

LCD Monitor User Manual 24E1Q/24P1U/24P1/X24P1

LED backlight



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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 ~, Min. 5A

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

Installation

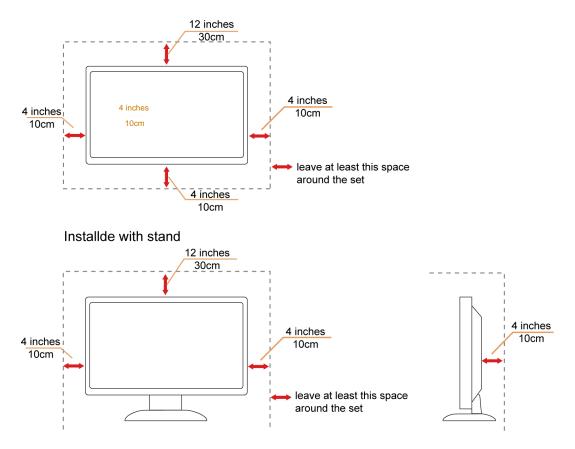
Do not place the monitor on an unstable cart, stand, tripod, bracket, or table. If the monitor falls, it can injure a person and cause serious damage to this product. Use only a cart, stand, tripod, bracket, or table recommended by the manufacturer or sold with this product. Follow the manufacturer's 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.

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

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.

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



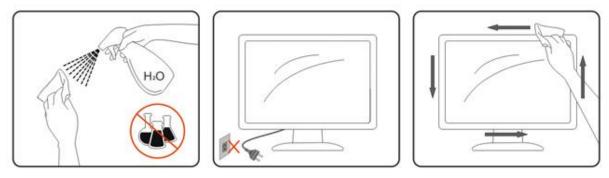
Installde on the wall

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.



Other

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

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

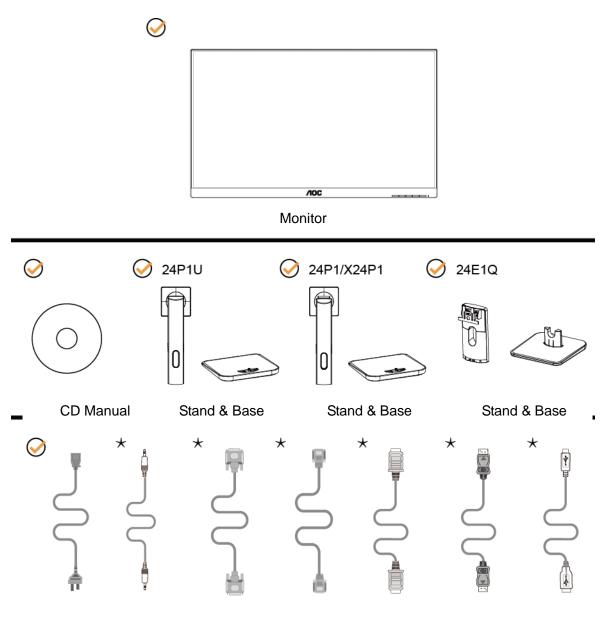
L Do not engage the LCD monitor in severe vibration or high impact conditions during operation.

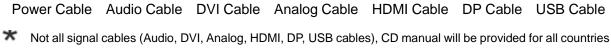
L Do not knock or drop the monitor during operation or transportation.

For display with glossy bezel the user should consider the placement of the display as the bezel may cause disturbing reflections from surrounding light and bright surfaces.

Setup

Contents in Box



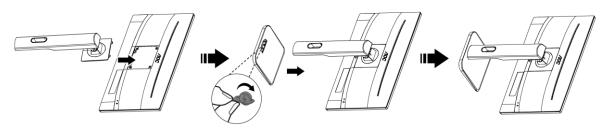


and regions. Please check with the local dealer or AOC branch office for confirmation.

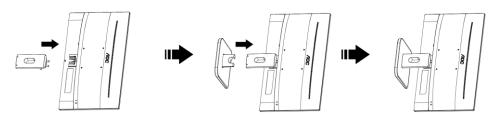
Setup Base

Please setup or remove the base following the steps as below. Please place the monitor on a soft and flat surface to prevent the scratch.

