**JOC** 



LCD Monitor
User Manual
U4309V



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# Safety

## **National Conventions**

The following subsections describe notational conventions used in this document.

#### Notes, Cautions, and Warnings

Throughout this guide, blocks of text may be accompanied by an icon and printed in bold type or in italic type. These blocks are notes, cautions, and warnings, and they are used as follows:



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



**CAUTION:** A CAUTION indicates either potential damage to hardware or loss of data and tells you how to avoid the problem.



**WARNING:** A WARNING indicates the potential for bodily harm and tells you how to avoid the problem. Some warnings may appear in alternate formats and may be unaccompanied by an icon. In such cases, the specific presentation of the warning is mandated by regulatory authority.

## **Power**

The monitor should be operated only from the type of power source indicated on the label. If you are not sure of the type of power supplied to your home, consult your dealer or local power company.

The monitor is equipped with a three-pronged grounded plug, a plug with a third (grounding) pin. This plug will fit only into a grounded power outlet as a safety feature. If your outlet does not accommodate the three-wire plug, have an electrician install the correct outlet, or use an adapter to ground the appliance safely. Do not defeat the safety purpose of the grounded plug.

Unplug the unit during a lightning storm or when it will not be used for long periods of time. This will protect the monitor from damage due to power surges.



Do not overload power strips and extension cords. Overloading can result in fire or electric shock.

To ensure satisfactory operation, use the monitor only with UL listed computers which have appropriate configured receptacles marked between 100-240V AC, Min. 5A.



The wall socket shall be installed near the equipment and shall be easily accessible.

## Installation

Do not place the monitor on an unstable cart, stand, tripod, bracket, or table. If the monitor falls, it can injure a person and cause serious damage to this product. Use only a cart, stand, tripod, bracket, or table recommended by the manufacturer or sold with this product. Follow the manufacturer's instructions when installing the product and use mounting accessories recommended by the manufacturer. A product and cart combination should be moved with care.

Never push any object into the slot on the monitor cabinet. It could damage circuit parts causing a fire or electric shock. Never spill liquids on the monitor.



Do not place the front of the product on the floor.

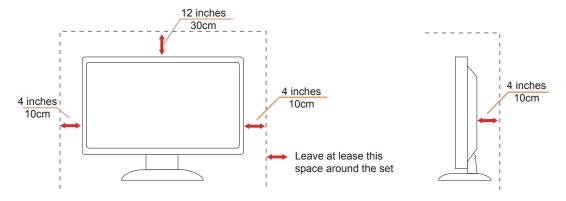
If you mount the monitor on a wall or shelf, use a mounting kit approved by the manufacturer and follow the kit instructions.

Leave some space around the monitor as shown below. Otherwise, air-circulation may be inadequate hence overheating may cause a fire or damage to the monitor.

To avoid potential damage, for example the panel peeling from the bezel, ensure that the monitor does not tilt downward by more than -5 degrees. If the -5 degree downward tilt angle maximum is exceeded, the monitor damage will not be covered under warranty.

See below the recommended ventilation areas around the monitor when the monitor is installed on the wall or on the stand:

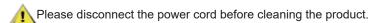
#### Installed with stand

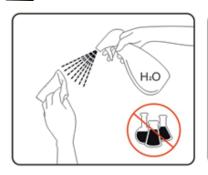


# Cleaning

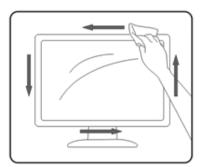
Clean the cabinet regularly with cloth. You can use soft-detergent to wipe out the stain, instead of strong-detergent which will cauterize the product cabinet.

When cleaning, make sure no detergent is leaked into the product. The cleaning cloth should not be too rough as it will scratch the screen surface.









## Other

If the product is emitting a strange smell, sound or smoke, disconnect the power plug IMMEDIATELY and contact a Service Center.



Make sure that the ventilating openings are not blocked by a table or curtain.

♠ Do not engage the LCD monitor in severe vibration or high impact conditions during operation.

