MQ16AHE
ASUS ZenScreen™ OLED

User Guide
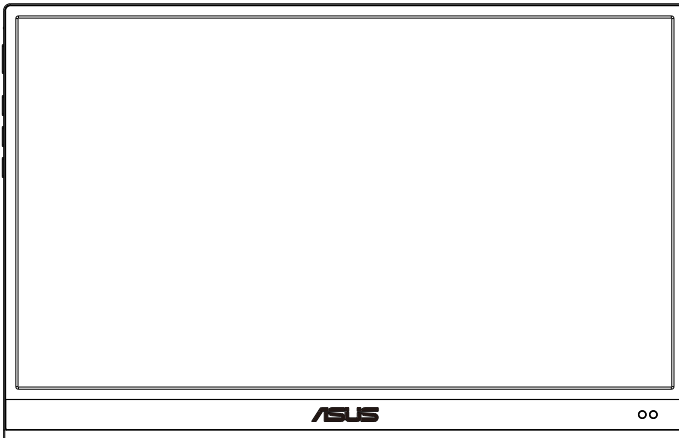
HDMI™

HIGH-DEFINITION MULTIMEDIA INTERFACE

Table of contents

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 manufacturer's 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.

The device may fall, causing serious personal injury or death. To prevent injury, this device must be securely attached to the floor/wall in accordance with the installation instructions.

NOTE: This monitor is ENERGY STAR certified.

This product qualifies for ENERGY STAR in the factory default setting which can be restored by "Factory Reset" function in the OSD menu. Changing the factory default settings or enabling other features may increase power consumption that could exceed the ENERGY STAR specified limits.

Declaration of Conformity

This device complies with the requirements set out in the Council Directive on the Approximation of the Laws of the Member States relating to Electromagnetic Compatibility (2014/30/EU), Low-voltage Directive (2014/35/EU), ErP Directive (2009/125/EC) and RoHS directive (2011/65/EU). This product has been tested and found to comply with the harmonized standards for Information Technology Equipment, these harmonized standards published under Directives of Official Journal of the European Union.

WEEE Symbol Statement

This symbol on the product or on its packaging indicates that this product must not be disposed of with your other household waste. Instead, it is your responsibility to dispose of your waste equipment by handing it over to a designated collection point for the recycling of waste electrical and electronic equipment. The separate collection and recycling of your waste equipment at the time of disposal will help to conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment. For more information about where you can drop off your waste equipment for recycling, please contact your local city office, your household waste disposal service or the shop where you purchased the product.

EEE yönetmeliğine uygundur

Safety information

- Before setting up this Portable USB Monitor, carefully read all the documentation that came with the package.
- To prevent fire or shock hazard, never expose this Portable USB Monitor to rain or moisture.
- Never try to open this Portable USB Monitor cabinet.
- Before using this Portable USB Monitor, make sure all cables are correctly connected and the power cables are not damaged. If you detect any damage, contact your dealer immediately.
- Avoid dust, humidity, and temperature extremes. Do not place this Portable USB Monitor in any area where it may become wet. Place this Portable USB Monitor on a stable surface.
- Never push objects or spill liquid of any kind into the slots on this Portable USB Monitor cabinet.
- If you encounter technical problems with this Portable USB Monitor, contact a qualified service technician or your retailer.
- This Portable USB Monitor is powered by USB port which complies with LPS and SELV circuit according to IEC62368-1.

WARNING

Usage of other than specified head- or earphones can result in hearing loss due to excessive sound pressures.

Please confirm the distribution system in building installation shall provide the circuit breaker rated 120/240V, 20A (maximum).

If provided with a 3-pin attachment plug on the power cord, plug the cord into a grounded (earthed) 3-pin outlet. Do not disable the power cord grounding pin, for example, by attaching a 2-pin adapter. The grounding pin is an important safety feature.

Stability Hazard.

The product may fall, causing serious personal injury or death. To prevent injury, this product must be securely attached to the floor/wall in accordance with the installation instructions.

A product may fall, causing serious personal injury or death. Many injuries, particularly to children, can be avoided by taking simple precautions such as:

ALWAYS use cabinets or stands or installation methods recommended by the manufacturer of the product set.

ALWAYS use furniture that can safely support the product.

ALWAYS ensure the product is not overhanging the edge of the supporting furniture.