Setup: 24P1/24P1U/X24P1

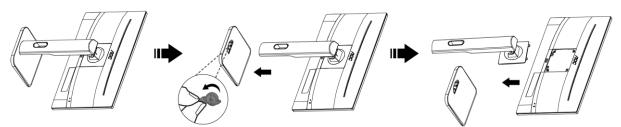


24E1Q

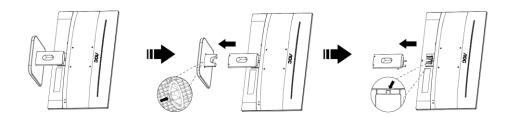


Remove:

24P1U/24P1/X24P1



24E1Q

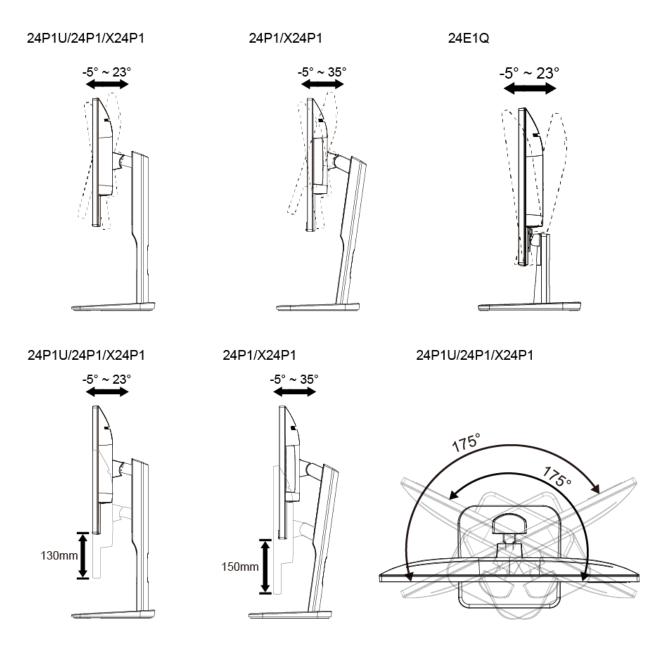


Adjusting the monitor

For optimal viewing, it is recommended to look at the full face of the monitor, and 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.

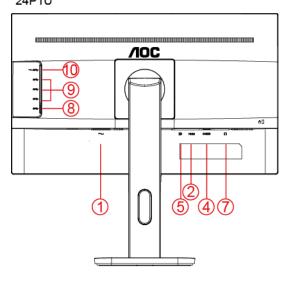
You can adjust the monitor's angle from -5° to $+23^{\circ}$ and it allows 175° swivel adjustment from either left or right. You can also adjust the monitor's height within +/-130mm.



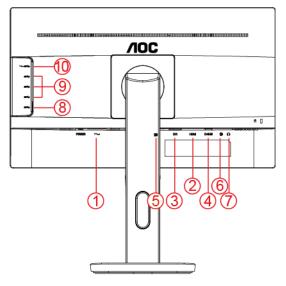
Do not touch the LCD screen when you change the angle. It may cause damage or break the LCD screen.

Connecting the Monitor

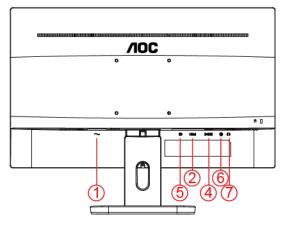
Cable Connections In Back of Monitor and Computer: 24P1U



24P1/X24P1



24E1Q



- 1 Power
- 2 HDMI
- 3 DVI
- 4 Analog (D-Sub 15-Pin VGA cable)
- 5 DP
- 6 Audio in
- 7 Earphone out
- 8 USB upstream
- 9 USB downstream
- 10 USB charging

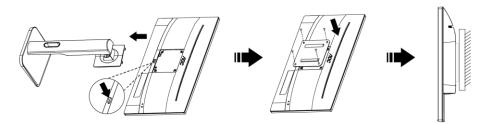
To protect equipment, always turn off the PC and LCD monitor before connecting.

- 1. Connect the power cable to the AC 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 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.
- 4. (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.
- 5. (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.
- (Optional Requires a video card with USB port) Connect one end of the USB cable to the back of the monitor and connect the other end to the computer's USB port.
- 7. (Optional)Connect the audio cable to audio in port on the back of the monitor
- 8. Turn on your monitor and computer.
- 9. Video content supporting resolution: VGA/DVI/HDMI/DP

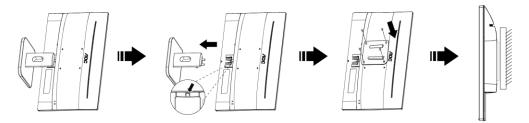
If your monitor displays an image, installation is complete. If it does not display an image, please refer Troubleshooting.

