

# AOC

## LCD Monitor User Manual

**AG251FZ** LED backlight



**HDMI**®

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Safety.....	3
National Conventions.....	3
Power .....	4
Installation.....	5
Cleaning .....	6
Other.....	7
Setup .....	8
Contents in Box .....	8
Setup Stand & Base .....	9
Adjusting Viewing Angle.....	10
Using "MHL(Mobile High-Definition Link)" .....	11
Connecting the Monitor.....	12
System requirement.....	14
FreeSync function.....	14
Wall Mounting .....	15
Adjusting .....	16
Hotkeys.....	16
Quick Switch .....	17
OSD Setting.....	18
Luminance .....	19
Image Setup .....	20
Color Setup.....	21
Picture Boost .....	22
OSD Setup .....	23
Game Setting.....	24
Extra .....	25
Exit .....	26
LED Indicator .....	26
Troubleshoot .....	27
Specification .....	29
General Specification.....	29
Preset Display Modes.....	31
Pin Assignments .....	32
Plug and Play.....	34

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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.


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## 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 ~, Min. 5A

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

 For use only with the attached power adapter (Input: 100-240V~, 50-60Hz, 1.3A Output: 20Vdc, 4.5A)  
Manufacturers: TPV ELECTRONICS (FUJIAN) CO.,LTD. Model: ADPC2090

# 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.

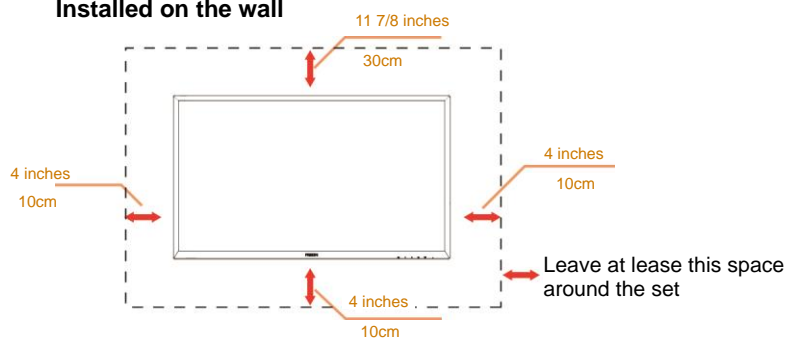
**!** If you mount the monitor on a wall or shelf, use a mounting kit approved by the manufacturer and follow the kit instructions.

**!** 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.

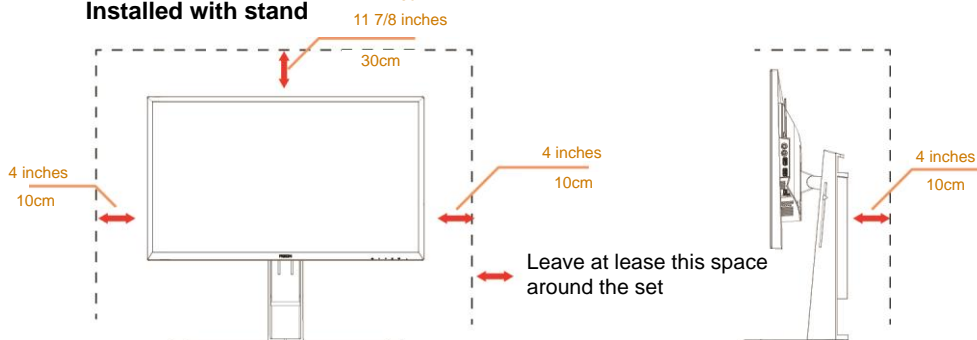
**!** To avoid potential damage, for example the panel peeling from the bezel, ensure that the monitor does not tilt downward by more than -5 degrees. If the -5 degree downward tilt angle maximum is exceeded, the monitor damage will not be covered under warranty.

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

## Installed on the wall





## Installed with stand




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## 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.


 Please disconnect the power cord before cleaning the product.





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## 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.

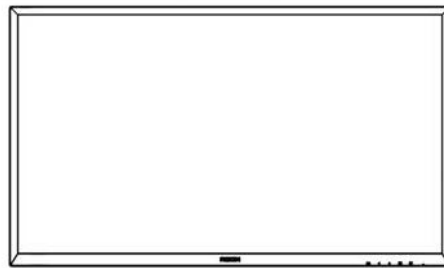
 Do not engage the LCD monitor in severe vibration or high impact conditions during operation.

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

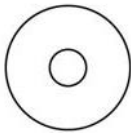
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# Setup

## Contents in Box



Monitor



CD manual



Warranty card



Stand



Base



Quick Switch Keypad



VESA bracket



Adapter



Power Cable



Audio Cable



Dual-Link  
DVI Cable



Analog cable



DP cable



HDMI cable



USB cable

\* Not all signal cables (Audio, Analog, DVI, USB, DP and HDMI cables) will be provided for all countries and regions. Please check with the local dealer or AOC branch office for confirmation.

