

**Philips
Business
Solutions**



EN User Manual



TYPE Nr. BDS4223V

PHILIPS

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1. SAFETY

1.1 SAFETY INSTRUCTIONS

- Read and keep these instructions.
- Heed all warnings.
- Follow all instructions.
- Do not use this apparatus near water.
- Disconnect from the electric outlet before cleaning. Do not use liquid or aerosol cleaners. Clean only with a slightly damp cloth.
- Do not block any of the ventilation openings. Install in accordance with the manufacturers instructions.
- Do not install in direct sunlight, near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- Do not defeat the safety purpose of the polarized or grounding type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or third prong are provided for your safety. When the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- Do not remove cover, to prevent electric shock. Refer servicing to qualified service personel only.
- Unauthorized modification of this equipment or usage of an unshielded connecting cable may cause excessive interference.
- Adjust only those controls that are covered by the operating instructions. Improper adjustment of other controls can result in damage which often requires extensive work by a qualified technician to restore the unit to normal operation.
- Use in well-ventilated area and do not block any of the ventilation openings. Install in accordance with the manufacturer's instructions.
- The unit must be operated from the type of power source indicated on the label. If the type of available power is unknown, consult your dealer or local power company.
- Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician. Do not alter the plug; this will defeat the safety feature.
- Do not overload wall outlets and extension cords as this can result in a risk of fire or electric shock.
- If the picture displayed looks abnormal, turn off the unit and disconnect it from the electric outlet. Verify your signal wire connections and reconnect the display to the electric outlet.
- Only use attachments/accessories specified by the manufacturer.



- Use only with a cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
- Unplug this apparatus during lightning storms or when unused for long periods of time.
- Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
- This product may contain lead and mercury. Disposal of these materials may be regulated due to environmental considerations. For disposal or recycling information, please contact your local authorities or the Electronic Industries Alliance: www.eiae.org
- **Damage Requiring Service:**
The appliance should be serviced by qualified service personnel when:
 - The power supply cord or the plug has been damaged or frayed.
 - Objects have fallen, or liquid has been spilled into the appliance.
 - The appliance has been exposed to rain.
 - The appliance does not appear to operate normally or exhibits a marked change in performance.
 - The appliance has been dropped, or the enclosure damaged.
 - Unit does not operate normally when the operating instructions are followed.
- **Tilt/Stability:**
 - All displays must comply with recommended international global safety standards for tilt and stability properties of its cabinet design.
 - Do not compromise these design standards by applying excessive pull force to the front, or top, of the cabinet which could ultimately overturn the product.
 - Do not endanger yourself, or children, by placing electronic equipment/toys on the top of the set and cause product damage and/or personal injury.
 - Do not place the unit on an unstable cart, stand or table. Or the product may fall, causing serious damage.
- Do not place the unit on a bed, sofa, rug, or similar surfaces.
- **Wall or Ceiling Mounting:**
The appliance should be mounted to a wall or ceiling only as recommended by the manufacturer.
- **Power Lines:**
An outdoor antenna should be located away from power lines.

■ **Outdoor Antenna Grounding:**

- If an outside antenna is connected to the receiver, be sure the antenna system is grounded so as to provide some protection against voltage surges and built up static charges.
- Section 810 of the National Electric Code, ANSI/NFPA No. 70-1984, provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding connectors, location of antenna-discharge unit, connection grounding electrodes, and requirements for the grounding electrode.

■ **Object and Liquid Entry:**

Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.

■ **Battery Usage:**

CAUTION: To prevent battery leakage that may result in bodily injury, property damage, or damage to the unit.

- Install all batteries correctly, with + and - aligned as marked on the unit.
- Do not mix batteries (old and new or carbon and alkaline, etc.).
- Remove batteries when the unit is not used for a long time.

