**.
3. Click **Multiple displays** to choose a display selection. If you do not see the additional monitor listed, click **Detect**.
   - You may need to restart your system and repeat steps 1 to 3 if the system does not detect the added monitor.





(d) Setting Display Styles For Multiple Monitor

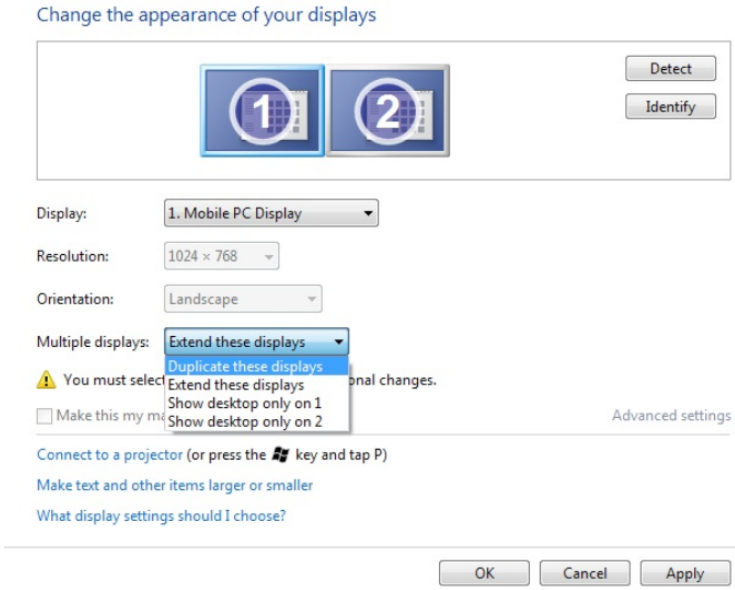
After the external monitor(s) have been set up, users can select the desired display style from **Multiple displays** menu: Duplicate, Extend, Show Desktop On.

- **Duplicate these displays: Duplicate the same screen on two monitors with the same resolution, chosen based on the monitor with a lower resolution.**

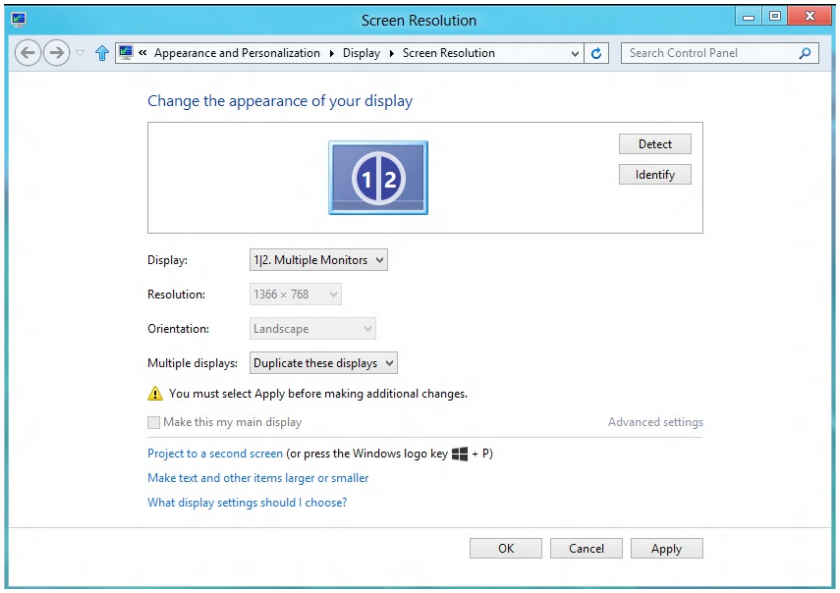
(i) For Windows Vista®

[DUPLICATE NOT AVAILABLE]