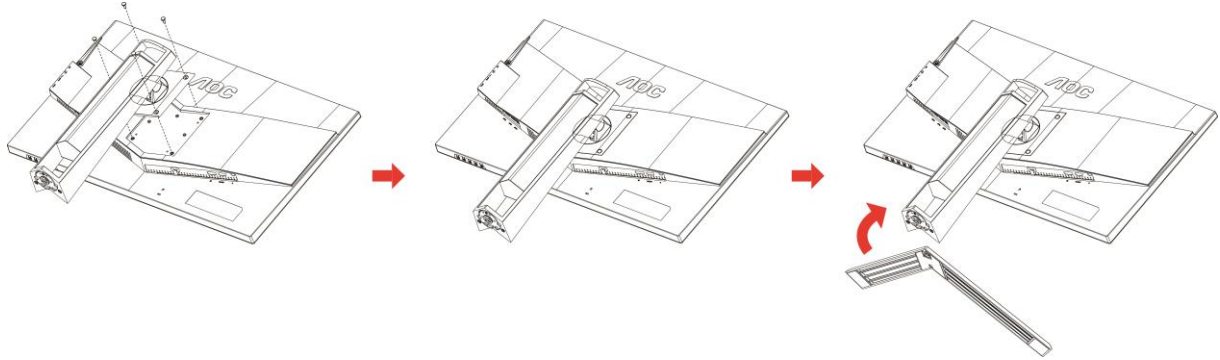


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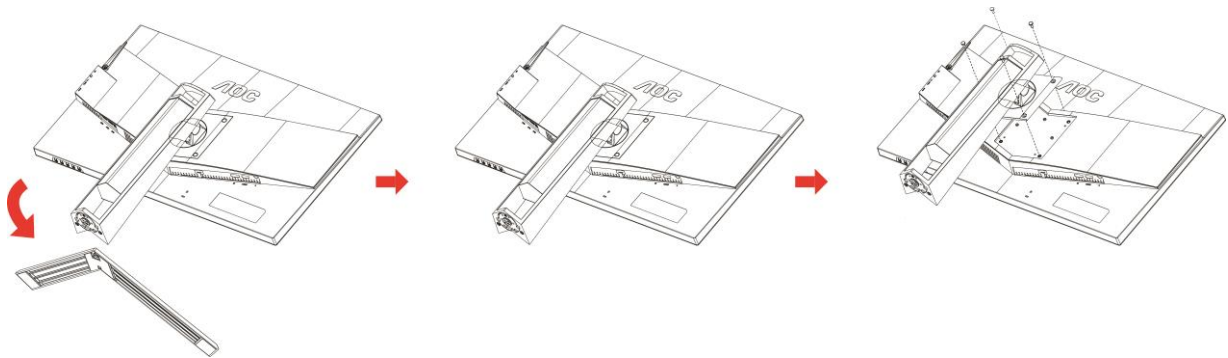
## Setup Stand & Base

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

Setup:



Remove:



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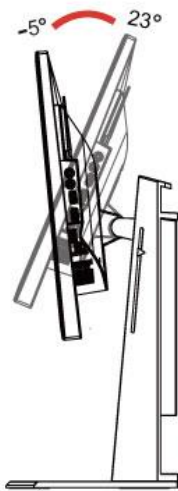
## Adjusting Viewing Angle

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.

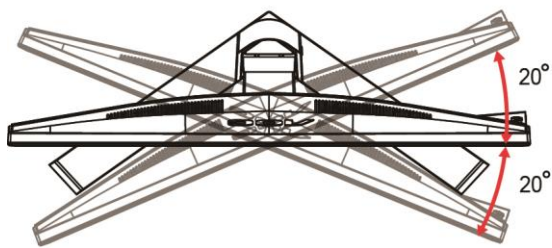
Hold the stand so you will not topple the monitor when you change the monitor's angle.

You are able to adjust the monitor as below:

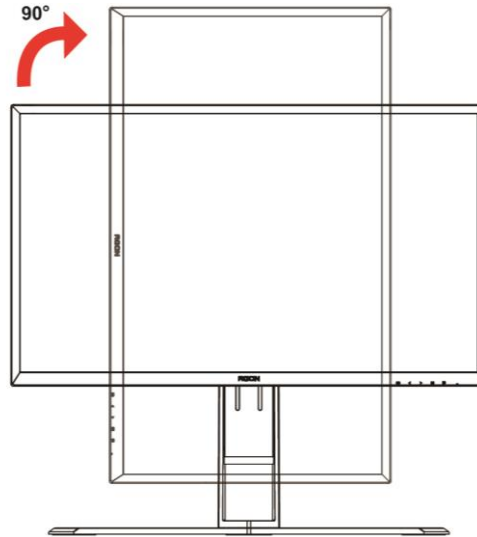
Tilt angle:  $-5^{\circ}$   $\sim$   $23^{\circ}$



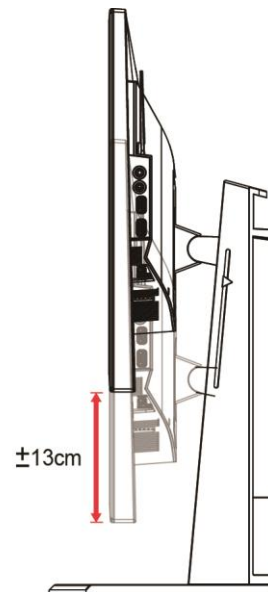
Swivel angle:  $-20^{\circ}$   $\sim$   $20^{\circ}$



Pivot angle:  $0^{\circ}$   $\sim$   $90^{\circ}$



Height adjustment: 130mm



### NOTE:

1. Do not touch the LCD screen when you change the angle. It may cause damage or break the LCD screen.
2. The scale on the stand can remember which location is your favorite.