ALWAYS educate children about the dangers of climbing on furniture to reach the product or its controls.

ALWAYS route cords and cables connected to your product so they cannot be tripped over, pulled or grabbed.

NEVER place a product in an unstable location.

NEVER place the product on tall furniture (for example, cupboards or bookcases) without anchoring both the furniture and the product to a suitable support.

NEVER place the product on cloth or other materials that may be located between the product and supporting furniture.

NEVER place items that might tempt children to climb, such as toys and remote controls, on the top of the product or furniture on which the product is placed.

If the existing product is going to be retained and relocated, the same considerations as above should be applied.

Excessive sound pressure from earphones and headphones can cause hearing loss. Adjustment of the equalizer to maximum increases the earphones and headphones output voltage and therefore the sound pressure level.

Restriction on Hazardous Substances statement (India) This product complies with the "India E-Waste (Management) Rules, 2016" and prohibits use of Lead, Mercury, Hexavalent Chromium, polybrominated biphenyls(PBBs) and polybrominated diphenyl ethers(PBDEs) in concentration exceeding 0.1% by weight in homogenous materials and 0.01% by weight in homogenous materials for cadmium, except of exemptions listed in Schedule 2 of the Rule.

Care & cleaning

- Cleaning. Turn your monitor off and unplug the cable. 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:

- 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.

Product information for EU energy label

1.1 Welcome!

Thank you for purchasing the ASUS® Portable USB Monitor!

The latest ASUS Portable USB Monitor provides great portability and simplicity to your daily life, enhancing both of your viewing experience and style.

1.2 Package contents

Check your package for the following items:

✓ Portable USB Monitor

✓ Quick Start Guide

✓ Warranty Card

✓ USB Type-C Cable

✓ Mini HDMI to HDMI Cable

✓ PD 30W Adapter

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

1.3 Monitor introduction

1.3.1 Front view
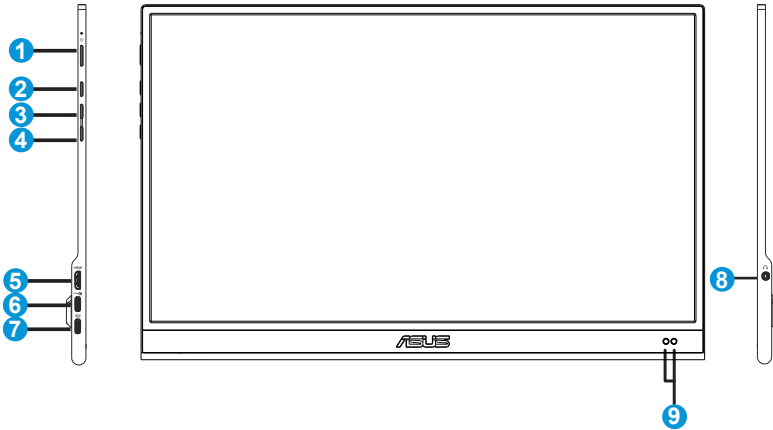
1. Power button/Power LED
   - Press this button to turn the monitor on/off.
   - The color definition of the power indicator is as the below table.

Status	Description
Blue	ON
Amber	Standby mode
Dark	OFF

2. Menu button
   - Press this button to enter the OSD menu.

3. Close Button
   - Exit the OSD menu.

4. Signal Button & Shortcut Button
   - Default setting for this button is "Signal", it can be used to switch input source.
   - "Signal" can be replaced with other frequent used function, go to "Shortcut" and select your favorite function.
   - Key Lock shortcut key. Press and hold it for 5 seconds to enable/disable Keys Lock.

5. Mini HDMI port

6. USB Type-C port(⚡10W🔌)

   - Support DP alt mode, Used to connect to a valid source such as Notebook/PC/Mobile phone; signal input supports maximum to resolution 1920 x 1080 @60Hz

   - Up to PD10W power requires connection to a ASUS PD 30W adapter firstly

7. USB Type-C port(DCIN)

   - DC IN to adapter, up to 20V@1.5A 30W power supply by inbox PD adapter

8. Earphone

9. Proximity sensor

1.3.2 QuickFit Function

The QuickFit function contains two patterns: (1) Grid (2) Photo size.

