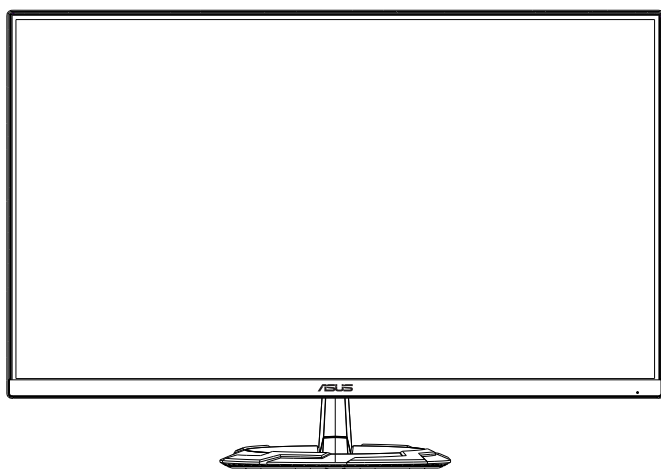




VZ2491R Series LCD Monitor

User Guide



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Notices

Federal Communications Commission Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- This device may not cause harmful interference, and
- This device must accept any interference received including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Canadian Department of Communications Statement

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

This class B digital apparatus complies with Canadian ICES-003.



Safety Information

- Before setting up the monitor, carefully read all the documentation that came with the package.
- To prevent fire or shock hazard, never expose the monitor to rain or moisture.
- Never try to open the monitor cabinet. The dangerous high voltages inside the monitor may result in serious physical injury.
- If the power supply is broken, do not try to fix it by yourself. Contact a qualified service technician or your retailer.
- Before using the product, make sure all cables are correctly connected and the power cables are not damaged. If you detect any damage, contact your dealer immediately.
- Slots and openings on the back or top of the cabinet are provided for ventilation. Do not block these slots. Never place this product near or over a radiator or heat source 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 supply to your home, consult your dealer or local power company.
- Use the appropriate power plug which complies with your local power standard.
- Do not overload power strips and extension cords. Overloading can result in fire or electric shock.
- Avoid dust, humidity, and temperature extremes. Do not place the monitor in any area where it may become wet. Place the monitor on a stable surface.
- Unplug the unit during a lightning storm or if it will not be used for a long period of time. This will protect the monitor from damage due to power surges.
- Never push objects or spill liquid of any kind into the slots on the monitor cabinet.
- To ensure satisfactory operation, use the monitor only with UL listed computers which have appropriate configured receptacles marked between 100-240V AC.
- The socket-outlet shall be installed near the equipment and shall be easily accessible.
- If you encounter technical problems with the monitor, contact a qualified service technician or your retailer.
- This product may contain chemicals known to the State of California to cause cancer, and birth defects or other reproductive harm. Wash hands after handling.



This symbol of the crossed out wheeled bin indicates that the product (electrical, electronic equipment, and mercury-containing button cell battery) should not be placed in municipal waste. Please check local regulations for disposal of electronic products.

Care & Cleaning

- Before you lift or reposition your monitor, it is better to disconnect the cables and power cord. Follow the correct lifting techniques when positioning the monitor. When lifting or carrying the monitor, grasp the edges of the monitor. Do not lift the display by the stand or the cord.
- Cleaning. Turn your monitor off and unplug the power cord. Clean the monitor surface with a lint-free, non-abrasive cloth. Stubborn stains may be removed with a cloth dampened with mild cleaner.
- Avoid using a cleaner containing alcohol or acetone. Use a cleaner intended for use with the LCD. Never spray cleaner directly on the screen, as it may drip inside the monitor and cause an electric shock.

The following symptoms are normal with the monitor:

- The screen may flicker during the initial use due to the nature of the fluorescent light. Turn off the Power Switch and turn it on again to make sure that the flicker disappears.
- You may find slightly uneven brightness on the screen depending on the desktop pattern you use.
- When the same image is displayed for hours, an afterimage of the previous screen may remain after switching the image. The screen will recover slowly or you can turn off the Power Switch for hours.
- When the screen becomes black or flashes, or cannot work anymore, contact your dealer or service center to fix it. Do not repair the screen by yourself!

Conventions used in this guide



WARNING: Information to prevent injury to yourself when trying to complete a task.



CAUTION: Information to prevent damage to the components when trying to complete a task.



IMPORTANT: Information that you **MUST** follow to complete a task.



NOTE: Tips and additional information to aid in completing a task.

Where to find more information

Refer to the following sources for additional information and for product and software updates.

1. **ASUS websites**

The ASUS websites worldwide provide updated information on ASUS hardware and software products. Refer to **<http://www.asus.com>**

2. **Optional documentation**

Your product package may include optional documentation that may have been added by your dealer. These documents are not part of the standard package.

Takeback Services

ASUS recycling and takeback programs come from our commitment to the highest standards for protecting our environment. We believe in providing solutions for our customers to be able to responsibly recycle our products, batteries and other components as well as the packaging materials.