Wall Mounting

Preparing to Install An Optional Wall Mounting Arm. 24P1/24P1U/X24P1



24E1Q



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.

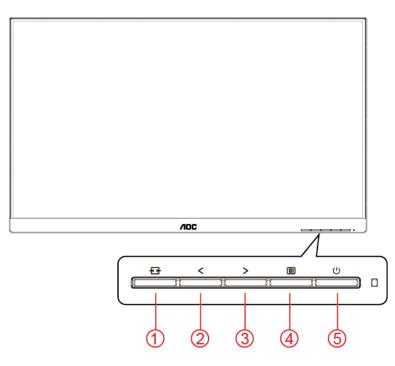
4. Insert the 4 screws into the holes and tighten.

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.

Adjusting

Hotkeys



24P1U

| 1 | Source/Auto/Exit |
|---|------------------------|
| 2 | Clear Vision/- |
| 3 | Volume / Image Ratio/+ |
| 4 | Menu/Enter |
| 5 | Power |

24P1/X24P1/24E1Q

| 1 | Source/Auto/Exit |
|---|------------------|
| 2 | Clear Vision/- |
| 3 | Volume/+ |
| 4 | Menu/Enter |
| 5 | Power |

Source/Auto/Exit

When the OSD is closed, press "

When the OSD is closed, press " the button continuously about 2 second to do auto configure (Only for the models with D-Sub).

Volume

When there is no OSD, press " > " to active volume adjustment bar, press < or > to adjust volume (Only for the models with Audio)

Menu/Enter

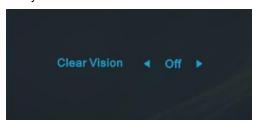
When there is no OSD, Press to display the OSD or confirm the selection. Press about 2 second to turn off the monitor

Power

Press the Power button to turn on the monitor.

Clear Vision

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



Press and hold " < " 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 " < " 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.

OSD Setting

Basic and simple instruction on the control keys.

| K Kateria Kate | Image Setup | Color Setup | Picture Boost | OSD Setup |)X Extra | Exit |
|--|--------------------------------|-------------|-----------------------------|-----------|-------------|------|
| Contrast | 50 | Gamma | Gamma 1 | | | |
| Brightness | 50 | DCR | ♦ Off | | | |
| Eco mode | ✓ Standard | Overdrive | ● Off | | | |

- 1. Press the **III** MENU-button to activate the OSD window.
- 2. Press < or > to navigate through the functions. Once the desired function is highlighted,

press the \blacksquare to activate it. If there is a sub-menu, press $\langle I \rangle$ to navigate through the sub-menu functions.

- 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 MENU-button while the monitor is off and then press U power button to turn the monitor on. To un-lock the OSD press and hold the MENU-button while the monitor is off and then press U power button to turn the monitor on.

Notes:

- 1. If the product has only one signal input, the item of "Input Select" is disabled.
- 2. If the product screen size is 4:3 or input signal resolution is native resolution, the item of "Image Ratio" is disabled.
- 3. One of Clear vision, DCR, Color Boost, and Picture Boost functions is activated; the other three functions are turned off accordingly.

Luminance

| < to state the state of the sta | Image Setup | Color Setup | Picture Boost | OSD Setup |)X Extra | Exit |
|--|--------------------------------|-------------|-----------------------------|-----------|-------------|------|
| Contrast | 50 | Gamma | Gamma 1 | | | |
| Brightness | 50 | DCR | ♦ Off | | | |
| Eco mode | ✓ Standard | Overdrive | < Off | | | |

| | Contrast | 0-100 | | Contrast from Digital-register. | |
|-----|------------|----------|-----|---------------------------------|--|
| | Brightness | 0-100 | | Backlight Adjustment | |
| | | Standard | > | Standard Mode | |
| | | Text | T | Text Mode | |
| | Eco mode | Internet | e | Internet Mode | |
| | Ecomode | Game | | Game Mode | |
| 1 | | Movie | Ø | Movie Mode | |
| -0- | | Sports | R | Sports Mode | |
| | | Gamma1 | | Adjust to Gamma 1 | |
| | Gamma | Gamma2 | | Adjust to Gamma 2 | |
| | | Gamma3 | | Adjust to Gamma 3 | |
| | | Off | | Disable dynamic contrast ratio | |
| | DCR | On | DCR | Enable dynamic contrast ratio | |
| | | Weak | · | | |
| | Overdrive | Medium | | Adjust the response time | |
| | Overarive | Strong | | Adjust the response time. | |
| | | Off | | | |

