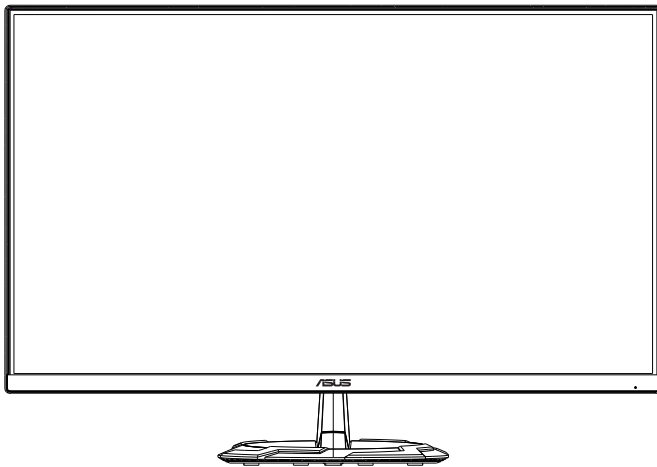


ASUS[®]

**VZ2491R Series
LCD Monitor**

User Guide



HDMI[™]
HIGH-DEFINITION MULTIMEDIA INTERFACE

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Table of Contents

| | |
|---|-------------|
| Notices..... | iv |
| Safety Information | v |
| Care & Cleaning | vi |
| Takeback Services..... | vii |
| 1.1 Welcome! | 1-1 |
| 1.2 Package Contents | 1-1 |
| 1.3 Assembling the Monitor Base..... | 1-2 |
| 1.4 Connect Cables | 1-3 |
| 1.4.1 Rear of the LCD Monitor | 1-3 |
| 1.5 Monitor Introduction | 1-4 |
| 1.5.1 Using the Control Buttons | 1-4 |
| 1.5.2 QuickFit Function | 1-5 |
| 2.1 Adjusting the Monitor | 2-1 |
| 2.2 Detaching the arm/stand (for wall mount) | 2-2 |
| 3.1 OSD (On-Screen Display) Menu..... | 3-1 |
| 3.1.1 How to Reconfigure | 3-1 |
| 3.1.2 OSD Function Introduction..... | 3-2 |
| 3.2 Specifications..... | 3-12 |
| 3.3 Troubleshooting (FAQ)..... | 3-14 |
| 3.4 Supported Timing List | 3-15 |

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:

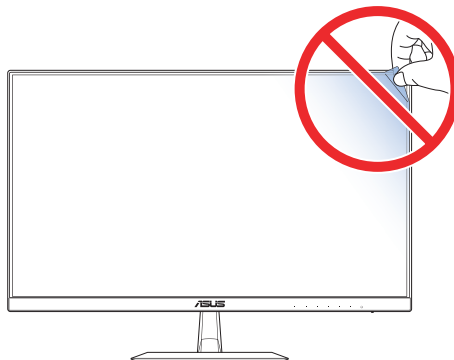
- ✓ LCD monitor
- ✓ Base
- ✓ Quick Start Guide
- ✓ Warranty Card
- ✓ Adaptor
- ✓ Power Cord
- ✓ VGA cable (optional)
- ✓ HDMI cable (optional)



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



CAUTION

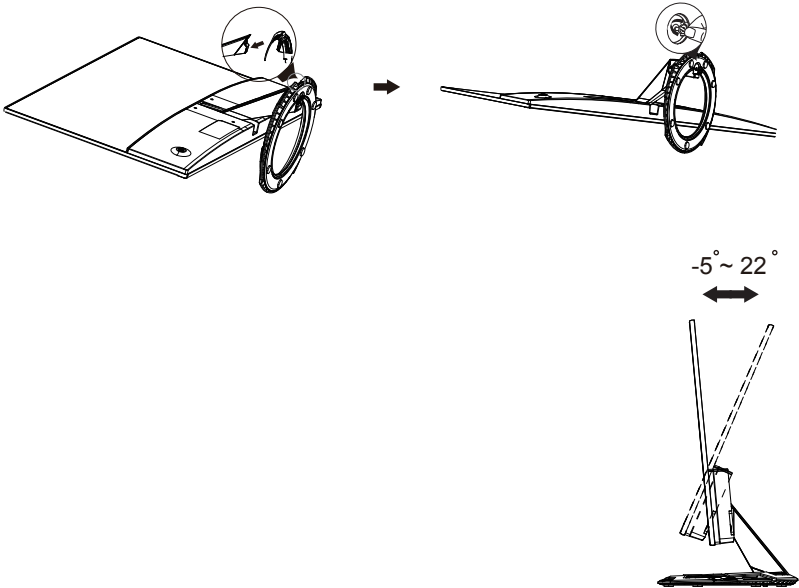


1.3 Assembling the Monitor Base

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.