Please go to <http://csr.asus.com/english/Takeback.htm> for detail recycling information in different region.

1.1 Welcome!

Thank you for purchasing the ASUS® LCD monitor!

The latest widescreen LCD monitor from ASUS provides a crisper, broader, and brighter display, plus a host of features that enhance your viewing experience.

With these features, you can enjoy the convenience and delightful visual experience that the monitor brings to you!

1.2 Package Contents

Check your package for the following items:

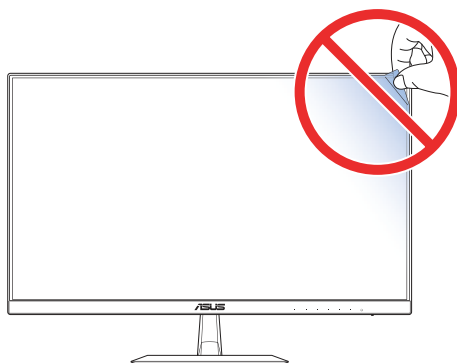
- ✓ LCD monitor Monitor
- ✓ Base
- ✓ Quick Start Guide
- ✓ Warranty Card
- ✓ Adaptor
- ✓ Power Cord
- ✓ VGA cable (optional)
- ✓ HDMI cable (optional)



-
- If any of the above items is damaged or missing, contact your retailer immediately.
-



CAUTION

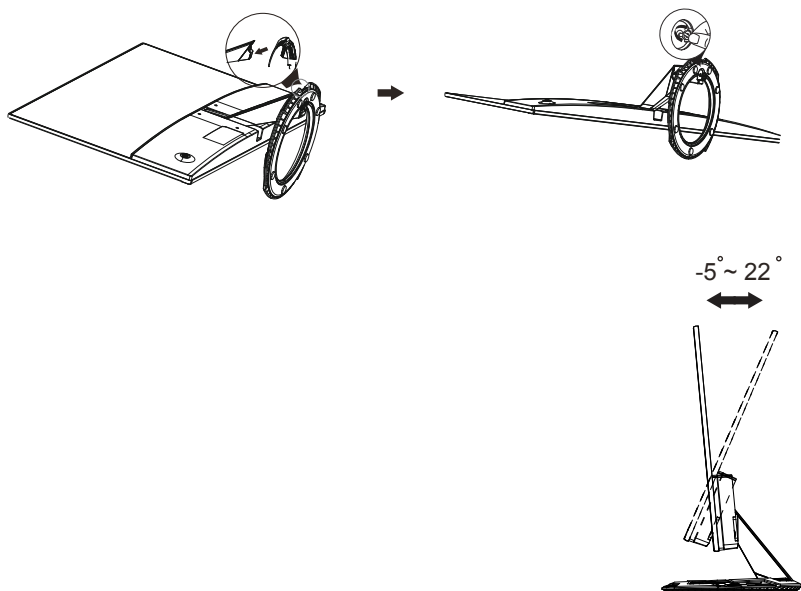


1.3 Assembling the Monitor Base

1. Have the front of the monitor face down on a table.
2. Attach the base to the arm.
3. Turn the screw clockwise to secure the base. Then adjust the monitor to the angle that is most comfortable for you.

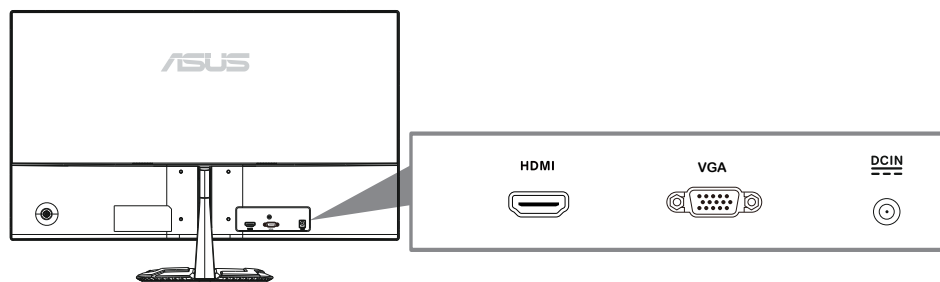


- We recommend that you cover the table surface with soft cloth to prevent damage to the monitor.



1.4 Connect Cables

1.4.1 Rear of the LCD Monitor

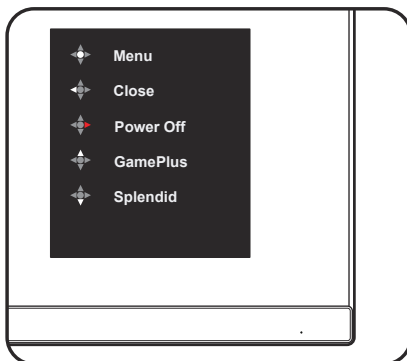


1. DC-IN Port
2. VGA Port
3. HDMI Port

1.5 Monitor Introduction

1.5.1 Using the Control Buttons

Use the control button on the back of the monitor to adjust the image settings.