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

    Alignment grid 1 will be rotated automatically if auto rotation is enabled.
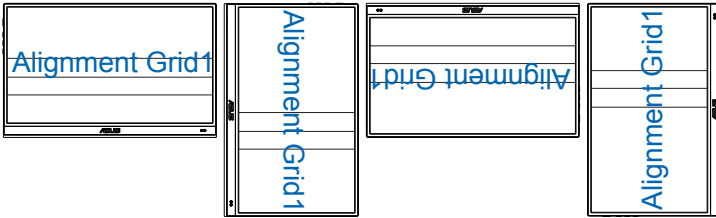
✎ • Auto rotation function is only working under Windows OS by installing DisplayWidget software.

2. Photo size: Provides photographers and other users to accurately view and edit their photos in real size on the screen.
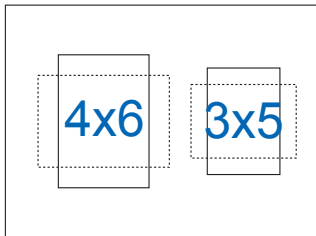
2.1   Monitor standing positions

You can stand up the monitor by several positions with the smart cover.
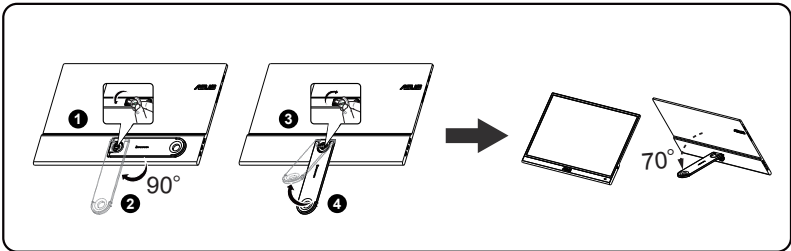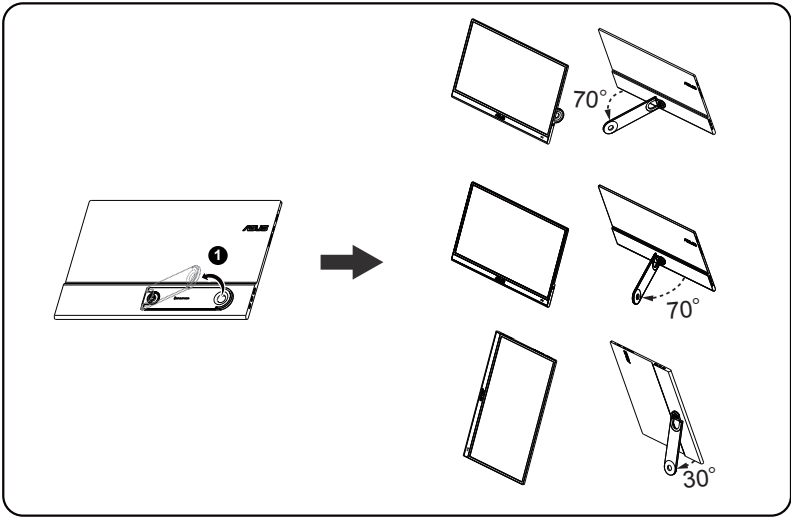
2.2 Connect the USB monitor with system