Image Setup



| 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

| Color Setup | Picture Boo | SSD Setup | X Extra | Exit | Luminance | The setup |
|-------------|-------------|-----------|------------|------|----------------|-----------|
| Color Temp. | | | | | LowBlue Mode 🖪 | Off 🕨 |
| DCB Mode | Off | | | | | |
| DCB Demo | Off | | | | | |

| | | Warm | | Recall Warm Color Temperature from EEPROM. |
|--|-----------------|--------------|--------|---|
| | | Normal | | Recall Normal Color Temperature from EEPROM. |
| | Color Temp. | Cool | | Recall Cool Color Temperature from EEPROM. |
| | | sRGB | | Recall SRGB Color Temperature from EEPROM. |
| | | User | | Recall User Color Temperature from EEPROM |
| | | Full Enhance | ON/OFF | Disable or Enable Full Enhance Mode. |
| | | Nature Skin | ON/OFF | Disable or Enable Nature Skin Mode. |
| | DCB Mode | Green Field | ON/OFF | Disable or Enable Green Field Mode. |
| | | Sky-blue | ON/OFF | Disable or Enable Sky-blue Mode. |
| | | AutoDetect | ON/OFF | Disable or Enable AutoDetect Mode. |
| | DCB Demo | | ON/OFF | Disable or Enable Demo. |
| | Red | | 0-100 | Red gain from Digital-register. |
| | Green | | 0-100 | Green gain from Digital-register. |
| | Blue | | 0-100 | Blue gain from Digital-register. |
| | | Multimedia | | |
| | | Internet | | |
| | LowBlue Mode | Office | | Decrease blue light wave by controlling color temperature |
| | | Reading | | |
| | | Off | | |

Picture Boost



| | Bright Frame | ON/OFF | Enable/Disable Bright Frame |
|----------|--------------|--------|---|
| | Frame Size | 14-100 | Adjust the Size of the Frame |
| | Brightness | 0-100 | Brightness Adjustment for Enhance Area |
| N | Contrast | 0-100 | Contrast Adjustment for Enhance Area |
| | H. position | 0-100 | Adjust the horizontal position of the Frame |
| | V. position | 0-100 | Adjust the vertical position of the Frame |

Note:

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

OSD Setup

| < 😪 > OSD Setup | ≻ xtra | | T Exit | Luminance | Image Setu | p Color Setup | Pict | ure Boost |
|--------------------|-----------|---|------------------|-----------|------------|------------------|------|-----------|
| Language | English | • | H. Position | | 50 | Transparence | |] 25 |
| Timeout | | | V. Position | | | Break Reminder ◀ | Off | • |
| | | | | | | | | |

| Language | English, France, Spanish, Portugues, German, Italian, Dutch, Swedish, Finnish, Polish, Czech, Russia, Korea, TChina, SChina, Japanese. | Select the OSD language. | |
|------------------|--|--|--|
| Timeout | 5-120 | Adjust the OSD timeout. | |
| V. Position | 0-100 | Adjust the vertical position of the OSD. | |
| Transparence | 0-100 | Adjust the OSD. | |
| H. Position | 0-100 | Adjust the horizontal position of the OSD. | |
| Break Reminder | on or off | Break reminder if the user continuously work for more than 1hrs. | |