### 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.

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## Using "MHL(Mobile High-Definition Link)"

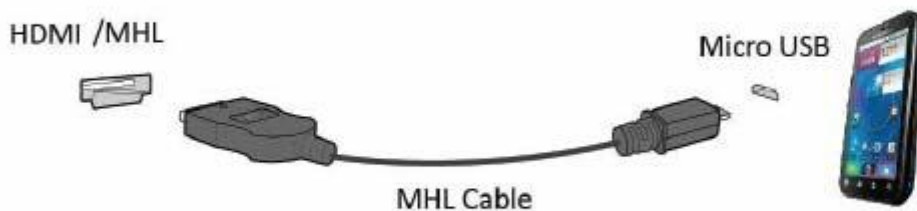
### 1."MHL" (Mobile High-Definition Link)


This feature allows you to enjoy videos and photos (imported from a connected mobile device that supports MHL) on the screen of the product.

- To use the MHL function, you need an MHL-certified mobile device. You can check if your mobile device is MHL certified on the device manufacturer's website. To find a list of MHL-certified devices, visit the official MHL website (<http://www.mhlconsortium.org>).
- To use the MHL function, the latest version of software must be installed on the mobile device.
- On some mobile devices, the MHL function may not be available depending on the device's performance or functionality.
- Since the display size of the product is larger than those of mobile devices, the picture quality may degrade.
- This product is officially MHL-certified. If you encounter any problem when using the MHL function, please contact the manufacturer of the mobile device.
- The picture quality may degrade when content (imported from the mobile device) with a low Resolution is played on the product.

### Using "MHL"

1. Connect the micro USB port on the mobile device to the [HDMI / MHL] port on the product using the MHL cable.



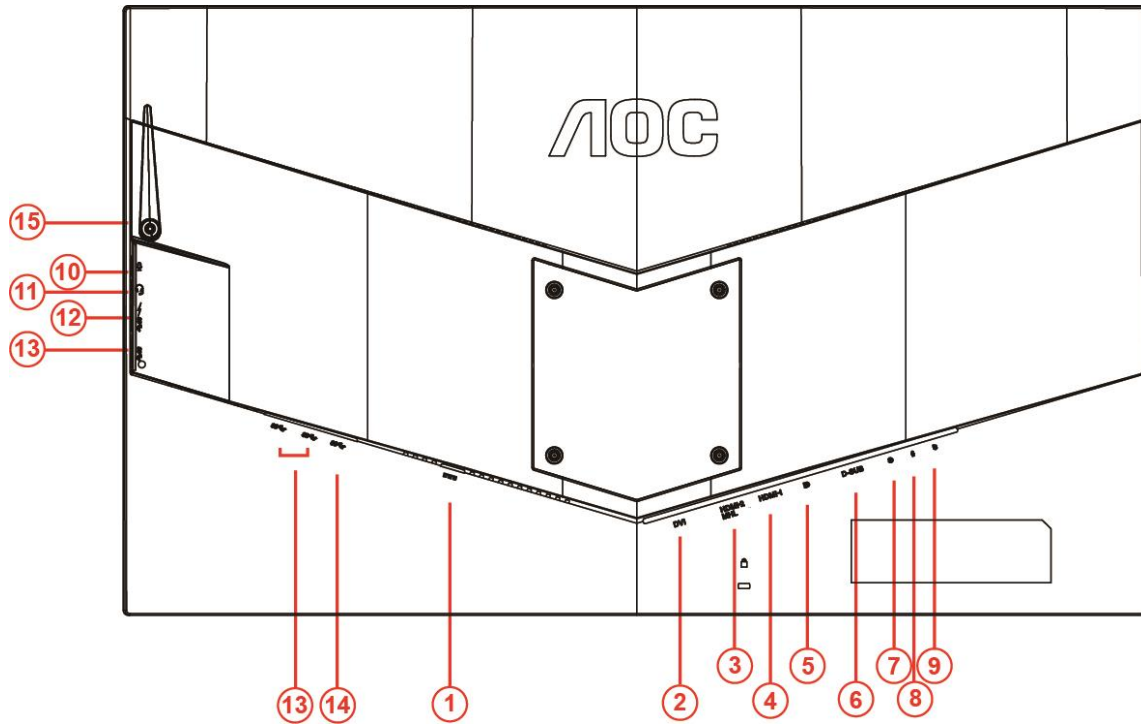
- When the MHL cable is used, [HDMI / MHL] is the only port on this monitor that supports the MHL function.
  - Mobile device must be purchased separately.
2. Connect the AC power cord to the product and a power outlet.
  3. Press the source button  and switch to HDMI /MHL to activate MHL mode.
  4. After about 3 seconds, the MHL screen will be displayed if MHL mode is active.
- Remark: The indicated time "3 sec later" may vary depending on the mobile device.