Ⓐ

Type C port with
DP signal output

Type-C

or

Ⓑ

Type C port with
DP signal output

PC Type C power output too low

Type-C

or

Ⓒ

Mini HDMI

or

Ⓓ
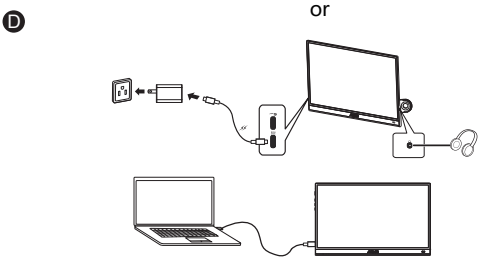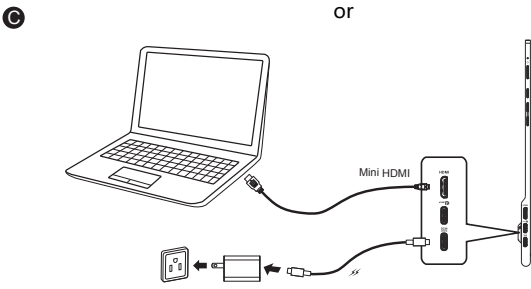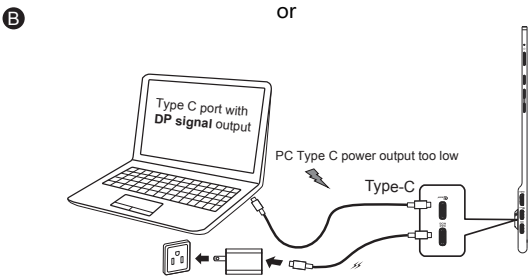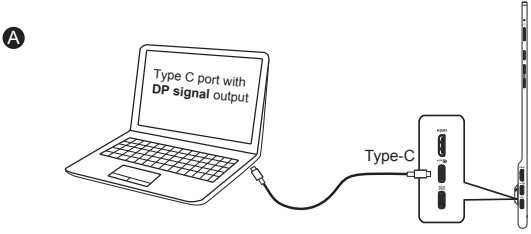
- USB monitor is working by acquiring power from PC/NB when monitor adapter is not plugged in. If USB monitor detects low power output from PC/NB, the "brightness" of monitor will be fixed at "up to 50 or 80 depends on how much of input power detected", this behavior can avoid monitor from turning off instantly due to lack of power. For higher brightness, please plug in the monitor adapter, the system will enable brightness adjustment to maximum value again.

2.3   Announcements

As this product and attached smart cover includes magnet in the structure, there could be potential risk to cause the damage of computer hard disc and objects that are sensitive to magnet.

Please ensure not to stack the product with the computer when computer is in use (power on or standby mode) otherwise the hard drive could possibly be influenced by the result of permanent data missing or the computer display could be switched off due to computer auto protection mechanism. When place this product together with computer in the bag, must have the computer power off to avoid possible hard drive damage problem.

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 ∧ / ∨ button 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 ∧ / ∨ button to select the desired parameter.

5. Press the ∨ button to enter the slide bar and then use the ∧ / ∨ button, 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.
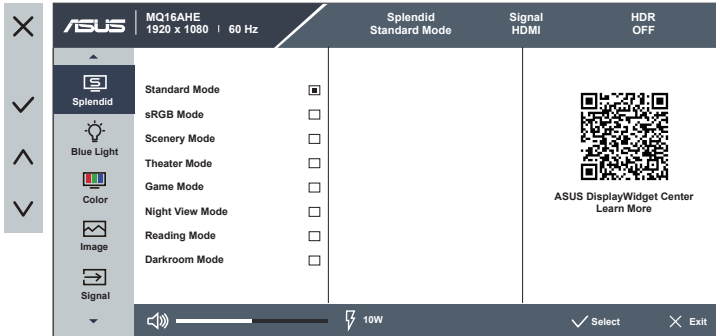
- **Standard Mode**: This is the best choice for document editing with SPLENDID™ Video Intelligence Technology.

- **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.

- **Darkroom Mode** : This is the best choice for a weak ambient light environment.

- In the Standard Mode, the Saturation, Sharpness, are not user-configurable.
- In the sRGB, the Saturation, Color Temp., Sharpness, Contrast functions are not user-configurable.
- In the Reading Mode, the Saturation, contrast, and Color Temp functions are not user-configurable.

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2. Blue Light

Adjust the energy level of Blue Light emitted from OLED backlight.

- **Blue Light**: In this function, you can adjust the Blue Light from Min to max. Min: no changes；Max: The higher the level, the less Blue Light is scattered. When Blue Light is activated, the default settings of Standard Mode will be automatically imported. Besides maximum level, the brightness is user-configurable. Maximum is the optimized setting. It is compliance with TUV low Blue Light certification*. The brightness function is not user configurable.

> - When the user adjusts Blue Light bar to maximum level.

> Please refer to the following to alleviate eye strains:
>
> - Users should take some time away from the display if working for long hours. It is advised to take short breaks (at least 5 mins) after around 1 hour of continuous working at the computer. Taking short and frequent breaks is more effective than a single longer break.
> - To minimize eye strain and dryness in your eyes, users should rest the eye periodically by focusing on objects that are far away.
> - Eye exercises can help to reduces eye strain. Repeat these exercises often. If eye strain continues please consult a physician. Eye exercises: (1) Repeating look up and down (2) Slowly roll your eyes (3) Move your eyes diagonal.
> - High energy Blue Light may lead to eye strain and AMD (Age-Related Macular Degeneration). Blue Light to reduce 70% (max.) harmful Blue Light to avoiding CVS (Computer Vision Syndrome).