Extra

| < 🔆 > | Exit | | Luminance | Image S | | Color Setup | Picture Boost | OSD Setup |
|--------------|------|---|-------------|---------|------|-------------|-------------------------|-----------|
| Input Select | Auto | | Image Ratio | 4 | wide | • | Resolution : 1920(H)X10 |)80(V) |
| Auto Config. | Yes | | DDC/CI | • | Yes | | H. Frequency : 67KHz | |
| Off Timer | 00 | ۲ | Reset | • | No | • | V. Frequency : 60Hz | |

| Input Select | 24P1U: Auto/D-SUB/HDMI/DP 24P1: Auto/D-SUB/HDMI/DVI/DP X24P1: Auto/D-SUB/HDMI/DVI /DP 24E1Q: Auto/D-SUB/HDMI/DP | Select input signal source. |
|--------------|--|--|
| Auto Config. | Yes / No | Auto adjust. the picture to default. |
| Off Timer | 0-24 hrs | Select DC off time. |
| Image Ratio | wide or 4:3 | Select wide or 4:3 format for display. |
| DDC/CI | Yes / No | Turn on or off DDC/CI Support. |
| Reset | Yes / No | Reset the menu to default. |

Exit



LED Indicator

| Status | LED Color | |
|-----------------|-----------|--|
| Full Power Mode | White | |
| Power Saving | 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 | Is the power cord connected properly? Check the power cord connection and power supply. 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. (Connected using the HDMI cable) Check the HDMI cable connection. (Connected using the DP cable) Check the HDMI cable connection. (Connected using the DP cable) Check the DP cable connection. * DVI/HDMI/DP input is not available on every model. 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 ME/2000) 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. 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. Make sure the AOC Monitor Drivers are installed. |
| 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 95/98/2000/ME shut-down mode to adjust CLOCK and PHASE. Press to auto-adjust. |
| Regulation & Service | Please refer to Regulation & Service Information which is in the CD manual or <u>www.aoc.com</u> (to find the model you purchase in your country and to find Regulation & Service Information in Support page. |

Specification

General Specification

| | Model name | 24P1U | | |
|-----------------|----------------------------------|--|-----------------------------|------------------|
| | Driving system | TFT Color LCD | | |
| | Viewable Image Size | 23.8 inch, 60.47cm diagonal | | |
| Panel | Pixel pitch | 0.2745(H)mm x 0.2745 | i(V)mm | |
| | Video | R, G, B Analog Interfac | e & HDMI Interface & DP | Interface |
| | Separate Sync. | H/V TTL | | |
| | Display Color | 16.7M 6bits+Hi FRC | | |
| | Horizontal scan range | 30~83KHz | | |
| | Horizontal scan Size(Maximum) | 527.04mm | | |
| | Vertical scan range | 50Hz ~ 76Hz | | |
| | Vertical scan Size(Maximum) | 296.46mm | | |
| | Optimal preset resolution | 1920x1080@60Hz | | |
| Others | Plug & Play | VESA DDC2B/CI | | |
| | Input Connector | D-Sub 15 pin/HDMI/DP/USB | | |
| | Power Source | 100-240V~,50/60Hz | | |
| | | Typical (Brightness = 90,Contrast = 50) | | 20W |
| | Power Consumption | (Brightness = 100,Contrast = 100) | | ≤ 55W |
| | | Power saving | | ≤0.5W |
| | Off timer | 0-24 hrs | | |
| Physical | Connector Type | D-Sub/ HDMI/DP/Earphone out/USB3.1 Gen1x4(includes 1 f charger) | | (includes 1 fast |
| Characteristics | Signal Cable Type | Detachable | | |
| | Tomporatura | Operating | 0° to 40°C | |
| | Temperature: | Non-Operating | -25° to 55°C | |
| Environmental | Humidity: | Operating | 10% to 85% (non-condensing) | |
| Environmental | | Non-Operating | 5% to 93% (non-condensing) | |
| | Altitude: | Operating 0~ 5000m(0~ 16404 ft) | |) |
| | Autude. | Non-Operating | 0~ 12192m (0~ 40000 | ft) |