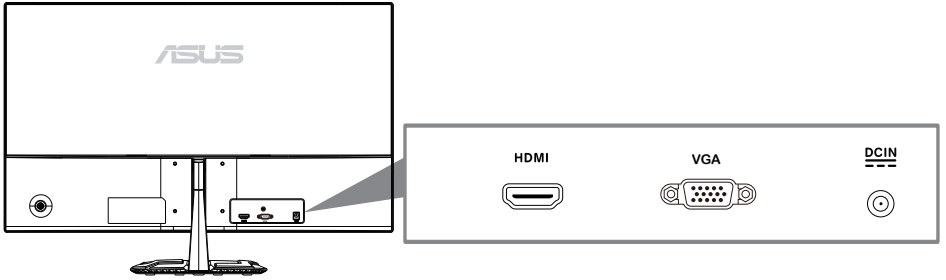


- We recommend that you cover the table surface with soft cloth to prevent damage to the monitor.



1.4 Connect Cables

1.4.1 Rear of the LCD Monitor

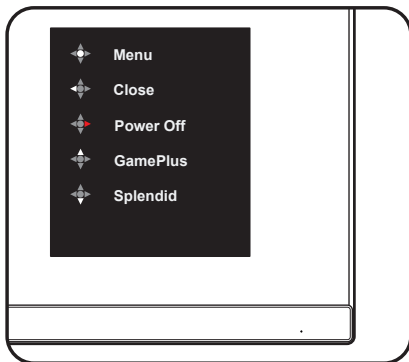


1. DC-IN Port
2. VGA Port
3. HDMI Port

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.

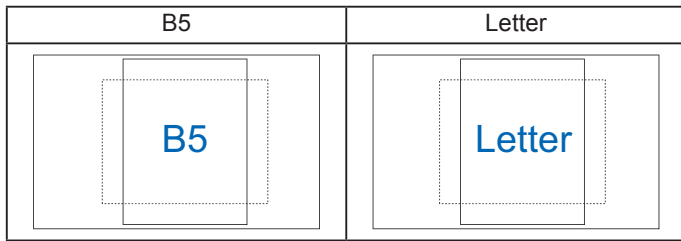
1.5.2 QuickFit Function

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

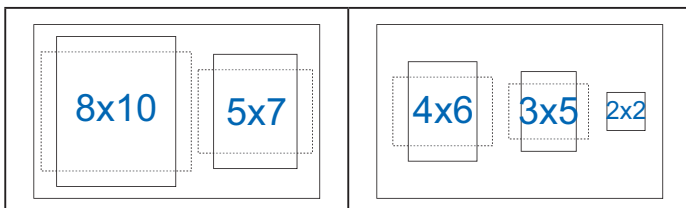
1. Grid pattern: Facilitates designers and users to organize content and layout on one page and achieve a consistent look and feel.



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

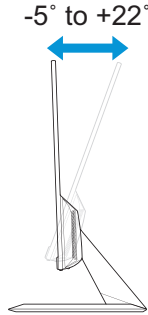


3. Photo size: Provides photographers and other users to accurately view and edit their photos in real size on the screen.



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

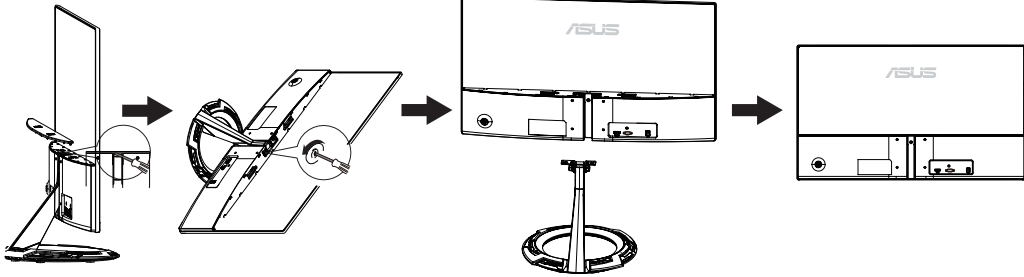
1. Disconnect power and signal cables. Carefully put the front of the monitor face down on a clean table.
2. Use a screwdriver to remove the two screws on the arm (Figure 1), and then detach the arm/stand from the monitor (Figure 2).