3. Color

Select the image color you like from this function.
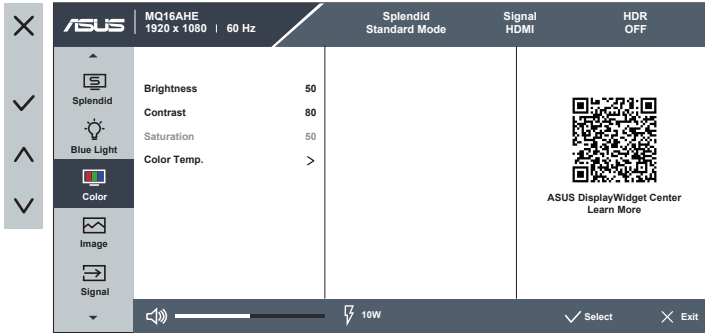
- **Brightness**: The adjusting range is from 0 to 100. When HDR is enabled, the brightness cannot be adjusted.
- **Contrast**: The adjusting range is from 0 to 100.
- **Saturation**: The adjusting range is from 0 to 100.
- **Color Temp.**: Contains three preset color modes (**Cool**, **Normal**, **Warm**) and **User** Mode.

- When monitor is connected to input device by Type C port, and monitor detects power from input device is too low, the brightness will be fixed at up to 50 or 80 depends on how much of power received by monitor. As soon as the adapter is plugged in, the brightness can be adjusted to maximum value again.
- In the User Mode, colors of R (Red), G (Green), and B (Blue) are user-configurable; the adjusting range is from 0 ~ 100.

4. **Image**

   You can adjust the image Sharpness, Aspect Control, VividPixel, and HDR from this main function.

- **Sharpness**: Adjusts the picture sharpness. The adjusting range is from 0 to 100.
- **Aspect Control**: Adjusts the aspect ratio to "**Full**", "**Equivalent**".
- **VividPixel**: ASUS Exclusive Technology that brings lifelike visuals for crystal-clear and detail-oriented enjoyment. The adjusting range is from 0 to 100.
- **HDR**: High Dynamic Range. Contains two HDR modes, Cinema HDR and Gaming HDR, this item is open to choose when HDR is enabled.

- When displaying HDR content, image is optimized by HDR standard, the following function(s) are thus not available: Splendid, Blue Light, Color.

5. Signal

Select the input source from **HDMI**, **Type-C**, input signal.
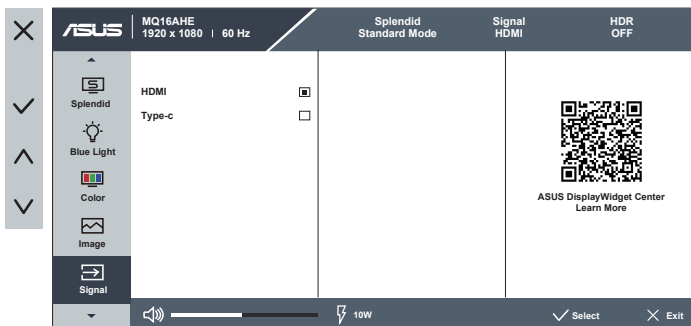
6. Settings

Adjusts the system configuration.

OLED Setup >
Volume 50
GamePlus >
QuickFit >
Power Saving >
OSD Setup >
Language >
Key Lock

MQ16AHE
1920 x 1080 | 60 Hz

Splendid
Standard Mode

Signal
HDMI

HDR
OFF

ASUS DisplayWidget Center
Learn More

10W   ✓ Select   ✕ Exit

Information
Power Indicator
Proximity Sensor
Power Key Lock
All Reset >

MQ16AHE
1920 x 1080 | 60 Hz

Splendid
Standard Mode

Signal
HDMI

HDR
OFF

10W   ✓ Select   ✕ Exit

- **OLED Setup**: Special setup according to OLED characteristics. Screen protection can be activated here, you might see the pixel shifting in using but this behavior does not influence usage and image clarity. This mechanism is designed to protect OLED from burn in issue, we suggest you always turn it on.