1. Power Indicator:

- The color definition of the power indicator is as the below table.

Status	Description
White	ON
Amber	Standby mode
OFF	OFF

2. Central button:

- Press this button to enter the OSD menu.
- Press this button to turn on the monitor when turned off.

3. Left key:

- Exit the OSD menu or return to the previous layer.

4. Right key:

- Power Off shortcut key.
- Enter the option of the next layer.

5. Up key:

- Use this hotkey to GamePlus.
- Move the option upwards or increase the option value.

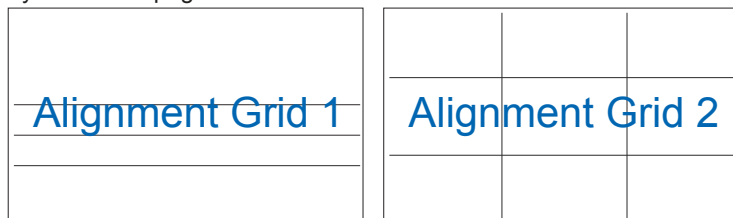
6. Down key:

- Use this hotkey to Splendid.
- Move the option downwards or decrease the option value.
- Key Lock shortcut key. Press and hold it for 5 seconds to enable/disable Keys Lock.

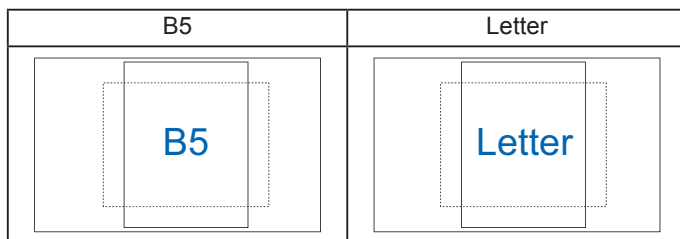
1.5.2 QuickFit Function

The QuickFit function contains three patterns: (1) Grid (2) Paper size (3) Photo size.

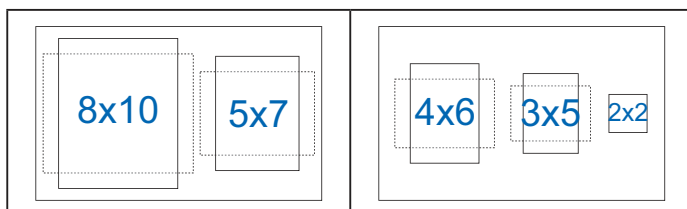
1. Grid pattern: Facilitates designers and users to organize content and layout on one page and achieve a consistent look and feel.



2. Paper size: Provides users to view their documents in real size on the screen.

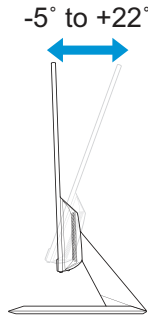


3. Photo size: Provides photographers and other users to accurately view and edit their photos in real size on the screen.



2.1 Adjusting the Monitor

- For optimal viewing, we recommend that you look at the full face of the monitor, then adjust the monitor to the angle that is most comfortable for you.
- Hold the stand to prevent the monitor from falling while changing its angle.
- You can adjust the monitor's angle from -5° to $+22^{\circ}$.



-
- It is normal that the monitor slightly shakes while you adjust the viewing angle.
-

2.2 Detaching the arm/stand (for wall mount) (wall mount only for VGA Port)

The detachable stand of this monitor is specially designed for wall mount.

To detach the arm/stand

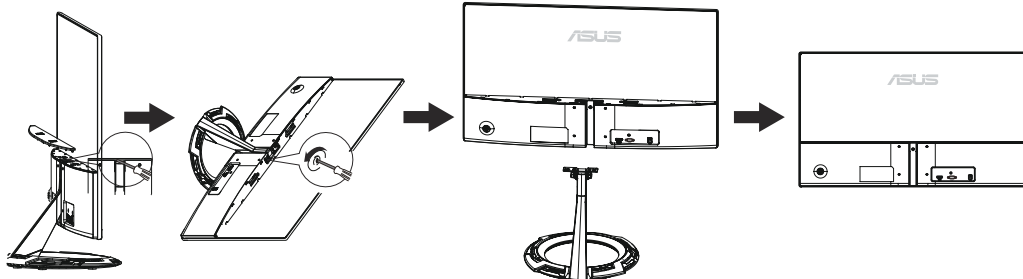
1. Disconnect power and signal cables. Carefully put the front of the monitor face down on a clean table.
2. Use a screwdriver to remove the two screws on the arm (Figure 1), and then detach the arm/stand from the monitor (Figure 2).



- We recommend that you cover the table surface with soft cloth to prevent damage to the monitor.
- Hold the stand of the monitor while removing the screws.