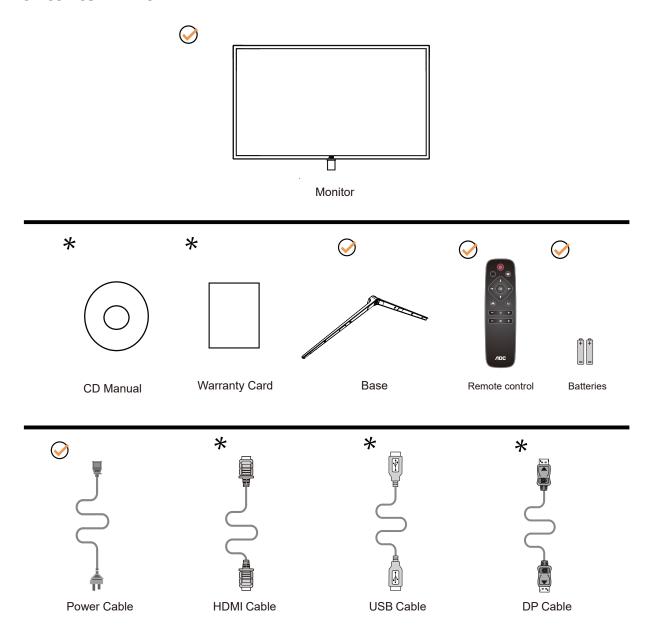
♠ Do not knock or drop the monitor during operation or transportation.

IThe power cords shall be safety approved. For Germany, it shall be H03VV-F, 3G, 0.75 mm2, or better. For other countries, the suitable types shall be used accordingly.

IExcessive 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.

# Setup

## **Contents in Box**

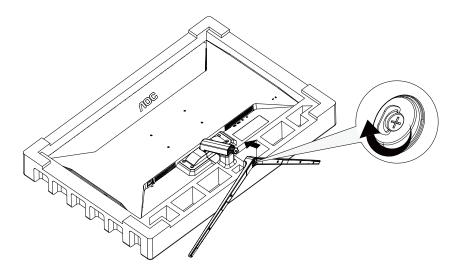


Not all signal cables will be provided for all countries and regions. Please check with the local dealer or AOC branch office for confirmation.

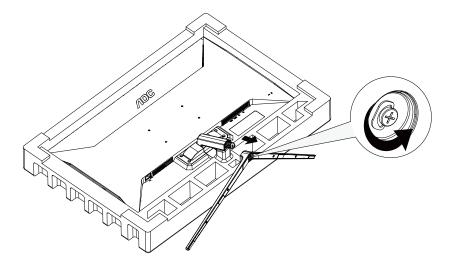
# **Setup Stand & Base**

Please setup or remove the base following the steps as below.

## Setup:



## Remove:

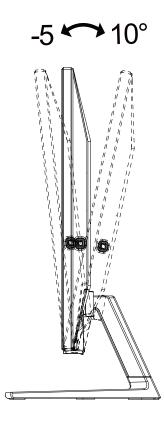


## **Adjusting Viewing Angle**

For optimal viewing it is recommended to look at the full face of the monitor, then adjust the monitor's angle to your own preference.

Hold the stand so you will not topple the monitor when you change the monitor's angle.

You are able to adjust the monitor as below:



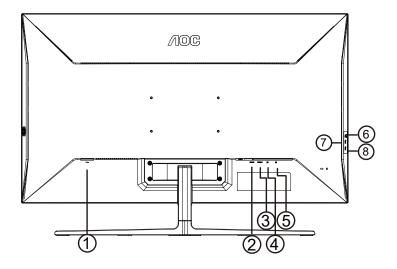


Do not touch the LCD screen when you change the angle. It may cause damage or break the LCD screen. WARNING:

- 1. To avoid potential screen damage, such as panel peeling, ensure that the monitor does not tilt downward by more than -5 degrees.
- 2. Do not press the screen while adjusting the angle of the monitor. Grasp only the bezel.

## **Connecting the Monitor**

Cable Connections In Back of Monitor and Computer:



- 1. Power
- 2. HDMI-1
- 3. HDMI-2
- 4. DP
- 5. Earphone
- 6. USB3.2 Gen1x1 USB3.2 Gen1+charging
- 7. USB3.2 Gen1x2
- 8. USB-PC(USB upstream)

#### **Connect to PC**

- 1. Connect the power cord to the back of the display firmly.
- 2. Turn off your computer and unplug its power cable.
- 3. Connect the display signal cable to the video connector on the back of your computer.
- 4. Plug the power cord of your computer and your display into a nearby outlet.
- 5. Turn on your computer and display.

If your monitor displays an image, installation is complete. If it does not display an image, please refer Troubleshooting.