- **Volume**: Adjusts the output volume level.

- **GamePlus**: The GamePlus Function provides a toolkit and creates a better gaming environment for users when playing different types of games. Particularly, Chrosshair function is specially designed for new gamers or beginners interested in First Person Shooter (FPS) games.

  To active GamePlus:

  - Select **ON** to enter the GamePlus main menu.

  - Press ∧ / ∨ button to select between Crosshair, Timer and Display Alignment function.

- Press ✓ to confirm the function you choose. Select ✕ to go off, and exit.

GamePlus main menu	GamePlus-Crosshair

GamePlus-Timer	GamePlus-Display Alignment
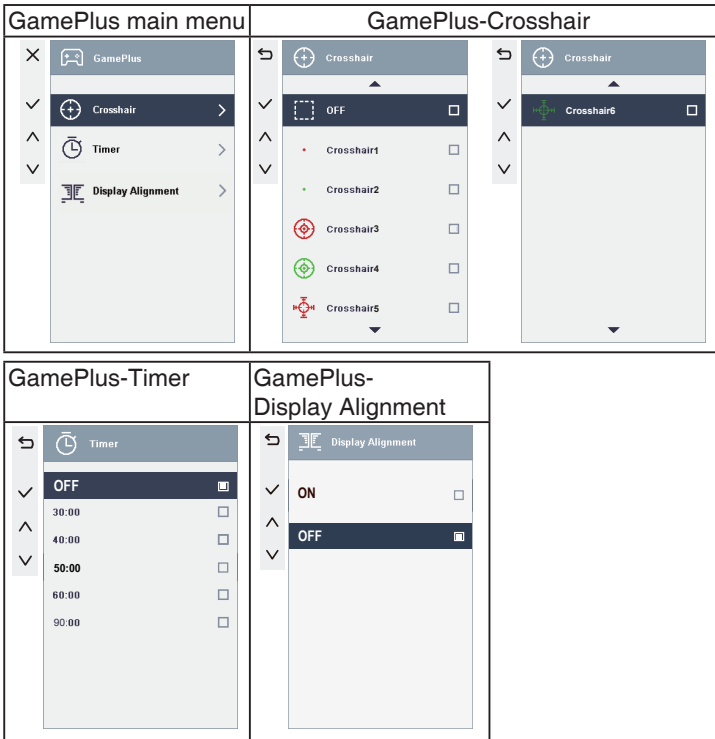
- **QuickFit**: See page 1-4 for details.
- **Power Saving:** Adjusts the "Normal Level "and" Deep Level" for the Power Saving function.
- **OSD Setup**: Adjusts the **OSD Timeout**, **DDC/CI**, and **Transparency** of the OSD screen.
- **Language**: Select OSD language. The selections are: **English**, **French**, **German**, **Spanish**, **Italian**, **Dutch**, **Russian**, **Poland**, **Czech**, **Croatia**, **Hungary**, **Romania**, **Portugal**, **Turkey**, **Simplified Chinese**, **Traditional Chinese**, **Japanese**, **Korean**, **Persian, Thai, Indonesian, Ukrainian, Vietnamese**.
- **Key Lock**: Disable all key functions. Pressing the ∨ button for more than five seconds to disable key lock function.
- **Information**: Displays the monitor information.
- **Power Indicator**: Turn the power LED indicator on/off.

- **Proximity Sensor**: Embedded proximity sensor prompts the monitor to switch power saving mode when it detects the user is away for above a minute and resumes normal operation when user comes back. The function is optimized when the distance between user and the monitor is within 50cm. And please avoid any obstacle in front of the proximity sensor on the front bezel.
  Note: the sensitivity of sensor might be influenced by the ambient light, color of users' clothing and monitor use angle.
- **Power Key Lock**: To disable / enable power key.
- **All Reset**: Selects "**Yes**" to revert all settings to the factory default mode.