Figure 1

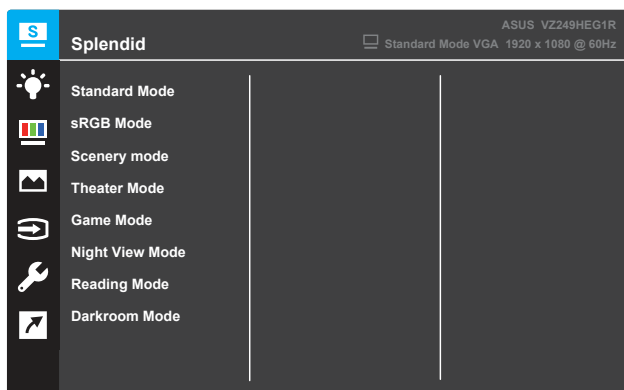
Figure 2



- The wall mount kit (75 x 75 mm) is purchased separately.
- Use only the UL Listed Wall Mount Bracket with minimum weight/load 12 kg (Screw size: M4 x 10 mm).

3.1 OSD (On-Screen Display) Menu

3.1.1 How to Reconfigure

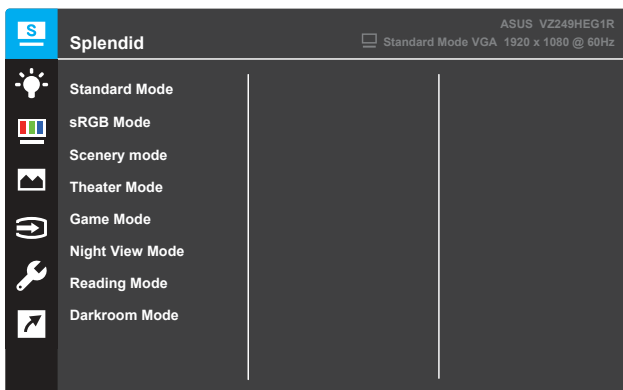


1. Press the MENU button to activate the OSD menu.
2. Press the ▼ and ▲ buttons to toggle between options in the Menu. As you move from one icon to another, the option name is highlighted.
3. To select the highlighted item on the menu press the ● button.
4. Press the ▼ and ▲ buttons to select the desired parameter.
5. Press the ● button to enter the slide bar and then use the ▼ or ▲ buttons, according to the indicators on the menu, to make your changes.
6. Select the ◀ to return to previous menu or ● to accept and return to previous menu.

3.1.2 OSD Function Introduction

1. Splendid

This function contains eight sub-functions that you can select for your preference. Each mode has the Reset selection, allowing you to maintain your setting or return to the preset mode.



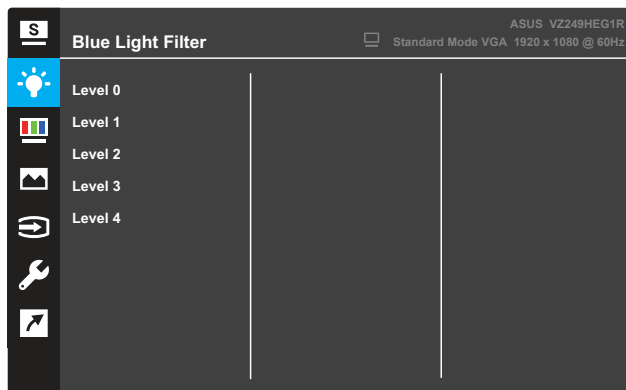
- **Standard Mode:** This is the best choice for document editing with SPLENDID™ Video Intelligence Technology.
- **sRGB Mode:** This is the best choice for viewing photos and graphics from PCs.
- **Scenery mode:** This is the best choice for scenery photo displaying with SPLENDID™ Video Intelligence Technology.
- **Theater Mode:** This is the best choice for movie watching with SPLENDID™ Video Intelligence Technology.
- **Game Mode:** This is the best choice for game playing with SPLENDID™ Video Intelligence Technology.
- **Night View Mode:** This is the best choice for playing dark-scene game or watching dark-scene movie with SPLENDID™ Video Intelligence Technology.
- **Reading Mode:** This is the best choice for book reading with SPLENDID™ Video Intelligence Technology.
- **Darkroom Mode:** This is the best choice for a weak ambient light environment with SPLENDID™ Video Intelligence Technology.



- In the Standard Mode, the Saturation, Skin Tone, Sharpness, and ASCR functions are not user-configurable
- In the sRGB, the Saturation, Color Temp., SkinTone, Sharpness, Brightness, Contrast, and ASCR functions are not user-configurable
- In the Reading Mode, the Saturation, SkinTone, ASCR, Contrast, and Color Temp. functions are not user-configurable

2. Blue Light Filter

Reduce the energy level of blue light emitted from LED backlight.