- 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

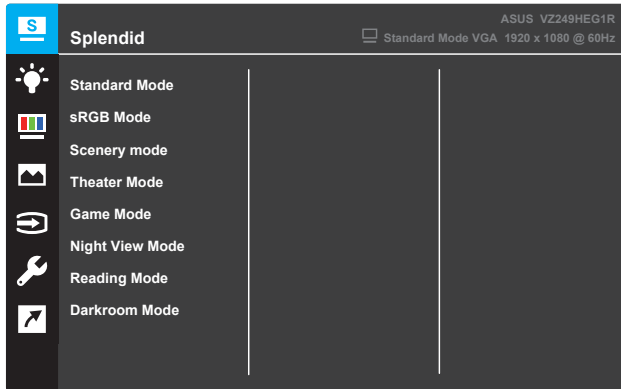
Figure 2



- 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

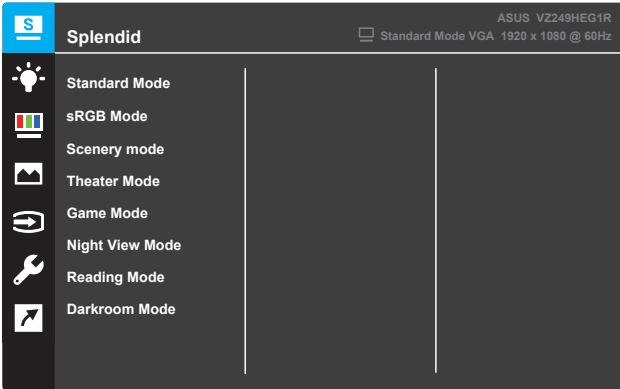


1. Press the MENU button to activate the OSD menu.
2. Press the ▼ and ▲ buttons to toggle between options in the Menu. As you move from one icon to another, the option name is highlighted.
3. To select the highlighted item on the menu press the ● button.
4. Press the ▼ and ▲ buttons to select the desired 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.



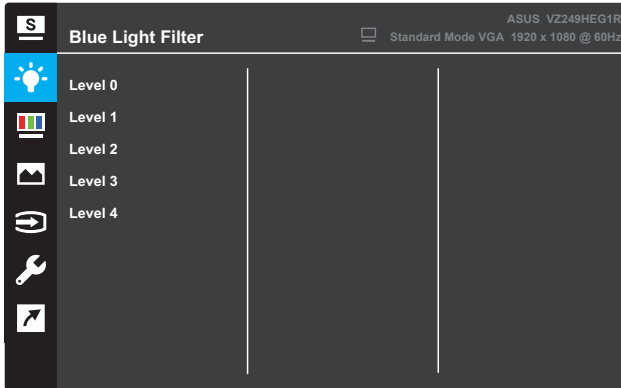
- **Standard Mode:** This is the best choice for document editing with SPLENDID™ Video Intelligence Technology.
- **sRGB Mode:** This is the best choice for viewing photos and graphics from PCs.
- **Scenery mode:** This is the best choice for scenery photo displaying with SPLENDID™ Video Intelligence 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.



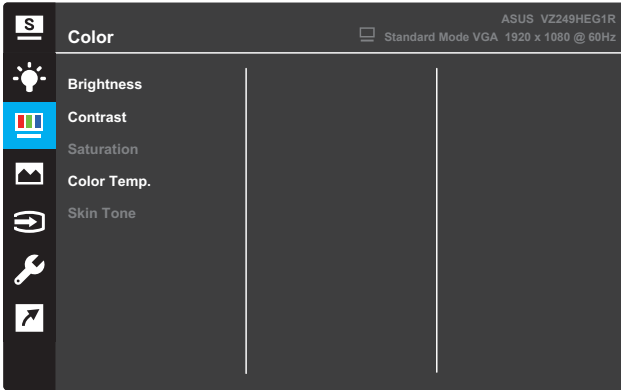
- **Level 0:** No change.
- **Level 1~4:** The higher the level, the more blue light will be reduced.