To protect equipment, always turn off the PC and LCD monitor before connecting.

## **AMD FreeSync function**

- 1. AMD FreeSync function is working with DP/HDMI
- 2. Compatible Graphics Card: Recommend list is as the below, also could be checked by visiting www.AMD.com
- Radeon™ RX Vega series
- Radeon™ RX 500 series
- Radeon™ RX 400 series
- Radeon™ R9/R7 300 series (R9 370/X, R7 370/X, R7 265 except)
- Radeon™ Pro Duo (2016)
- Radeon™ R9 Nano series
- Radeon™ R9 Fury series
- Radeon™ R9/R7 200 series (R9 270/X, R9 280/X except)

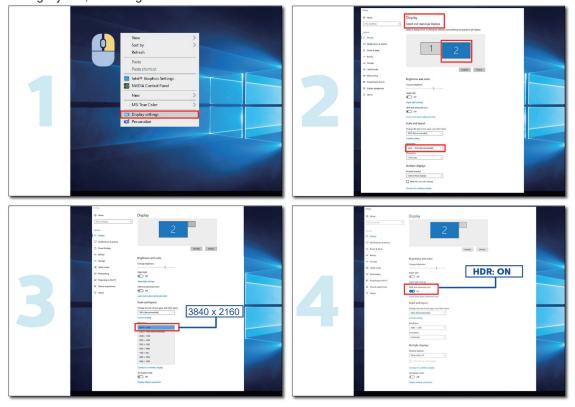
## **HDR**

It is compatible with input signals in HDR10 format.

The display may automatically activate the HDR function if the player and content are compatible. Please contact the device manufacturer and the content provider for information on the compatibility of your device and content. Please select "OFF" for the HDR function when you have no need for automatical activation function.

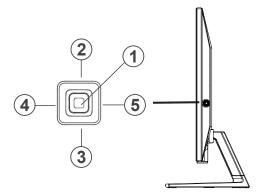
#### Note:

- 1. Only the HDMI interface is available and the DisplayPort interface cannot function in WIN10 version V1703.
- 2. The display resolution is set to 3840x2160@60Hz, and HDR is preset to ON. Under these conditions, the screen may slightly dim, indicating HDR has been activated.



# **Adjusting**

## **Hotkeys**



1	Power/ Menu/Enter
2	Source/Exit/Up
3	Eco /DCR/Uniformity/Down
4	Volume /Right
5	Clear Vision/Left

#### Power/Menu/Enter

Press the Power button to turn on the monitor.

When there is no OSD, Press to display the OSD or confirm the selection. Press about 2 second to turn off the monitor.

### Source/Exit/Up

When the OSD is closed, press Source/Exit button will be Source hot key function.

When the OSD is adjusted, press Source/Exit button will be Source hot key function.

### Volume/Right

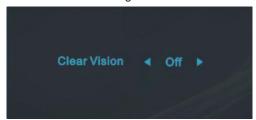
When there is no OSD, Press Volume button to active volume adjustment bar, Press Left or Right to adjust volume.

#### Eco /DCR/Uniformity/Down

When there is no OSD, Press this button to enter Eco/DCR/Uniformity adjustment. Then press Left or Right button to choose different Eco.

#### Clear Vision

- 1. When there is no OSD, Press the "Left" button to activate Clear Vision.
- 2. Use the "Left" or "Right" buttons to select between weak, medium, strong, or off settings. Default setting is always "off".



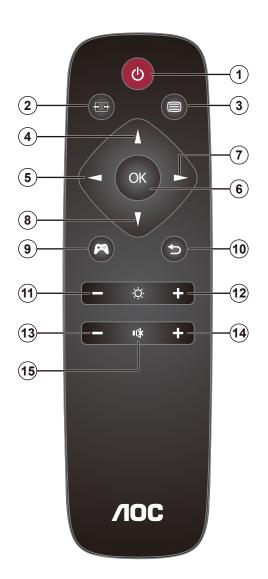
3. Press and hold "Left" button for 5 seconds to activate the Clear Vision Demo, and a message of "Clear Vision Demo: on" will be display on the screen for a duration of 5 seconds. Press Menu or Exit button, the message will disappear. Press and hold "Left" button for 5 seconds again, Clear Vision Demo will be off.



Clear Vision function provides the best image viewing experience by converting low resolution and blurry images into clear and vivid images.