### When the mobile device is not connected or does not support MHL

- If MHL mode is not activated even though the mobile device supports MHL, check if mobile device MHL port is MHL standard port otherwise an additional MHL-enabled adapter is required.

# Connecting the Monitor

Cable Connections In Back of Monitor and Computer:



1	Power	9	Quick Switch port
2	DVI Dual-Link	10	Microphone in
3	HDMI-2(HDMI1.4)/MHL	11	Earphone( Combined with Microphone)
4	HDMI-1(HDMI2.0)	12	USB3.0 downstream + fast charging
5	DP	13	USB3.0 downstream
6	D-SUB	14	USB3.0 upstream
7	Audio line in	15	Headphone hook
8	Microphone out		

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

- 1 Connect the power cable to the DC port on the back of the monitor.
- 2 Connect one end of the 15-pin D-Sub cable to the back of the monitor and connect the other end to the computer's D-Sub port.
- 3 (Optional – Requires a video card with DVI port) - Connect one end of the DVI cable to the back of the monitor and connect the other end to the computer's DVI port.
- 4 (Optional – Requires a video card with HDMI port) - Connect one end of the HDMI cable to the back of the monitor and connect the other end to the computer's HDMI port.
- 5 (Optional –Requires a video card with Audio port) - Connect one end of the Audio cable to the back of the monitor and connect the other end to the computer's Audio port.

- 
- 6 (Optional–Requires a video card with DP port) –Connect one end of the DP cable to the back of the monitor and connect the other end to the computer’s DP port.
  - 7 Turn on your monitor and computer.
  - 8 Video content supporting resolution:
    - VGA/MHL:1920x1080@ 60Hz(Maximum)
    - DVI Dual-Link/HDMI1.4: 1920x1080@144Hz(Maximum)
    - HDMI2.0/DP:1920x1080@240Hz(Maximum)

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

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# System requirement

## FreeSync function

1. FreeSync function is working with DP/HDMI1/HDMI2

- DP : 48~240Hz
- HDMI1:48~240Hz(HDMI2.0)
- HDMI2: 48~120Hz(HDMI1.4)

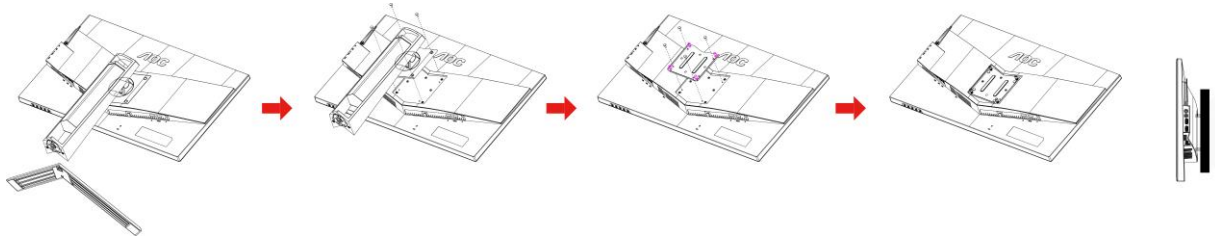
2. Compatible Graphics Card: Recommend list is as the below, also could be checked by visiting [www.AMD.com](http://www.AMD.com)

- AMD Radeon R9 295X2
- AMD Radeon R9 290X
- AMD Radeon R9 290
- AMD Radeon R9 285
- AMD Radeon R7 260X
- AMD Radeon R7 260

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## Wall Mounting

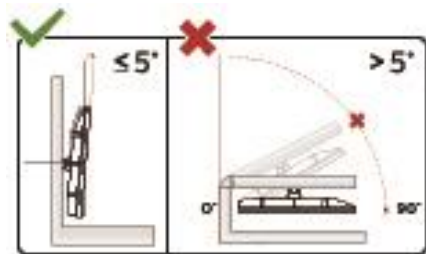
Preparing to Install An Optional Wall Mounting Arm.



This monitor can be attached to a wall mounting arm you purchase separately. Disconnect power before this procedure. Follow these steps:

- 1 Remove the base.
- 2 Follow the manufacturer's instructions to assemble the wall mounting arm.
- 3 Place the wall mounting arm onto the back of the monitor. Line up the holes of the arm with the holes in the back of the monitor.
- 4 Insert the 4 screws into the holes and tighten.
- 5 Reconnect the cables. Refer to the user's manual that came with the optional wall mounting arm for instructions on attaching it to the wall.

Noted: VESA mounting screw holes are not available for all models, please check with the dealer or official department of AOC.



\* Display design may differ from those illustrated.