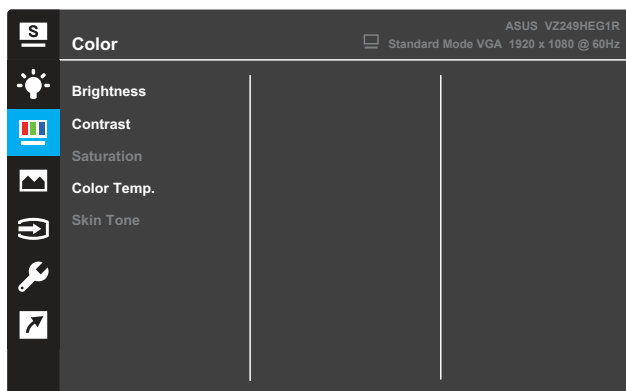
- **Level 0:** No change.
- **Level 1~4:** The higher the level, the more blue light will be reduced.



- When Blue Light Filter is activated, the default settings of Standard Mode will be automatically imported.
- Between Level 1 to Level 3, the Brightness function is user-configurable
- Level 4 is optimized setting. It is compliance with TUV Low Blue Light Certification The Brightness function is not user-configurable
- To alleviate eye strain, rest your eyes for fifteen minutes for every two hours spent in front of the screen. Frequent blinking and eye exercise helps keep your eye moist to prevent them from drying out. In addition, your computer screen should be placed 20 to 28 inches (50-70cm) away from you.

3. Color

Select the image color you like from this function.



- **Brightness:** Adjust the brightness level. The adjusting range is from 0 to 100.
- **Contrast:** Adjust the contrast level. The adjusting range is from 0 to 100.
- **Saturation:** Adjust the saturation level. The adjusting range is from 0 to 100.
- **Color Temp.:** Select the desired color temperature. Available options: **Cool**, **Normal**, **Warm**, and **User Mode**.

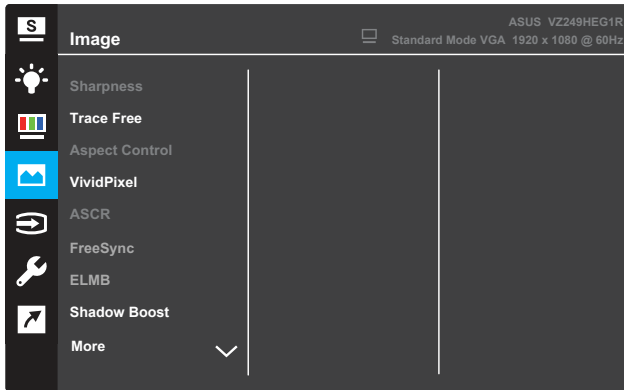


-
- In the User Mode, colors of R (Red), G (Green), and B (Blue) are user-configurable the adjusting range is from 0 ~ 100.
-

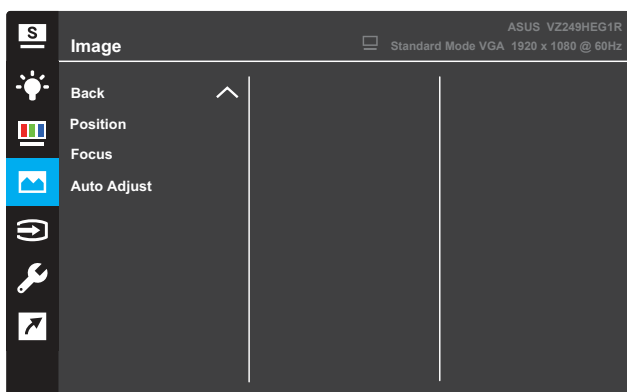
- **Skin Tone:** Select the desired skin color. Available options: **Reddish**, **Natural**, and **Yellowish**.

4. Image

You can adjust the image Sharpness, Trace Free, Aspect Control, VividPixel, ASCR, FreeSync (for HDMI only), ELMB, Shadow Boost, Position, Focus, and Auto Adjust from this main function.



(Page 1/2)



(Page 2/2)

- **Sharpness:** Adjust the picture sharpness. The adjusting range is from 0 to 100.
- **Trace Free:** Speed up the response time by Over Drive technology. The adjusting range is from lower 0 to faster 100.
- **Aspect Control:** Adjust the aspect ratio to “Full”, “4:3”, or “OverScan”.



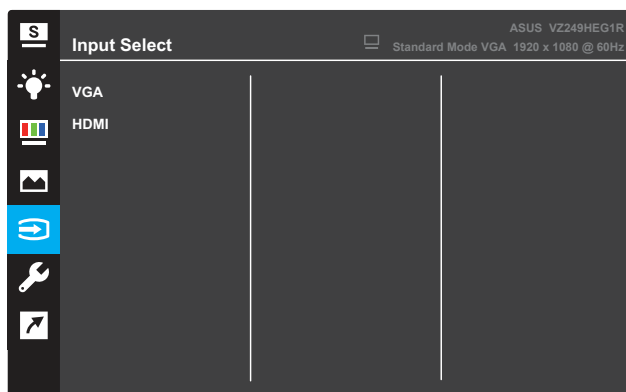
-
- 4:3 is only available when the input source is in 4:3 format.
 - OverScan is only available for HDMI input.
-