Clear Vision	Off		
	Weak	Adjust the Clear Vision	
	Medium		
	Strong		
Clear Vision Demo	On or Off	Disable or Enable Demo	

# **Description of the remote** control buttons



0	மு	Press to switch power on and off.	
2	++	Change the signal input source.	
3		Access the OSD menu.	
4	<b>A</b>	Adjust the OSD options upwards.	
6	•	Return to previous OSD level.	
6	OK	Confirm the OSD adjustment/ Access the OSD menu	
7		Access the OSD menu. Confirm the OSD adjustment.	
8	<b>V</b>	Adjust the OSD options down.	
9	P	Open gaming mode.	
0	þ	Exit OSD menu.	
•	_	Turn down the brightness	
Ð	+	Turn up the brightness	
Œ	_	Turn down the volume	
1	+	Turn up the volume	
Œ	■(*	Mute	

## **OSD Setting**

#### Basic and simple instruction on the control keys.

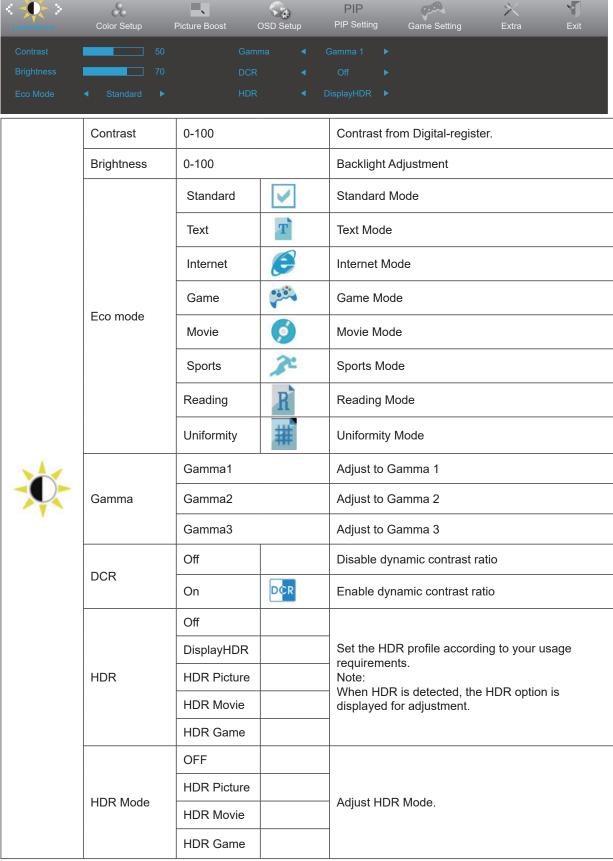


- 1). Press the MENU-button to activate the OSD window.
- 2). Press **Left** or **Right** to navigate through the functions. Once the desired function is highlighted, press the **MENU-button** to activate it, press **Left** or **Right** to navigate through the sub-menu functions. Once the desired function is highlighted, press **MENU-button** to activate it.
- 3). Press **Left** or **Right** to change the settings of the selected function. Press **Exit-button** to exit. If you want to adjust any other function, repeat steps 2-3.
- 4). OSD Lock/Unlock Function: To lock or unlock the OSD, press and hold the **Down–button** for 10s while OSD function is not active.

#### Notes:

- 1). If the product has only one signal input, the item of "Input Select" is disable to adjust.
- 2). ECO modes (except Standard mode), Clear vision, DCR, DCB mode and Picture Boost, for these states that only one state can exist.

#### Luminance

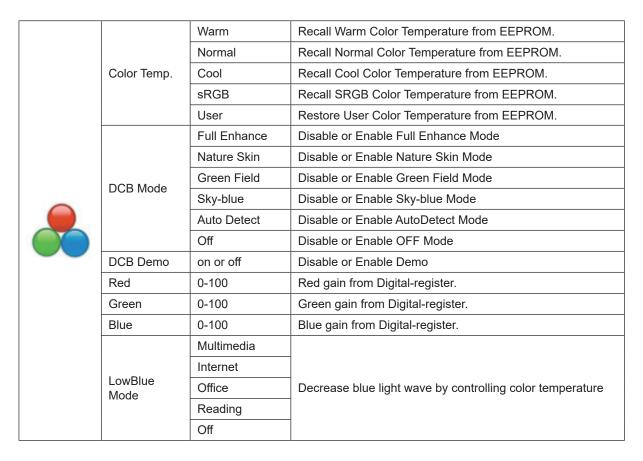


Note:

When "HDR Mode" is set to a non-off state, "Contrast", "Brightness Scene Mode", and "Gamma" items cannot be adjusted.