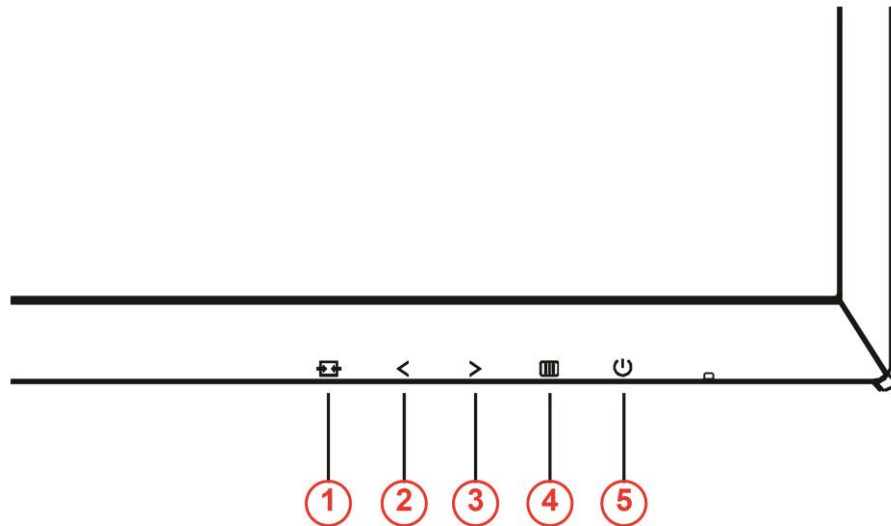
### WARNING:

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.

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# Adjusting

## Hotkeys



1	Source/Auto/Exit
2	Game Mode/<
3	Shadow Control />
4	Menu/Enter
5	Power

### Power

Press the Power button to turn on/off the monitor.

### Menu/Enter

Press to display the OSD or confirm the selection.

### Shadow Control />

When there is no OSD, Press Shadow Control button to active Shadow Control adjustment bar, Press < or > to adjust contrast for clear picture.

### Game Mode /<

When there is no OSD, press the minus key to open game mode function, then press < or > key to select game mode (FPS, RTS, Racing, Gamer 1, Gamer 2 or Gamer 3) basing on the different game types.

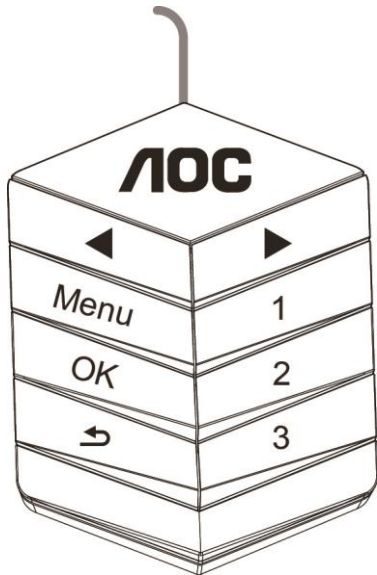
### Source/Auto/Exit



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When there is no OSD, press Auto/Source button continuously about 2 second to do auto configure. When the OSD is closed, press Source button will be Source hot key function. Press Source button continuously to select the input source showed in the message bar, press Menu/Enter button to change to the source selected.

## Quick Switch



◀:

When there is no OSD, press the ◀ button to open game mode function, then press ◀ or ▶ key to select game mode (FPS, RTS, Racing, Gamer 1, Gamer 2 or Gamer 3) basing on the different game types.

▶:

When there is no OSD, Press ▶ button to active Shadow Control adjustment bar, Press ◀ or ▶ to adjust contrast for clear picture.

**Menu:**

Press the Menu button to display the menu

**OK:**

Press the OK button to confirm the selection.

↶:

Press the ↶ button to exit.

When there is no OSD, press ↶ continuously about 2 second to do auto configure. When the OSD is closed, press ↶ button will be Source hot key function. Press ↶ button continuously to select the input source showed in the message bar, press OK button to change to the source selected.

**1:**

Press the 1 button to select Gamer 1 mode

**2:**

Press the 2 button to select Gamer 2 mode









**3:**

Press the 3 button to select Gamer 3 mode

# OSD Setting

Basic and simple instruction on the control keys.








- 1) Press the -button to activate the OSD window.
- 2) Press< or >to navigate through the functions. Once the desired function is highlighted, press the -button to activate it . press< or >to navigate through the sub-menu functions. Once the desired function is highlighted, press -button to activate it.
- 3) Press< or >to change the settings of the selected function. Press  to exit. If you want to adjust any other function, repeat steps 2-3.
- 4) OSD Lock Function: To lock the OSD, press and hold the button while the monitor is off and then press button to turn the monitor on. To un-lock the OSD - press and hold the button while the monitor is off and then press button to turn the monitor on.


## 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), DCR, DCB mode and Picture Boost, for these four states that only one state can exist.

## Luminance









1. Press  (Menu) to display menu.
2. Press < or > to select  (Luminance), and press  to enter.
3. Press < or > to select submenu, and press  to enter.
4. Press < or > to adjust.
5. Press  to exit.