- 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.**

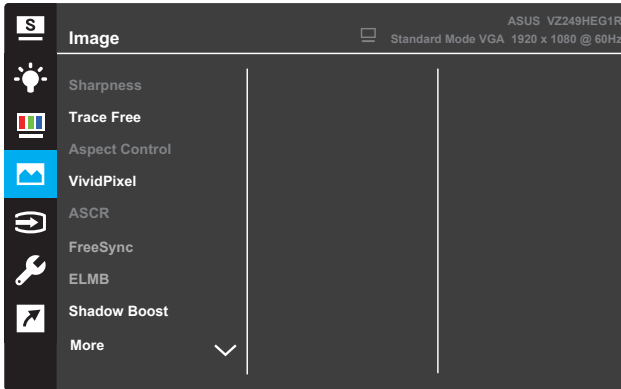


- In the User Mode, colors of R (Red), G (Green), and B (Blue) are user-configurable the adjusting range is from 0 ~ 100.

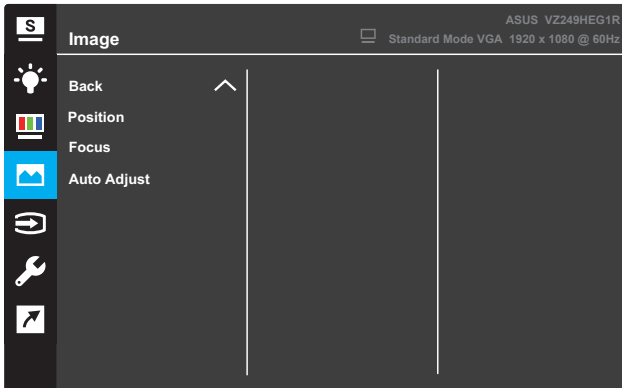
- **Skin Tone:** Select the desired skin color. Available options: **Reddish, Natural, and Yellowish.**

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”.



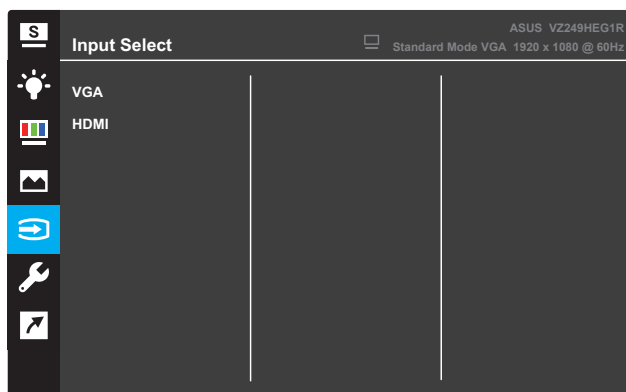
-
- 4:3 is only available when the input source is in 4:3 format.
 - OverScan is only available for HDMI input.
-

- **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).

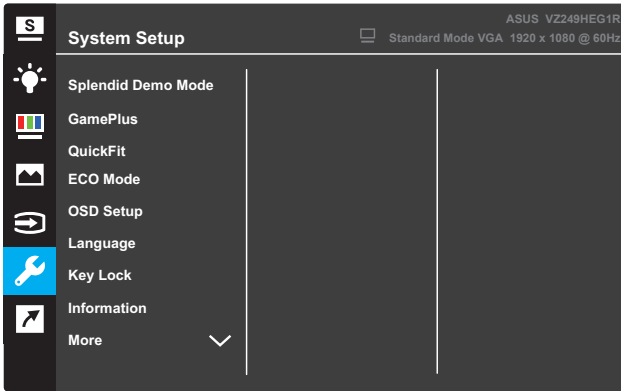
5. Input Select

Select the input source.

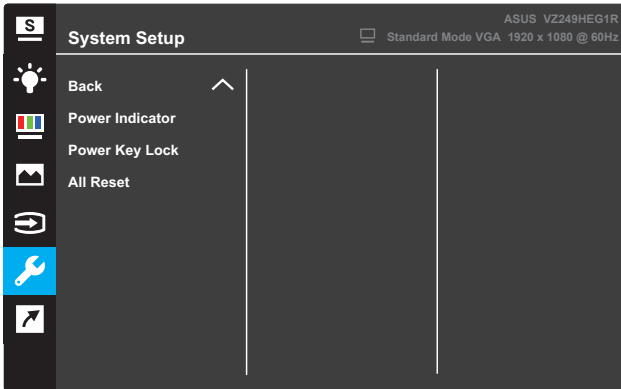


6. System Setup

Adjust the system configuration.