## **Color Setup**



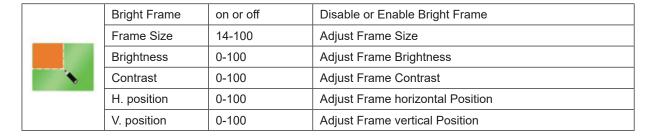


#### Note:

When "HDR Mode" under "Brightness" is set to a non-off state, all items under "Color Settings" cannot be adjusted.

## **Picture Boost**





#### Note:

- 1). For a better viewing experience, adjust the brightness, contrast, and position of the brightening.
- 2). When the "HDR Mode" under "Brightness" is set to a non-off state, all items under "Window Brightening" cannot be adjusted.

## **OSD Setup**



	Language		Select the OSD language
	Timeout	5-120	Adjust the OSD Timeout
	DP Capability	1.1/1.2/1.4	If the DP video content supports DP1.2/1.4, please select DP1.2/104 for DP Capability; otherwise, please select DP1.1
	H. Position	0-100	Adjust the horizontal position of OSD
- 26	V. Position	0-100	Adjust the vertical position of OSD
	Transparence	0-100	Adjust the transparence of OSD
	Break Reminder	on or off	Break reminder if the user continuously work for more
			than 1hrs

## PIP Setting



	PIP Setting	Off / PIP / PBP	Disable or Enable PIP or PBP.
	Main Source	HDMI1、HDMI2、DP	Select main screen source.
	Sub Source	HDMI1、HDMI2、DP	Select sub screen source.
	Size	Small / Middle / Large	Select screen size.
	PIP Position	Right-up	
PIP P		Right-down	Set the screen location.
		Left-up	Set the screen location.
		Left-down	
	Audio	On: PIP Audio	Disable or Enable Audio Setup.
	Addio	Off: Main Audio	Disable of Effable Addio Setup.
	Swan	On: Swap	Swap the screen source.
Swap	Swap	Off: non action	Swap the screen source.

## **Game Setting**



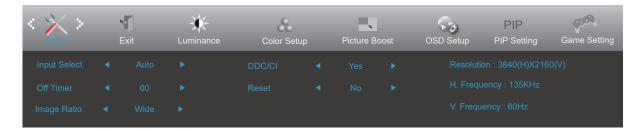
		FPS	For playing FPS (first Person Shooters) games. Improves dark theme black level details.
		RTS	For playing RTS (Real Time Strategy). Improves the image quality.
		Racing	For playing Racing games, Provides fastest response time and high color saturation.
	Game Mode	Gamer 1	User's preference settings saved as Gamer 1.
		Gamer 2	User's preference settings saved as Gamer 2.
		Gamer 3	User's preference settings saved as Gamer 3.
		Off	No optimization by Smart image game
	Shadow Control	0-100	Shadow Control Default is 50, then end-user can adjust from 50 to 100 or 0 to increase contrast for clear picture.  1. If picture is too dark to be saw the detail clearly, adjusting from 50 to100 for clear picture.  2. If picture is too white to be saw the detail clearly, adjusting from 50 to0 for clear picture
(C)	Low Input Lag	On/Off	Turn off frame buffer to decrease input lag
	Game Color	0-20	Game Color will provide 0-20 level for adjusting saturation to get better picture.
	Overdrive	Weak	
		Medium	Adjust the response time
		Strong	Adjust the response time.
		Off	
	AMD FreeSync	On/Off	Adjust the AMD FreeSync.
	Frame Counter	Off / Right-up / Right-Down / Left- Down / Left-Up	Display V frequency on the corner selected
	Dial Point	On/Off	The "Dial Point" function places an aiming indicator in the center of screen for helping gamers to play First Person Shooter (FPS) games with an accurate and precise aiming.

## Note:

When the "HDR Mode" under "Brightness" is set to a non-off state, the "Game Mode", "Dark Field Control", and "Game Tone" items under "Game Settings" cannot be adjusted.