	Contrast	0-100	Contrast from Digital-register.	
	Brightness	0-100	Backlight Adjustment	
	Eco mode	Standard		Standard Mode
		Text		Text Mode
		Internet		Internet Mode
		Game		Game Mode
		Movie		Movie Mode
		Sports		Sports Mode
	Gamma	Gamma1		Adjust to Gamma1
		Gamma2		Adjust to Gamma 2
		Gamma3		Adjust to Gamma 3
	DCR	Off		Disable dynamic contrast ratio
		On		Enable dynamic contrast ratio

## Image Setup



1. Press  (Menu) to display menu.
2. Press < or > to select  (Image Setup), and press  to enter.
3. Press < or > to select submenu, and press  to enter.
4. Press < or > to adjust.
5. Press  to exit.

	Clock	0-100	Adjust picture Clock to reduce Vertical-Line noise.
	Phase	0-100	Adjust Picture Phase to reduce Horizontal-Line noise
	Sharpness	0-100	Adjust picture sharpness
	H.Position	0-100	Adjust the horizontal position of the picture.
	V.Position	0-100	Adjust the vertical position of the picture.

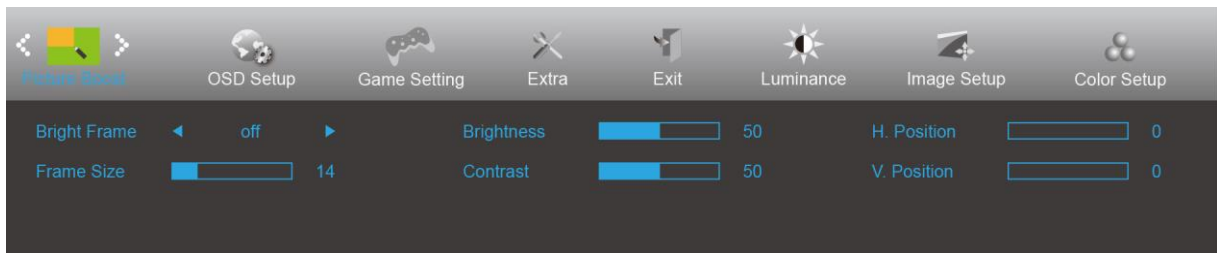
## Color Setup









1. Press (Menu) to display menu.
2. Press < or > to select (Color Setup), and press to enter.
3. Press < or > to select submenu, and press to enter.
4. Press < or > to adjust.
5. Press to exit.

	Color Temp.	Warm		Recall Warm Color Temperature from EEPROM.
		Normal		Recall Normal Color Temperature from EEPROM.
		Cool		Recall Cool Color Temperature from EEPROM.
		sRGB		Recall sRGB Color Temperature from EEPROM.
		User	Red	
	Green			Green Gain Digital-register.
	Blue			Blue Gain from Digital-register
	DCB Mode	Off		Disable DCB Mode
		Full Enhance		Enable Full Enhance Mode
		Nature Skin		Enable Nature Skin Mode
		Green Field		Enable Green Field Mode
Sky-blue			Enable Sky-blue Mode	
AutoDetect			Enable AutoDetect Mode	
DCB Demo	On/Off		Disable or Enable Demo	

## Picture Boost



1. Press  (Menu) to display menu.
2. Press < or > to select  (Picture Boost), and press  to enter.
3. Press < or > to select submenu, and press  to enter.
4. Press < or > to adjust.
5. Press  to exit.






	Bright Frame	on or off	Disable or Enable Bright Frame
	Frame Size	14-100	Adjust Frame Size
	Brightness	0-100	Adjust Frame Brightness
	Contrast	0-100	Adjust Frame Contrast
	H. position	0-100	Adjust Frame horizontal Position
	V. position	0-100	Adjust Frame vertical Position


### Note:

Adjust the brightness, contrast, and position of the Bright Frame for better viewing experience.

## OSD Setup









1. Press  (Menu) to display menu.
2. Press < or > to select  (OSD Setup), and press  to enter.
3. Press < or > to select submenu, and press  to enter.
4. Press < or > to adjust.
5. Press  to exit.

	Language		Select the OSD language .
	Timeout	5-120	Adjust the OSD Timeout.
	H.Position	0-100	Adjust the horizontal position of OSD.
	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.
	DP Capability	1.1/1.2	If the DP video content supports DP1.2, please select DP1.2 for DP Capability; otherwise, please select DP1.1.
	Volume	0-100	Volume Adjustment.

## Game Setting








1. Press  (Menu) to display menu.
2. Press < or > to select , and press  to enter.
3. Press < or > to select submenu, and press  to enter.
4. Press < or > to adjust.
5. Press  to exit.