| | Model name | 24P1 | | | | |
|-----------------|----------------------------------|---|-----------------------------|--------------|--|--|
| | Driving system | TFT Color LCD | | | | |
| | Viewable Image Size | 23.8 inch, 60.47cm diagonal | | | | |
| Panel | Pixel pitch | 0.2745(H)mm x 0.2745 | 0.2745(H)mm x 0.2745(V)mm | | | |
| i anci | Video | R, G, B Analog Interface & HDMI Interface & DVI Interface & DF Interface | | | | |
| | Separate Sync. | H/V TTL | | | | |
| | Display Color | 16.7M | | | | |
| | Horizontal scan range | 30~83KHz | | | | |
| | Horizontal scan Size(Maximum) | 527.04mm | | | | |
| | Vertical scan range | 50Hz ~ 76Hz | | | | |
| | Vertical scan Size(Maximum) | 296.46mm | | | | |
| | Optimal preset resolution | 1920x1080@60Hz | | | | |
| | Plug & Play | VESA DDC2B/CI | | | | |
| Others | Input Connector | D-Sub 15 pin/HDMI / DVI / DP /USB/Audio Input | | | | |
| | Power Source | 100-240V~,50/60Hz | | | | |
| | Power Consumption | Typical (Brightness = 90,Contrast = 50) 22W | | | | |
| | | (Brightness = 100,Contrast = 100) | | ≤55W | | |
| | | Power saving | | ≤0.5W | | |
| | Off timer | 0-24 hrs | | | | |
| | Speakers | 2W X2 | | | | |
| Physical | Connector Type | D-Sub/ HDMI/DVI/DP/Audio in/Earphone out/USB3.1 Gen1 x (includes 1 fast charger) | | B3.1 Gen1 x4 | | |
| Characteristics | Signal Cable Type | Detachable | | | | |
| | Tomporatura | Operating | 0° to 40°C | | | |
| | Temperature: | Non-Operating | -25° to 55°C | | | |
| Environmental | Humidity: | Operating | 10% to 85% (non-condensing) | | | |
| Environmental | | Non-Operating | 5% to 93% (non-condensing) | | | |
| | Altitude: | Operating | 0~ 5000m(0~ 16404 ft |) | | |
| | | Non-Operating | 0~ 12192m (0~ 40000 | ft) | | |

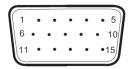
| | Model name | X24P1 | | | | |
|-----------------|----------------------------------|---|---------------------------------|--------------|--|--|
| | Driving system | TFT Color LCD | | | | |
| | Viewable Image Size | 24 inch, 61.13cm diagonal | | | | |
| Panel | Pixel pitch | 0.270(H)mm x 0.270(V | 0.270(H)mm x 0.270(V)mm | | | |
| Fallel | Video | R, G, B Analog Interface & HDMI Interface & DVI Interface & DF Interface | | | | |
| | Separate Sync. | H/V TTL | | | | |
| | Display Color | 16.7M | | | | |
| | Horizontal scan range | 30~83KHz | | | | |
| | Horizontal scan Size(Maximum) | 518.4mm | | | | |
| | Vertical scan range | 50Hz ~ 76Hz | | | | |
| | Vertical scan Size(Maximum) | 324.0mm | | | | |
| | Optimal preset resolution | 1920x1200@60Hz | | | | |
| | Plug & Play | VESA DDC2B/CI | | | | |
| Others | Input Connector | D-Sub 15 pin/HDMI / DVI / DP /USB/Audio Input | | | | |
| | Power Source | 100-240V~,50/60Hz | | | | |
| | Power Consumption | Typical (Brightness = 9 | 22W | | | |
| | | (Brightness = 100,Contrast = 100) | | ≤58W | | |
| | | Power saving | | ≤0.5W | | |
| | Off timer | 0-24 hrs | | | | |
| | Speakers | 2W X2 | | | | |
| Physical | Connector Type | D-Sub/ HDMI/DVI/DP/ (includes 1 fast charge | Audio in/Earphone out/US er) | B3.1 Gen1 x4 | | |
| Characteristics | Signal Cable Type | Detachable | | | | |
| | Tomporatura | Operating | 0° to 40°C | | | |
| | Temperature: | Non-Operating | -25° to 55°C | | | |
| Environmental | | Operating | 10% to 85% (non-cond | densing) | | |
| Environmental | Humidity: | Non-Operating | 5% to 93% (non-conde | ensing) | | |
| | | Operating | 0~ 5000m(0~ 16404 ft |) | | |
| | Altitude: | Non-Operating | 0~ 12192m (0~ 40000 | ft) | | |