- **VividPixel:** ASUS Exclusive Technology that brings lifelike visuals for crystal-clear and detail-oriented enjoyment. The adjusting range is from 0~100.
- **ASCR:** Select **ON** or **OFF** to enable or disable dynamic contrast ratio function.
- **FreeSync** (for HDMI only): Select **ON** or **OFF** to enable or disable the dynamic refresh rate range from 48Hz to 75Hz .
- **ELMB:** Allows you to turn on the function when FreeSync is Off. This function eliminates screen tearing, reduces ghosting and motion blur when playing games.
- **Shadow Boost:** Dark color enhancement adjusts monitor gamma curve to enrich the dark tones in an image, making dark scenes and objects much easier to be seen.
- **More :** Return the next page of Image Setting.
- **Back :** Return the previous page of Image Setting.

- **Position:** Adjust the horizontal position (H-Position) and the vertical position (V-Position) of the image. The adjusting range is from 0 to 100 (only available for VGA input).
- **Focus:** Reduce the Horizontal-line noise and Vertical-line noise of the image by adjusting (Phase) and (Clock) separately. The adjusting range is from 0 to 100 (only available for VGA input).
- **Auto Adjust:** Automatically perform Auto Adjust (only available for VGA input).

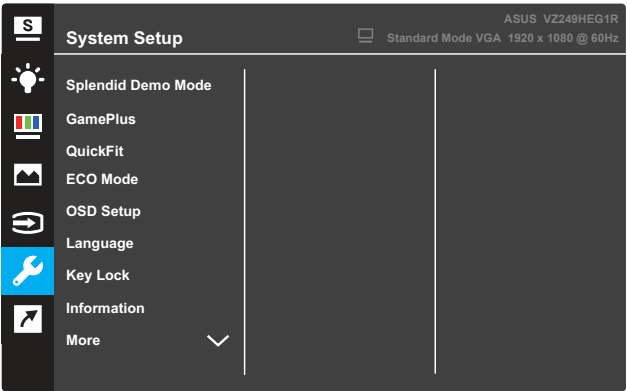
5. Input Select

Select the input source.

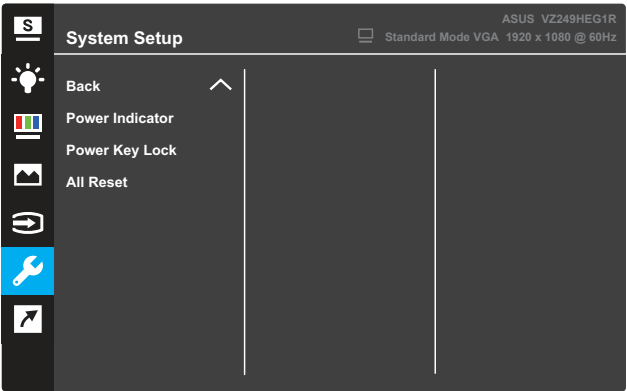


6. System Setup

Adjust the system configuration.



(Page 1/2)

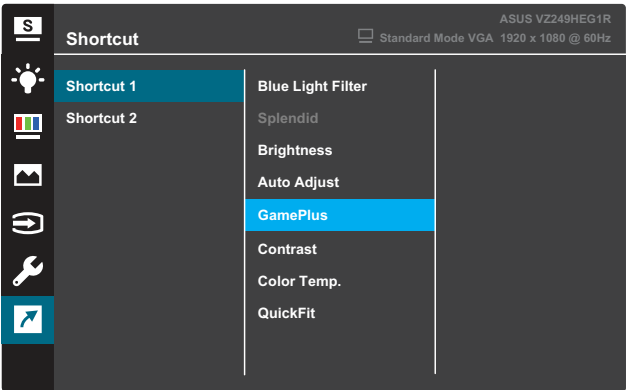


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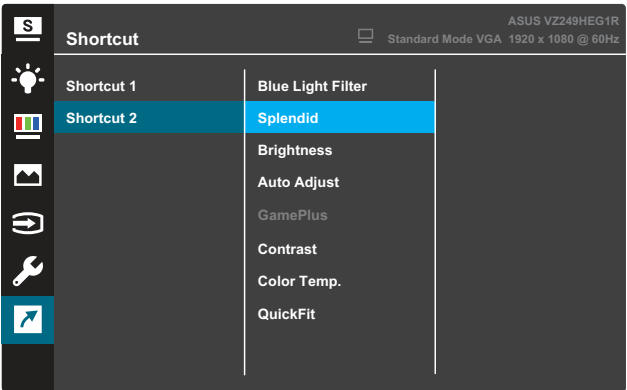
- **Splendid Demo Mode:** Activate the demo mode for the Splendid function.
- **GamePlus:** Activate Crosshair, Timer or FPS Counter or Display Alignment function..
- **QuickFit:** See 1.5.2 QuickFit function.
- **ECO Mode:** Activate the ecology mode for power saving.
- **OSD Setup:** Adjust the **OSD Timeout**, **DDC/CI**, and **Transparency** of the OSD screen.
- **Language:** Select the OSD language.
- **Key Lock:** Pressing the second button on the right for more than five seconds to activate the key lock function.
- **Information:** Display the monitor information.
- **More:** Return the next page of System Setting.
- **Back:** Return the previous page of System Setting.
- **Power Indicator:** Turn the power LED indicator on/off.
- **Power Key Lock:** Disable/Enable the power key.
- **All Reset:** Select **YES** to revert all settings to the factory default mode.