7. MyFavorite

You can adjust Shortcut and Customized Setting from this main function.
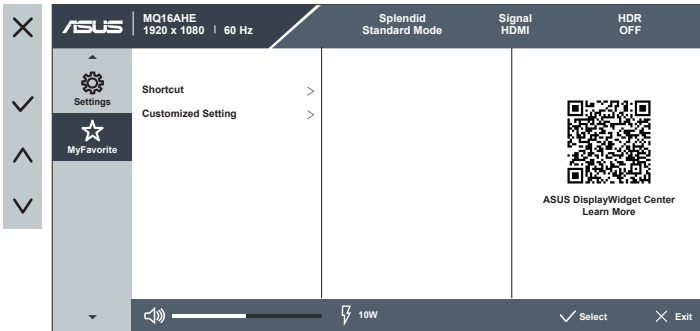
- **Shortcut** : User can select from "Blue Light" "Splendid", "Brightness", "Contrast", "Signal", "Energy Saving" and set as shortcut key.The default setting is Signal.

- **Customized Setting** : You can do your setting according to your favorite.

3.2   Specifications

Model	MQ16AHE
Panel Size	15.6" (16:9, 39.62cm) wide screen
Resolution	1920 x 1080
Brightness (Typ.)	400nits
Contrast (Typ.)	100000:1
Display Colors	1073.7M (10bit)
Digital Input	DisplayPort™ Alt Mode for USB Type-C™ HDMI via Mini HDMI
Colors	Gray
Power Consumption	≦ 15 W
Operating Temp.	0° ~ 40°
Phys. Dimension (WxHxD)	358.70 x 226.15 x 8.95 mm
Box Dimension (WxHxD)	552 x 125 x 394 mm
Net Weight (Esti.)	0.72 kg
Gross Weight (Esti.)	3.65 kg
Voltage Rating	5V or 9V ⎓, 3.0A OR 12V ⎓, 2.5A, OR 15V ⎓, 2.0A, OR 20V ⎓, 1.5A
Adapter	ASUS/AD2166X20 100-240V~, 50/60Hz, 0.8A 5V ⎓, 3.0A(Normal model) OR 9V ⎓, 3.0A, OR 12V ⎓, 2.5A, OR 15V ⎓, 2.0A, OR 20V ⎓, 1.5A (USB Power Delivery)

*Specifications are subject to change without notice.

3.3   Troubleshooting (FAQ)

Problem	Possible Solution
Power LED is not ON	• Press the ⏻ button to check if the monitor is in the ON mode. • Check if the USB Type-C cable is properly connected to the monitor and the computer.
The power LED lights amber and there is no screen image	• Check if the monitor and the computer are in the ON mode. • Make sure the USB Type-C cable is properly connected between the Portable USB 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	• Adjust the Brightness settings via the button.
Screen image bounces or a wave pattern is present in the image	• Make sure the USB Type-C cable is properly connected between the Portable USB Monitor and the computer. • Move electrical devices that may cause electrical interference.
Screen image has color defects (white does not look white)	• Inspect the USB Type-C cable and make sure that none of the pins are bent.
HDR content is not played properly	• Make sure the input source supports HDR playback (with proper system settings and latest software). • Make sure the content is HDR encoded.

*1: White color background will consume higher power, so it's better to use white color background to test the power limit from source USB Type-C device.
*2: If MQ16AHE does not re-start when adjusting to value 100, that means source USB Type-C device has sufficient power supply.

3.4   Supported Timing List

PC Supported Primary Timing

Timing	Resolution	Refresh Rate	Horizontal Frequency
PC Timinng	640x480	60	31.469kHz
PC Timinng	800x600	60	37.879kHz
PC Timinng	1024x768	60	48.363kHz
PC Timinng	1280x960	60	60kHz
PC Timinng	1280x1024	60	63.981kHz
PC Timinng	1280x720	60	45 kHz
PC Timinng	1600x1200	60	75 kHz
PC Timinng	1920x1080	60	67.5 kHz
Video Timing	640x480P	59.94/60	31.469 kHz
Video Timing	720x480P	59.94/60	31.469 kHz
Video Timing	720x576P	50	31.25 kHz
Video Timing	1280x720P	50	37.5 kHz
Video Timing	1280x720P	59.94/60	45 kHz
Video Timing	1920x1080P	24	27 kHz
Video Timing	1920x1080P	25	28.125 kHz
Video Timing	1920x1080P	30	33.750 kHz
Video Timing	1920x1080P	50	54 kHz
Video Timing	1920x1080P	60	67.5 kHz
Detail Timing	1920x1080	60	67.5kHz
Detail Timing	1920x1080	60	66.71kHz