	Game Mode	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.
		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 SmartImage 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.
	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.
LowBlue Mode	Off/Weak/ Medium/Strong	Decrease blue light wave by controlling color temperature.	
Overdrive	Weak	Adjust the response time.	
	Medium		
	Strong		
	Off		



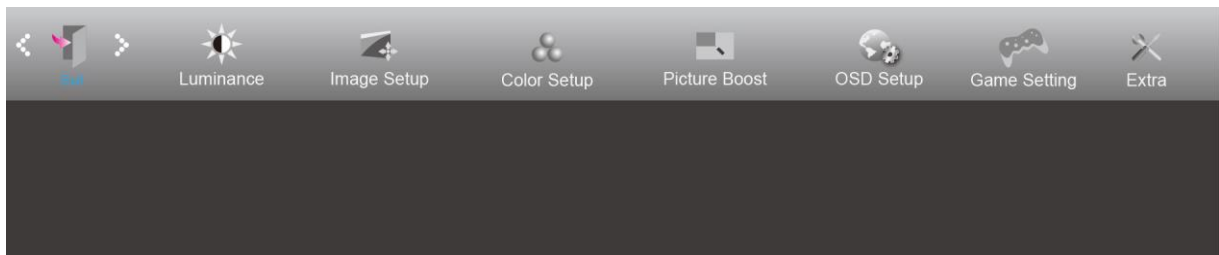
## Extra







1. Press  (Menu) to display menu.
2. Press < or > to select  (Extra), and press  to enter.
3. Press < or > to select submenu, and press  to enter.
4. Press < or > to adjust.
5. Press  to exit.

	Input Select	AUTO/D-SUB/DVI/HDMI1/HDMI2-MHL/DP	Select Input Signal Source.
	Auto Config	yes or no	Auto adjust the picture to default.
	Off timer	0-24hrs	Select DC off time.
	Image Ratio	Wide/4:3/1:1/17"(4:3) /19"(4:3) /19"(5:4) /19"W(16:10)/21.5"W(16:9) /22"W(16:10)/23"W(16:9) /23.6"W(16:9)/24" W(16:9)	Select image ratio for display.
	DDC/CI	yes or no	Turn ON/OFF DDC/CI Support.
	Reset	Yes/ENERGY STAR®	Reset the menu to default. (ENERGY STAR® available for selective models)
		no	
Information		Show the information of the main image and sub-image source.	

## Exit



1. Press  (Menu) to display menu.
2. Press < or > to select  (Exit), and press  to enter.
3. Press  to exit.

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

## LED Indicator

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

# Troubleshoot

Problem & Question	Possible Solutions
<b>Power LED Is Not ON</b>	Make sure the power button is ON and the Power Cord is properly connected to a grounded power outlet and to the monitor.
<b>No images on the screen</b>	<ul style="list-style-type: none"> <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 D-sub cable) Check the DB-15 cable connection. (Connected using the DVI cable) Check the DVI cable connection. * DVI 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. Adjust the maximum resolution and frequency that the monitor can handle properly.</li> <li>• Make sure the AOC Monitor Drivers are installed.</li> </ul>
<b>Picture Is Fuzzy &amp; Has Ghosting Shadowing Problem</b>	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 .
<b>Picture Bounces, Flickers Or Wave Pattern Appears In The Picture</b>	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 your are using.
<b>Monitor Is Stuck In Active Off-Mode"</b>	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.
<b>Missing one of the primary colors (RED, GREEN, or BLUE)</b>	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.
<b>Screen image is not centered or sized properly</b>	Adjust H-Position and V-Position or press hot-key (AUTO).
<b>Picture has color defects (white does not look white)</b>	Adjust RGB color or select desired color temperature.
<b>Horizontal or vertical disturbances on the screen</b>	Use Windows 7/8/10 shut-down mode to adjust CLOCK and FOCUS. Press to auto-adjust.
<b>DP (V1.2) image anomalies</b>	Please DP in the OSD menu is set to 1.1 or reset.

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<b>Regulation &amp; Service</b>	Please refer to Regulation & Service Information which is in the CD manual or <a href="http://www.aoc.com">www.aoc.com</a> (to find the model you purchase in your country and to find Regulation & Service Information in Support page).
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# Specification

## General Specification

Panel	Model name	AG251FZ		
	Driving system	TFT Color LCD		
	Viewable Image Size	62.2 cm diagonal		
	Pixel pitch	0.2832mm(H) x 0.2802mm(V)		
	Video	R, G, B Analog Interface & DVI interface & HDMI Interface & DP Interface		
	Separate Sync.	H/V TTL		
	Display Color	16.7M Colors		
Others	Horizontal scan range	30k-83kHz(D-SUB/MHL) 30k-160kHz(DVI Dual-Link/HDMI1.4b) 30k-255kHz(HDMI2.0/DP)		
	Horizontal scan Size(Maximum)	543.744mm		
	Vertical scan range	23-76Hz(MHL) 50-76Hz(D-SUB) 50-146Hz(DVI Dual-Link/HDMI1.4b) 48-242Hz(HDMI2.0/DP)		
	Vertical Scan Size(Maximum)	302.616mm		
	Optimal preset resolution	1920x1080@60Hz(D-SUB/MHL) 1920x1080@144Hz(DVI Dual-Link/HDMI1.4b) 1920x1080@240Hz(HDMI2.0/DP)		
	Plug & Play	VESA DDC2B/C1		
	Input Connector	VGA /DVI Dual-Link/HDMI/MHL/DP/Audio input/USB		
	Input Video Signal	Analog: 0.7Vp-p(standard), 75 OHM, TMDS		
	Output Connector	Earphone/Microphone out		
	Power Source	20Vdc, 4.5A		
	Power Consumption	Typical(Brightness = 90,Contrast = 50)	30W	
		(brightness = 100, contrast =100)	≤70W	
		Standby mode	≤0.5W	
Off timer	0~24 hrs			
Speakers	3W x 2			
Physical Characteristics	Connector Type	VGA/DVI Dual-Link/HDMI/MHL/DP/Audio input/Earphone out/Microphone in/Microphone out/USB3.0		
	Signal Cable Type	Detachable		
	Dimensions & Weight:			
	Height(with Base)	415~545mm		
	Width	567mm		
	Depth(with Base)	218mm		
	Weight(Monitor only)	6.5Kg		