(ii) For Windows® 7

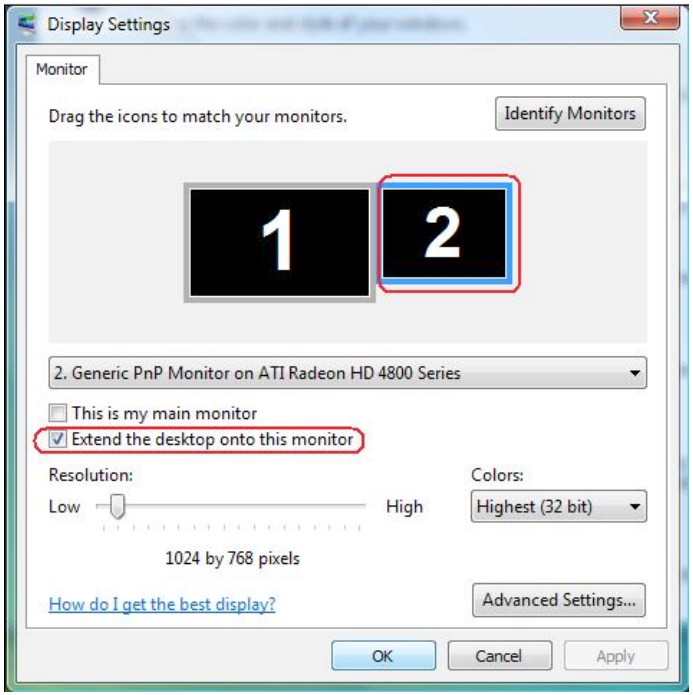


(iii)For Windows® 8

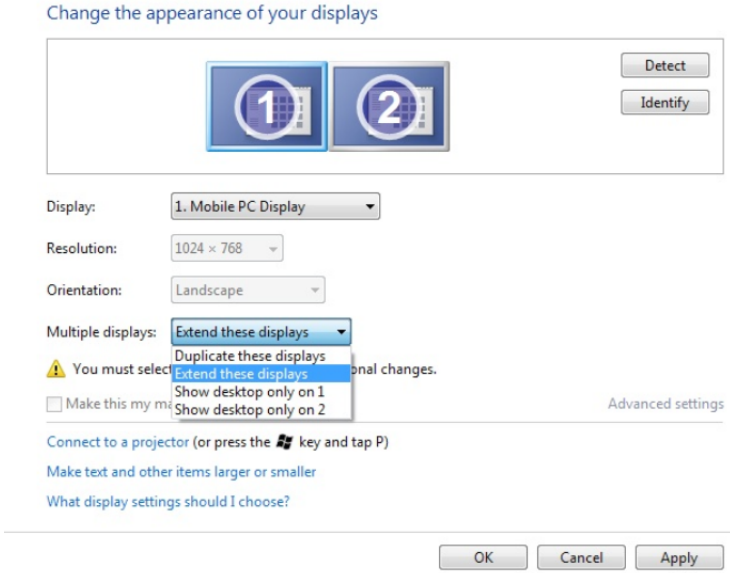


- **Extend these displays:** This option is recommended when an external monitor is connected to a laptop, and each monitor can display different screen independently to improve user convenience. The relative position of the screens can be set up here, for example monitor 1 may be set up to be to the left of monitor 2 or vice versa. This depends on the physical position of the LCD monitor in relation to the laptop. The horizontal line displayed on both monitors can be based on the laptop or external monitor. These are all adjustable options, and all a user need do is drag the monitor of the main screen to the extended monitor.