1.2 WARNINGS AND PRECAUTIONS

1.2.1 NOTE TO THE CATV SYSTEM INSTALLER

This reminder is provided to call the CATV system installer's attention to Article 820-40 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground must be connected to the grounding system of the building, as close to the point of cable entry as practical.

KNOW THESE SAFETY SYMBOLS



■ This lightning flash with arrow-head within a triangle indicates uninsulated material within your unit, which can cause an electric shock. For the safety of everyone in your household, do not remove product cover.



■ For the safety of everyone in your household, do not remove product cover. The exclamation point within a triangle calls attention to features for which you must read the enclosed literature closely to prevent operating and maintenance problems.

WARNING

To reduce the risk of fire or electric shock, this appliance must not be exposed to rain or moisture, and objects filled with liquids, such as vases, must not be placed upon this apparatus.

CAUTION

To prevent electric shock, match wide plug blade to wide slot, and fully insert.

ATTENTION

Pour éviter les chocs électriques, introduire la lame la plus large de la fiche dans la bome correspondante de la prise et pousser jusqu'au fond.

1.3 CLEANING & CARE

- To avoid possible shock hazard, please be sure that the television is unplugged from the electrical outlet before cleaning.
- When cleaning the television screen, take care not to scratch or damage the screen surface (avoid wearing jewelry or using anything abrasive).
- Wipe the front of the screen with a clean cloth dampened with water. Use even, easy, vertical strokes when cleaning.
- Gently wipe the cabinet surfaces with a clean cloth or sponge dampened in a solution of cool clear water. Use a clean dry cloth to dry the wiped surfaces.
- Occasionally vacuum the ventilation holes or slots in the cabinet back.
- Never use thinners, insecticide sprays, or other chemicals on or near the cabinet, as they might cause permanent marring of the cabinet finish.
- Do not allow a still image to be displayed for an extended period of time as this can cause a permanent after-image to remain.

1.4 END-OF-LIFE DISPOSAL

- This Philips product and its packaging contain materials that can be recycled and re-used. Specialized companies can recycle your product to increase the amount of reusable materials and minimize the amounts which need to be properly disposed.
- This product might also use batteries, which should not be thrown away when depleted, but should be handed in and disposed of as small chemical waste.
- Please find out about the local regulations regarding the disposal of the television, batteries, and packaging materials whenever you replace existing equipment.

2. REGULATORY NOTICE

FCC Statement

The Federal Communications Commission Radio Frequency Interference Statement includes the following warning:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television receptions, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Warning

User must use shielded signal interface cables to maintain FCC compliance for the product. Provided with this display is a detachable power supply cord with IEC320 style terminations. It may be suitable for connection to any UL Listed personal computer with similar configuration. Before making the connection, make sure the voltage rating of the computer convenience outlet is the same as the monitor and that the ampere rating of the computer convenience outlet is equal to or exceeds the monitor voltage rating. For 120 Volt applications, use only UL Listed detachable power cord with NEMA configuration 5-15P type (parallel blades) plug cap. For 240 Volt applications use only UL Listed Detachable power supply cord with NEMA configuration 6015P type (tandem blades) plug cap.

IC Compliance Notice

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations of ICES-003.

Cet appareil Numérique de classe B respecte toutes les exigences du Règlement NMB-03 sur les équipements produisant des interférences au Canada.

Notice de Conformité IC

Cet appareil numérique de classe B respecte toutes les exigences du Règlement ICES-003 sur les équipements produisant des interférences au Canada.