7. Shortcut

Assign the specific function to the two shortcut keys.



(Shortcut 1)



(Shortcut 2)

- **Shortcut 1:** Assign a function to the Shortcut Key1.
Available options: **Blue Light Filter**, **Splendid**, **Brightness**, **Auto Adjust**, **Contrast**, **Color Temp.**, **QuickFit**, and **GamePlus**. The default setting is **GamePlus**.
- **Shortcut 2:** Assign a function to the Shortcut Key2.
Available options: **Blue Light Filter**, **Splendid**, **Brightness**, **Auto Adjust**, **Contrast**, **Color Temp.**, **QuickFit**, and **GamePlus**. The default setting is **Splendid**.

3.1.2.1 GamePlus Function

The GamePlus function provides a toolkit and creates a better gaming environment for users when playing different types of games. The crosshair overlay with 6 different crosshair options letting you choose the one that best suits the game you're playing. There's also an onscreen timer you can position on the left of the display so you can keep track of the elapsed gaming time; while the FPS (frames per second) counter lets you know how smooth the game is running. Display Alignment displays alignment lines on 4 sides of the screen, serving as an easy and handy tool for you to line up multiple monitors perfectly.

To activate GamePlus:

- 1. Press the **Menu** button to activate the OSD menu.
- 2. Press the **▼** or **▲** button to select **Shortcut**. Then press the **✓** button to enter the **Shortcut** menu.
- 3. Press the **▼** or **▲** button to select **Shortcut 1** or **Shortcut 2**.
- 4. Press the **✓** button to enter the **Shortcut 1** or **Shortcut 2** submenu.
- 5. Press the **▼** or **▲** button to select **GamePlus**. Then press the **✓** button to con irm the **GamePlus** submenu.
- 6. Press the **◀** or **▶** button to select **Crosshair**, **Timer**, **FPS Counter** or **Display Alignment**. Then press the **✓** button to confirm the selection.
- 7. Press the **▲** button repeatedly to exit the OSD menu.
- 8. Press the assigned **Shortcut Key1** or **Shortcut Key2** to activate the GamePlus main menu.

GamePlus Main Menu	
<div>VZ249HEG1R</div> <div><div>GamePlus</div><div><div>Crosshair</div><div>Timer</div><div>FPS Counter</div><div>Display Alignment</div></div></div>	
GamePlus - Crosshair	GamePlus - Timer
<div><div>Crosshair</div><div>Practice Mode</div><div><div>+</div><div>+</div><div>+</div><div>+</div><div>+</div><div>+</div></div></div>	<div><div>Timer</div><div><div>30:00</div><div>40:00</div><div>50:00</div><div>60:00</div><div>90:00</div></div></div>
GamePlus - FPS - Position	
<div><div>FPS</div><div><div>1</div><div>2</div><div>3</div><div>4</div></div></div>	

3.2 Specifications

Model	VZ249HEG1R
Panel Size	23.8"W(60.5cm)
Max. Resolution	1920x1080@75Hz
Brightness (Typ.)	250cd/m ²
Intrinsic Contrast Ratio (Typ.)	1000:1
Viewing Angle (CR>10)	178°(H) /178°(V)
Display Colors	16.7 M
Response Time	4ms (G To G) 1ms(MPRT)
VGA input	Yes
HDMI input	Yes
DisplayPort	N/A
Audio Line-out	N/A
Power ON Consumption	<18w (Mesasuring a screen brightness of 200 nits Without audio / USB / Card reader connection)
Chassis Colors	Black
Power saving mode	< 0.5W
Power off mode	< 0.3W
Tilt	-5° ~ +22°
Wall Mount	Yes (75mm x 75mm)
Phys. Dimension with stand (WxHxD)	539.5mmx 406.5mmx 213 mm
Phys. Dimension without stand (WxHxD) (For Wall Mount)	539.5mm x 319.5mm x 36.5mm
Box Dimension (WxHxD)	595mm x 475mm x158mm
Net Weight (Esti.)	3.0kg
Gross Weight (Esti.)	5.0 kg
Voltage Rating	AC: 100-240V DC: 19V, 2.1A (AC adapter)
Temperature(operation)	0 C ~40 C