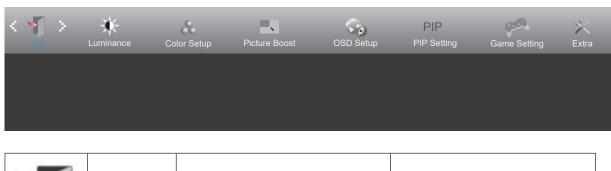
Dial Point and Frame Counter cannot be used under MUTE.

## **Extra**



	Input Select		Select Input Signal Source	
	Off timer	0-24hrs	Select DC off time	
Wide		Wide		
	4:3			
	Image Ratio	1:1	Select image ratio for display.	
	•	Movie1		
		Movie2		
	DDC/CI	Yes or No	Turn ON/OFF DDC/CI Support	
	Reset	Yes or No	Reset the menu to default	

## Exit



Exit		Exit the main OSD
------	--	-------------------

## **LED Indicator**

Status	LED Color
Full Power Mode	White
Active-off Mode	Orange

# **Troubleshoot**

Problem & Question	Possible Solutions		
Power LED Is Not ON	Make sure the power button is ON and the Power Cord is properly connected to a grounded power outlet and to the monitor.		
No images on the screen	<ul> <li>Is the power cord connected properly? Check the power cord connection and power supply.</li> <li>Is the cable connected correctly? (Connected using the VGA cable) Check the VGA cable connection. (Connected using the HDMI cable) Check the HDMI cable connection. (Connected using the DP cable) Check the DP cable connection. * VGA/HDMI/DP input is not available on every model.</li> <li>If the power is on, reboot the computer to see the initial screen (the login screen), which can be seen. If the initial screen (the login screen) appears, boot the computer in the applicable mode (the safe mode for Windows 7/8/10) and then change the frequency of the video card. (Refer to the Setting the Optimal Resolution) If the initial screen (the login screen) does not appear, contact the Service Center or your dealer.</li> <li>Can you see "Input Not Supported" on the screen? You can see this message when the signal from the video card exceeds the maximum resolution and frequency that the monitor can handle properly.</li> <li>Adjust the maximum resolution and frequency that the monitor can handle properly.</li> <li>Make sure the AOC Monitor Drivers are installed.</li> </ul>		
Picture Is Fuzzy & Has Ghosting Shadowing Problem	Adjust the Contrast and Brightness Controls.  Press to auto adjust.  Make sure you are not using an extension cable or switch box. We recommend plugging the monitor directly to the video card output connector on the back.		
Picture Bounces, Flickers Or Wave Pattern Appears In The Picture	Move electrical devices that may cause electrical interference as far away from the monitor as possible.  Use the maximum refresh rate your monitor is capable of at the resolution you are using.		
Monitor Is Stuck In Active Off- Mode"	The Computer Power Switch should be in the ON position. The Computer Video Card should be snugly fitted in its slot. Make sure the monitor's video cable is properly connected to the computer. Inspect the monitor's video cable and make sure no pin is bent. Make sure your computer is operational by hitting the CAPS LOCK key on the keyboard while observing the CAPS LOCK LED. The LED should either turn ON or OFF after hitting the CAPS LOCK key.		
Missing one of the primary colors (RED, GREEN, or BLUE)	Inspect the monitor's video cable and make sure that no pin is damaged.  Make sure the monitor's video cable is properly connected to the computer.		
Screen image is not centered or sized properly	Adjust H-Position and V-Position or press hot-key (AUTO).		
Picture has color defects (white does not look white)	Adjust RGB color or select desired color temperature.		
Horizontal or vertical disturbances on the screen	Use Windows 7/8/10 shut-down mode to adjust CLOCK and FOCUS. Press to auto-adjust.		
Regulation & Service	Please refer to Regulation & Service Information which is in the CD manual or www.aoc.com (to find the model you purchase in your country and to find Regulation & Service Information in Support page.		