| | Model name | 24E1Q | | | |
|-----------------|----------------------------------|-------------------------------------|--|-------|--|
| | Driving system | TFT Color LCD | | | |
| | Viewable Image Size | 23.8 inch, 60.47cm diagonal | | | |
| Panel | Pixel pitch | 0.2745(H)mm x 0.2745(V)mm | | | |
| | Video | R, G, B Analog Interfac | R, G, B Analog Interface & HDMI Interface & DP Interface | | |
| | Separate Sync. | H/V TTL | | | |
| | Display Color | 16.7M | | | |
| | Horizontal scan range | 30~83KHz | | | |
| | Horizontal scan Size(Maximum) | 527.04mm | | | |
| | Vertical scan range | 50Hz ~ 76Hz | | | |
| | Vertical scan Size(Maximum) | 296.46mm | 296.46mm | | |
| | Optimal preset resolution | 1920x1080@60Hz | | | |
| - · | Plug & Play | VESA DDC2B/CI | | | |
| Others | Input Connector | D-Sub 15 pin/HDMI / DP /Audio input | | | |
| | Power Source | 100-240V~,50/60Hz | | | |
| | | Typical (Brightness = 9 | 20W | | |
| | Power Consumption | (Brightness = 100,Contrast = 100) | | ≤30W | |
| | | Power saving | | ≤0.5W | |
| | Off timer | 0-24 hrs | | | |
| | Speakers | 2W X2 | | | |
| Physical | Connector Type | D-Sub/ HDMI/DP/Audio | o in/Earphone out | | |
| Characteristics | Signal Cable Type | Detachable | | | |
| | Temperature: | Operating | 0° to 40°C | | |
| | | Non-Operating | -25° to 55°C | | |
| Environmental | Humidity: | Operating | 10% to 85% (non-condensing) | | |
| Livionnental | Turnaity. | Non-Operating | 5% to 93% (non-conde | | |
| | Altitude: | Operating 0~ 5000m(0~ 16404 ft) | |) | |
| | Autode. | Non-Operating | 0~ 12192m (0~ 40000 | ft) | |

Preset Display Modes

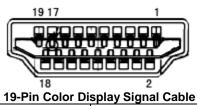
| Standard | Resolution | H. Frequency (kHz) | V. Frequency (Hz) |
|------------------------|----------------|--------------------|-------------------|
| | 640x480@60Hz | 31.469 | 59.94 |
| VGA | 640x480@72Hz | 37.861 | 72.809 |
| | 640x480@75Hz | 37.500 | 75.000 |
| MAC MODES VGA | 640x480@67Hz | 35.000 | 66.667 |
| IBM MODE | 720x400@70Hz | 31.469 | 70.087 |
| | 800x600@56Hz | 35.156 | 56.25 |
| SVGA | 800x600@60Hz | 37.879 | 60.317 |
| SVGA | 800x600@72Hz | 48.077 | 72.188 |
| | 800x600@75Hz | 46.875 | 75.000 |
| MAC MIDE SVGA | 835 x 624@75Hz | 49.725 | 74.500 |
| | 1024x768@60Hz | 48.363 | 60.004 |
| XGA | 1024x768@70Hz | 56.476 | 70.069 |
| | 1024x768@75Hz | 60.023 | 75.029 |
| SXGA | 1280x1024@60Hz | 63.981 | 60.020 |
| SAGA | 1280x1024@75Hz | 79.976 | 75.025 |
| WSXG | 1280x720@60HZ | 45.000 | 60.000 |
| WSXG | 1280x960@60HZ | 60.000 | 60.000 |
| WXGA+ | 1440x900@60Hz | 55.935 | 59.876 |
| WSXGA+ | 1680x1050@60Hz | 65.290 | 59.954 |
| FHD (24E1Q/24P1U/24P1) | 1920x1080@60Hz | 67.500 | 60.000 |
| WUXGA (X24P1) | 1920x1200@60Hz | 74.026 | 59.950 |

Pin Assignments

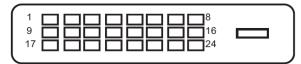


15-Pin Color Display Signal Cable

| Pin No. | Signal Name | Pin No. | Signal Name |
|---------|--------------|---------|------------------|
| 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 | | |

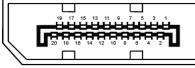


| Pin No. | Signal Name | Pin No. | Signal Name |
|---------|--------------------|---------|--------------------------|
| 1 | TMDS Data 2+ | 11 | TMDS Clock Shield |
| 2 | TMDS Data 2 Shield | 12 | TMDS Clock |
| 3 | TMDS Data 2 | 13 | CEC |
| 4 | TMDS Data 1+ | 14 | Reserved (N.C. on device |
| 5 |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



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 — |



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 OP 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.