3.3 Troubleshooting (FAQ)

Problem	Possible Solution
Power LED is not ON	<ul style="list-style-type: none">• Press the ⏻ button to check if the monitor is turned on.• Check if the adapter and power cord are properly connected to the monitor and the power outlet.• Check the Power Indicator function in the OSD menu. Select "ON" to turn on the power LED.
The power LED lights amber and there is no screen image	<ul style="list-style-type: none">• Check if the monitor and the computer are turned on.• Make sure the signal cable is properly connected the monitor and the computer.• Inspect the signal cable and make sure none of the pins are bent.• Connect the computer with another available monitor to check if the computer is properly working.
Screen image is too light or dark	<ul style="list-style-type: none">• Adjust the Contrast and Brightness settings via OSD.
Screen image bounces or a wave pattern is present in the image	<ul style="list-style-type: none">• Make sure the signal cable is properly connected to the monitor and the computer.• Move electrical devices that may cause electrical interference.
Screen image has color defects (white does not look white)	<ul style="list-style-type: none">• Inspect the signal cable and make sure that none of the pins are bent.• Perform Reset via OSD.• Select the appropriate color temperature (Color Temp.) via OSD.
No sound or sound is low(NA)	<ul style="list-style-type: none">• Adjust the volume settings of your monitor or computer.• Make sure the computer sound card driver is properly installed and activated.

3.4 Supported Timing List

PC Supported Primary Timing

Resolution	Refresh Rate	Horizontal Frequency
640x480	60Hz	31.469kHz
640x480	72Hz	37.861kHz
640x480	75Hz	37.5kHz
800x600	56Hz	35.156kHz
800x600	60Hz	37.879kHz
800x600	72Hz	48.077kHz
800x600	75Hz	46.875kHz
1024x768	60Hz	48.363kHz
1024x768	70Hz	56.476kHz
1024x768	75Hz	60.023kHz
1152x864	75Hz	67.5kHz
1280x960	60Hz	60kHz
1280x1024	60Hz	63.981kHz
1280x1024	75Hz	79.976kHz
1440x900	60Hz	55.935kHz
1440x900	75Hz	70.635kHz
1680x1050	60Hz	65.29kHz
1920x1080	60Hz	67.5kHz
1280x720	60Hz	44.772kHz
1920x1080	75Hz	84.548kHz

IBM Modes, Factory Preset Timing

Resolution	Refresh Rate	Horizontal Frequency
640x350	70Hz	31.469kHz
720x400	70Hz	31.469kHz

MAC Modes, Factory Preset Timing

Resolution	Refresh Rate	Horizontal Frequency
640x480	67Hz	35kHz
832x624	75Hz	49.725kHz

VESA Modes, User Available Timing

Resolution	Refresh Rate	Horizontal Frequency
848x480	60Hz	31.02kHz
1280x720(RB)	60Hz	44.444kHz
1280x720	60Hz	44.772kHz
1280x720	75Hz	56.456kHz
1280x768(RB)	60Hz	47.396kHz
1280x800(RB)	60Hz	49.306kHz
1280x800	60Hz	49.702kHz
1280x800	75Hz	62.795kHz
1366x768	60Hz	47.712kHz

1440x900(RB)	60Hz	55.469kHz
1440x900	75Hz	70.635kHz
1680x1050(RB)	60Hz	64.674kHz
1920x1080	60Hz	66.587kHz
1920x1080	75Hz	84.548kHz

SD/HD Timings

HDMI/DP,CEA-861B Formats, SD/HD Supported Primary Timings of

Resolution	Refresh Rate	Horizontal Frequency
640 x 480 P 4:3	59.94/60Hz	31.469kHz
720 x 480 P 4:3	59.94/60Hz	31.469/31.5kHz
720 x 480 P 16:9	59.94/60Hz	31.469 / 31.5kHz
720 x 576 P 4:3	50Hz	31.25kHz
720 x 576 P 16:9	50Hz	31.25kHz
1280 x 720 P 16:9	50Hz	37.5kHz
1280 x 720 P 16:9	59.94/60Hz	44.955/45kHz
1440 x 480 P 4:3	59.94/60Hz	31.469/ 31.5kHz
1440 x 480 P 16:9	59.94/60Hz	31.469/ 31.5kHz
1440 x 576 P 4:3	50Hz	31.25kHz
1440 x 576 P 16:9	50Hz	31.25kHz
1920 x 1080 P 16:9	50Hz	56.25kHz
1920 x 1080 P 16:9	59.94 / 60Hz / 75Hz	67.433 /67.5/84.548kHz

HDMI/DP,CEA-861B Formats, SD/HD Supported Optional Timings of

Resolution	Refresh Rate	Horizontal Frequency
1440x480P	59.94 / 60Hz	31.469 / 31.5kHz
1440x576P	50Hz	31.25kHz
1920x1080P	50Hz	56.25kHz
1920x1080P	59.94 / 60Hz / 75Hz	67.433 /67.5/84.548kHz

* The modes not listed in the above tables may not be supported. For optimal resolution, we recommend that you choose a mode listed in the above tables.