(Page 1/2)

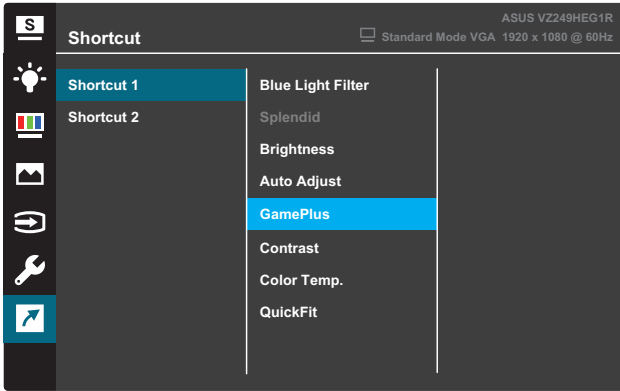


(Page 2/2)

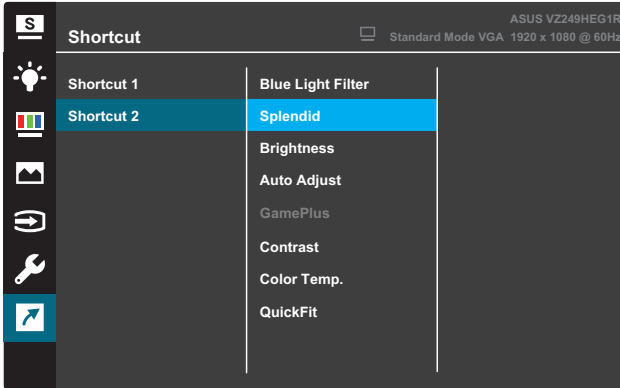
- **Splendid Demo Mode:** Activate the demo mode for the Splendid function.
- **GamePlus:** Activate Crosshair, Timer or FPS Counter or Display Alignment function..
- **QuickFit:** See 1.5.2 QuickFit function.
- **ECO Mode:** Activate the ecology mode for power saving.
- **OSD Setup:** Adjust the **OSD 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)

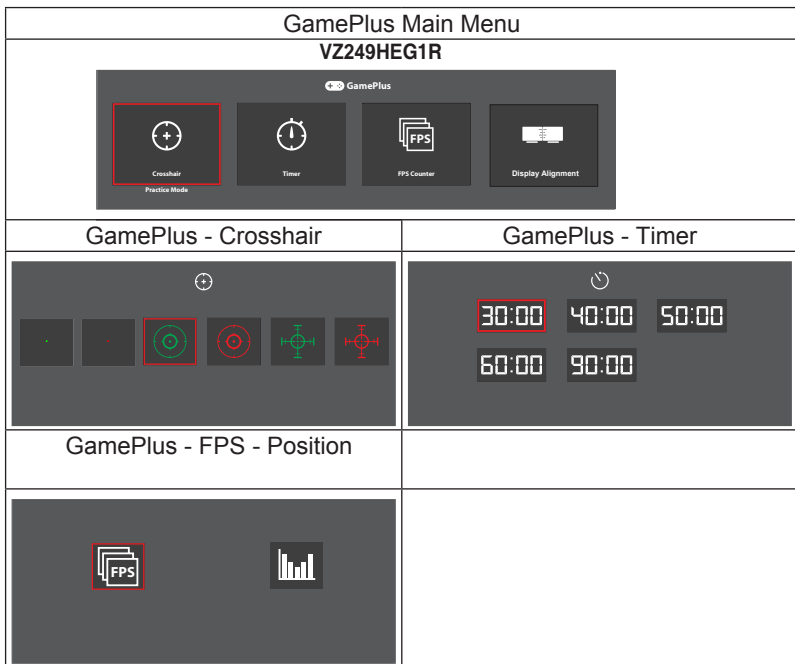
- **Shortcut 1:** Assign a function to the Shortcut Key1.
Available options: **Blue Light Filter**, **Splendid**, **Brightness**, **Auto Adjust**, **Contrast**, **Color Temp.**, **QuickFit**, and **GamePlus**. The default setting is **GamePlus**.
- **Shortcut 2:** Assign a function to the Shortcut Key2.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



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 (Mesauring 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.