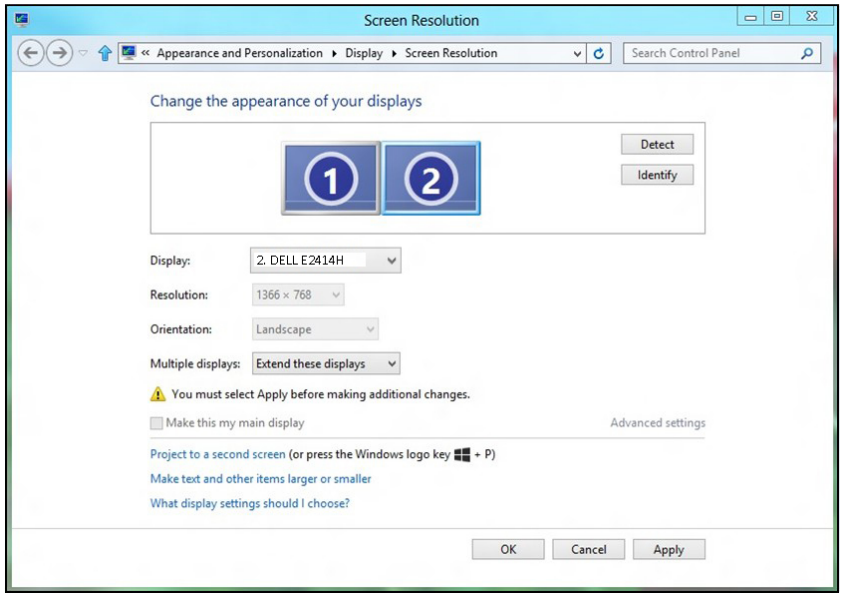
(i) For Windows Vista®



(ii) For Windows® 7

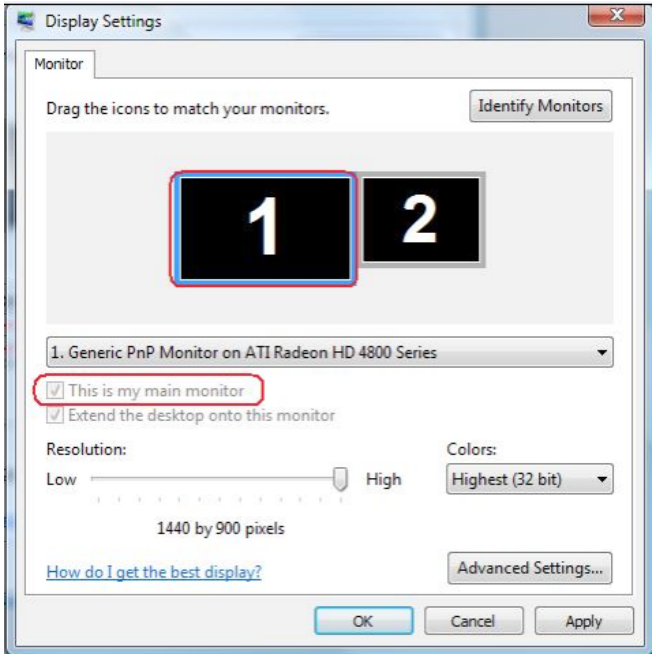


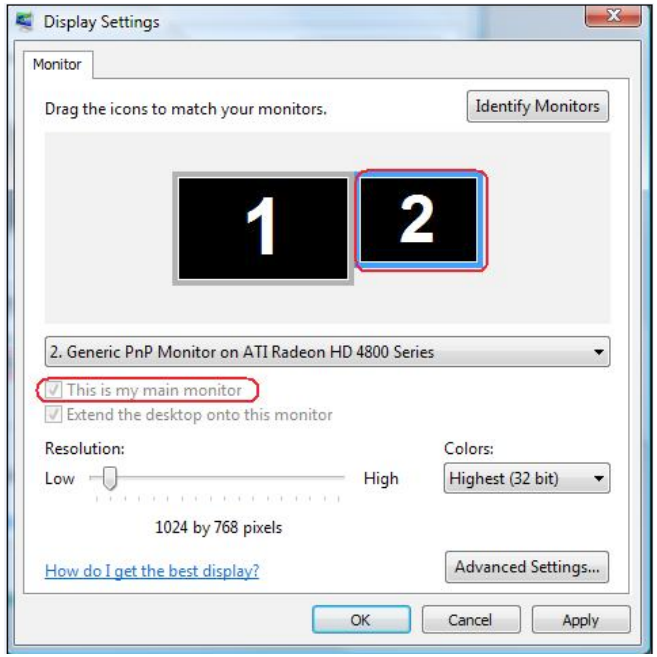
(iii) For Windows® 8



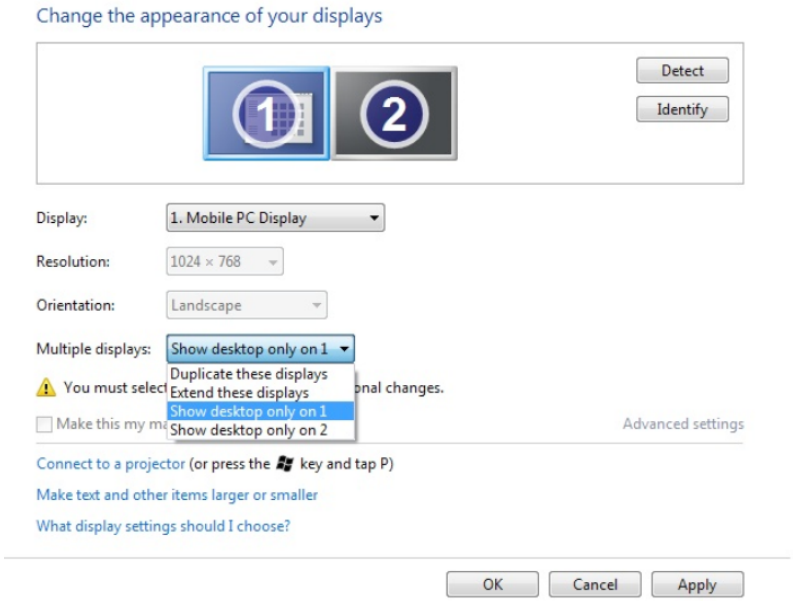
- **Show desktop only on...:** Display the status of a particular monitor. This option is typically chosen when the laptop is used as a PC so the user can enjoy a large external monitor. Most current laptops support mainstream resolutions. As shown in the figure above, the resolution of the laptop monitor is only 1280 x 800, but after connecting a 27" external LCD monitor, users can immediately improve their visual enjoyment to 1920 x 1080 Full HD quality.