# **Specification**

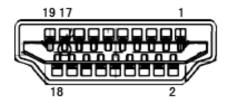
# **General Specification**

	Model name	U4309V			
Damel	Driving system	TFT Color LCD			
Panel	Viewable Image Size	108cm diagonal			
	Pixel pitch	0.2451mm(H) x 0.2451mn	n(V)		
	Horizontal scan range	30k-140kHz			
	Horizontal scan Size(Maximum)	941.184mm			
	Vertical scan range	23-75Hz			
	Vertical Scan Size(Maximum)	529.416mm			
Others	Max resolution	3840x2160@60Hz			
Others	Plug & Play	VESA DDC2B/CI			
	Power Source	100-240V~, 50/60Hz, 2.5A			
	Power Consumption	Typical(default brightness and contrast) 94W			
		Max. (brightness = 100, contrast =100)		≤ 170W	
		Standby mode		≤ 0.5W	
Physical	Connector Type	HDMI×2、DP、USB×4、USB-PC(USB upstream)、 Earphone		upstream)、	
Characteristics	Signal Cable Type	Detachable			
	Tomporatura	Operating	0°~ 40°		
	Temperature	Non-Operating	-25°~ 55°		
Environmental	Humidity	Operating	10% ~ 85% (non-condensing		
	i furnitity	Non-Operating	5% ~ 93% (non-condensing)		
	Altitude	Operating 0~ 5000 m (0~ 16404ft )		~ 16404ft )	
	Attitude	Non-Operating	0~ 12192m (0~ 40000ft )		

# **Preset Display Modes**

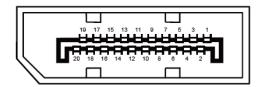
STANDARD	RESOLUTION	HORIZONTAL FREQUENCY(kHz)	VERTICAL FREQUENCY(Hz)	
	640x480@60Hz	31.469	59.94	
VGA	640x480@72Hz	37.861	72.809	
	640x480@75Hz	37.5	75	
	800x600@56Hz	35.156	56.25	
SVGA	800x600@60Hz	37.879	60.317	
SVGA	800x600@72Hz	48.077	72.188	
	800x600@75Hz	46.875	75	
	1024x768@60Hz	48.363	60.004	
XGA	1024x768@70Hz	56.476	70.069	
	1024x768@75Hz	60.023	75.029	
0.704	1280x1024@60Hz	63.981	60.02	
SXGA	1280x1024@75Hz	79.976	75.025	
MANCA	1440x900@60Hz	55.935	59.887	
WXGA+	1440x900@60Hz	55.469	59.901	
MOYOA	1680x1050@60Hz	65.29	59.954	
WSXGA	1680x1050@60Hz	64.674	59.883	
FHD	1920x1080@60Hz	67.5	60	
QHD	2560x1440@60Hz	88.787	59.951	
***	1920x2160@60Hz	133.293	59.988	
	3840x2160@30Hz	67.5	30	
UHD	3840x2160@50Hz	112.5	50	
	3840x2160@60Hz	135	60	
	IBM N	MODES		
DOS	720x400@70Hz	31.469	70.087	
	MAC I	MODES		
VGA	640x480@67Hz	35	66.667	
SVGA	832x624@75Hz	49.725 74.551		
XGA	1024x768@75Hz	60.241	74.927	

# **Pin Assignments**



## 19-Pin Color Display Signal Cable

Pin No.	Signal Name	Pin No.	Signal Name	Pin No.	Signal Name
1.	TMDS Data 2+	9.	TMDS Data 0-	17.	DDC/CEC Ground
2.	TMDS Data 2 Shield	10.	TMDS Clock +	18.	+5V Power
3.	TMDS Data 2-	11.	TMDS Clock Shield	19.	Hot Plug Detect
4.	TMDS Data 1+	12.	TMDS Clock-		
5.	TMDS Data 1Shield	13.	CEC		
6.	TMDS Data 1-	14.	Reserved (N.C. on device)		
7.	TMDS Data 0+	15.	SCL		
8.	TMDS Data 0 Shield	16.	SDA		



## 20-Pin Color Display Signal Cable

Pin No.	Signal Name	Pin No.	Signal Name
1	ML_Lane 3 (n)	11	GND
2	GND	12	ML_Lane 0 (p)
3	ML_Lane 3 (p)	13	CONFIG1
4	ML_Lane 2 (n)	14	CONFIG2
5	GND	15	AUX_CH(p)
6	ML_Lane 2 (p)	16	GND
7	ML_Lane 1 (n)	17	AUX_CH(n)
8	GND	18	Hot Plug Detect
9	ML_Lane 1 (p)	19	Return DP_PWR
10	ML_Lane 0 (n)	20	DP_PWR

# **Plug and Play**

## Plug & Play DDC2B Feature

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

The DDC2B is a bi-directional data channel based on the I2C protocol. The host can request EDID information over the DDC2B channel.