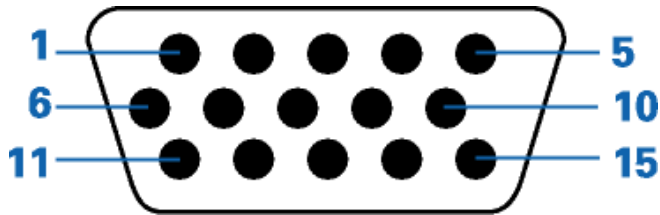
Environmental	Temperature	Operating	0°C ~ 40°C
		Non-Operating	-25°C ~ 55°C
	Humidity	Operating	10% ~ 85% (non-condensing)
		Non-Operating	5% ~ 93% (non-condensing)
	Altitude	Operating	0~ 5000 m (0~ 16404ft )
		Non-Operating	0~ 12192m (0~ 40000ft )



## Preset Display Modes

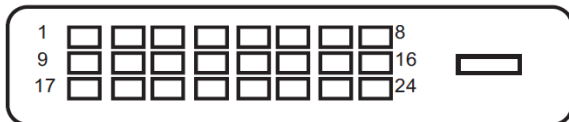
STANDARD	RESOLUTION	HORIZONTAL FREQUENCY(kHZ)	HORIZONTAL FREQUENCY(Hz)	SOURCE
VGA	640x480@60Hz	31.469	59.94	ALL
	640x480@72Hz	37.861	72.809	ALL
	640x480@75Hz	37.5	75	ALL
	640x480@67Hz	35	66.667	ALL
	640x480@100Hz	51.08	99.769	ALL
	640x480@120Hz	61.91	119.518	ALL
Dos	720x400@70Hz	31.469	70.087	ALL
SVGA	800x600@56Hz	35.156	56.25	ALL
	800x600@60Hz	37.879	60.317	ALL
	800x600@72Hz	48.077	72.188	ALL
	800x600@75Hz	46.875	75	ALL
	800x600@100Hz	63.68	99.662	ALL
	800x600@120Hz	77.43	119.854	ALL
XGA	1024x768@60Hz	48.363	60.004	ALL
	1024x768@70Hz	56.476	70.069	ALL
	1024x768@75Hz	60.023	75.029	ALL
	1024x768@100Hz	81.58	99.972	ALL
	1024x768@120Hz	98.96	119.804	ALL
SXGA	1280x1024@60Hz	63.981	60.02	ALL
	1280x1024@75Hz	79.976	75.025	ALL
Full HD	1920x1080@60Hz	67.5	60	ALL
	1920×1080@100Hz	114.6	99.898	DVI/HDMI/DP
	1920×1080@120Hz	139.1	119.93	DVI/HDMI/DP
	1920×1080@144Hz	158.1	144	DVI/HDMI/DP
	1920×1080@240Hz	274.52	239.964	HDMI1(HDMI2.0)/DP

## Pin Assignments



### 15-Pin Color Display Signal Cable

Pin Number	15-Pin Side of the Signal Cable	Pin Number	15-Pin Side of the Signal Cable
1	Video-Red	9	+5V
2	Video-Green	10	Ground
3	Video-Blue	11	N.C.
4	N.C.	12	DDC-Serial data
5	Detect Cable	13	H-sync
6	GND-R	14	V-sync
7	GND-G	15	DDC-Serial clock
8	GND-B		



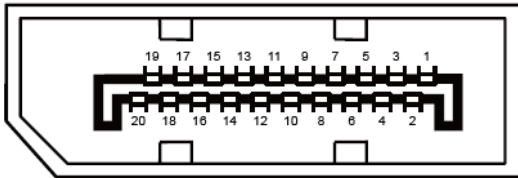
### 24-Pin Color Display Signal Cable

Pin No.	Signal Name	Pin No.	Signal Name
1	TMDS data 2-	13	TMDS data 3+
2	TMDS data 2+	14	+5V Power
3	TMDS data 2/4 Shield	15	Ground (for+5V)
4	TMDS data 4-	16	Hot Plug Detect
5	TMDS data 4+	17	TMDS data 0-
6	DDC Clock	18	TMDS data 0+
7	DDC Data	19	TMDS data 0/5 Shield
8	N.C.	20	TMDS data 5-
9	TMDS data 1-	21	TMDS data 5+
10	TMDS data 1+	22	TMDS Clock Shield
11	TMDS data 1/3 Shield	23	TMDS Clock +
12	TMDS data 3-	24	TMDS Clock -





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

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# 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.