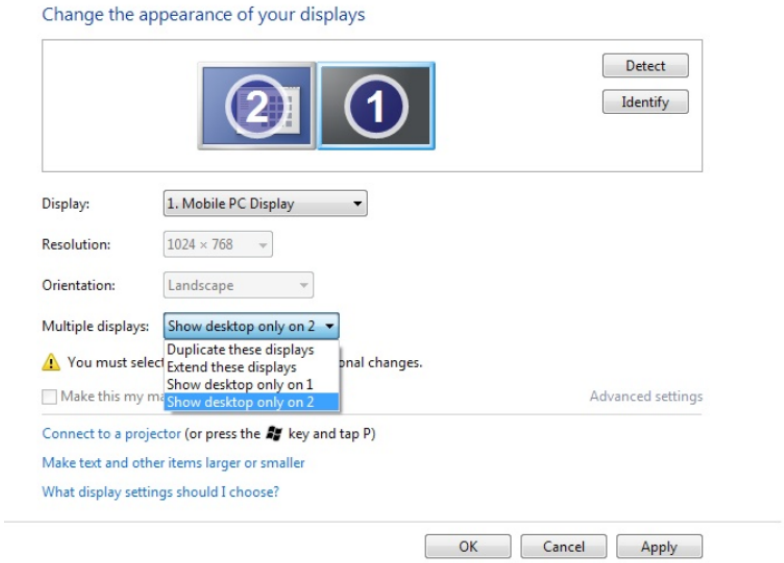
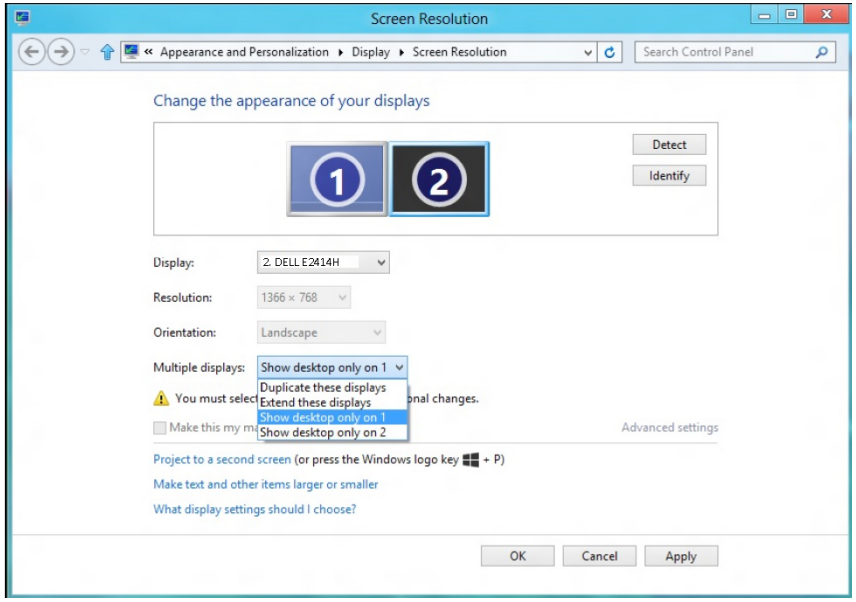
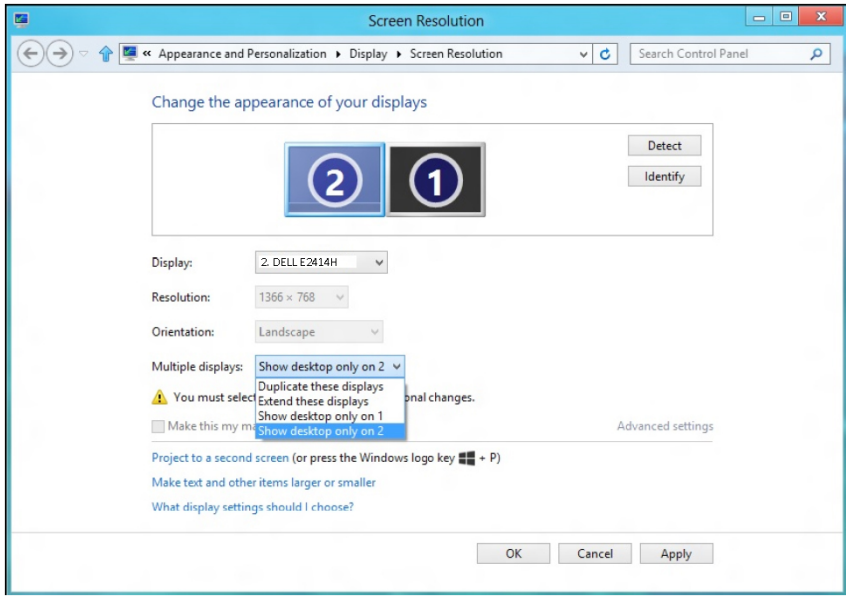
(i) For Windows Vista®





(ii) For Windows® 7





(iii) For Windows® 8