3. UNPACKING AND INSTALLATION

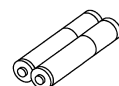
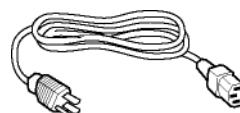
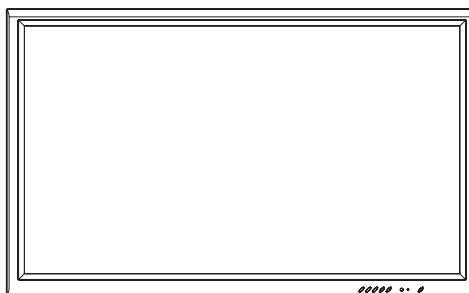
3.1 UNPACKING

- The monitor is packed in a carton, together with the standard accessories. Any other optional accessories will be packed separately.
- The weight of the monitor is approx 36kg. Due to the size and weight it is recommended to move it by 2 people.
- The protective glass and the glass substrate are installed on the front of the product. Since both glasses can be broken and scraped easily the product has to be handled with care. Never place the monitor with the glass faced down unless it is protected with pads.
- After opening the carton ensure that the content is in good condition and complete.
- When possible use the handles on the back of the monitor for transport.

3.2 PACKAGE CONTENTS

Please verify that you received the following items with your package content:

- 1 Monitor
- 2 Remote Control
- 3 CD-ROM with User Manual
- 4 Power Cable
- 5 Batteries

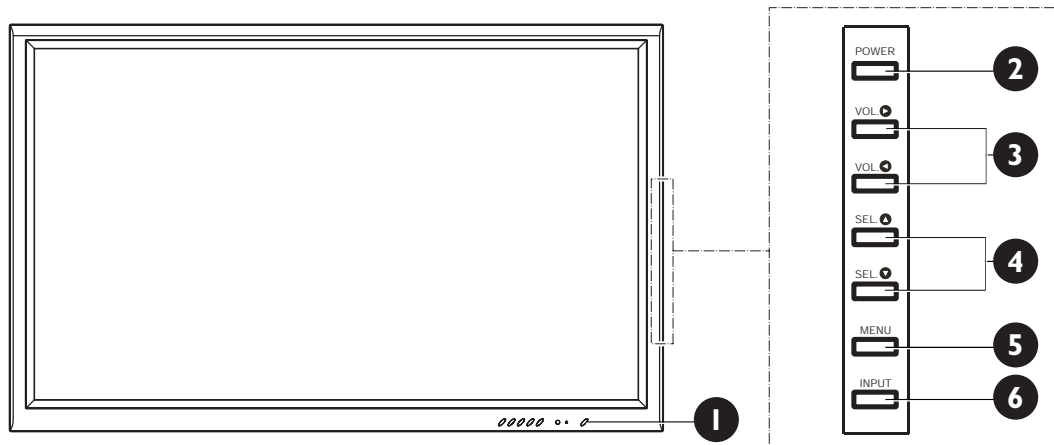


3.3 INSTALLATION NOTES

- Due to the high power consumption, always use the plug exclusively designed for this product. If an extended line is required, please consult your service agent.
- The product should be installed on a flat surface to avoid tipping. The distance between the back of the product and the wall should be maintained for proper ventilation. Avoid installing the product in the kitchen, bathroom or any other places with high humidity so as not to shorten the service life of the electronic components.
- Please ensure the product is installed horizontally. Any 90 degrees clockwise or counter-clockwise installation may induce poor ventilation and subsequent component damage.
- To protect the screen and avoid screen damage, do not display a still picture for a long time.

4. PARTS & FUNCTIONS

4.1 FRONT VIEW



1. Status LED

- **Not Illuminated = No AC Power detected**

If the main power switch (rear of panel) is turned off, this LED will not illuminate.

- **Orange = Standby (Power OFF) with AC power detected**

The LED will illuminate in orange color if the monitor is shut off but the main power cord is plugged into the back of the unit.

- **Solid Green = Power ON**

2. Power (Standby) Button

Turns power on/off from standby mode. There is a wait period between on/off cycles.

3. Volume Adjustment Buttons

Use these buttons to adjust volume up and down. These keys also serve as navigation and adjustment keys when On Screen Display menu is engaged.

4. Select Buttons

Use these buttons to navigate through the the On Screen Display menu. If an optional TV tuner is installed, these buttons also function as Channel Up/Down.

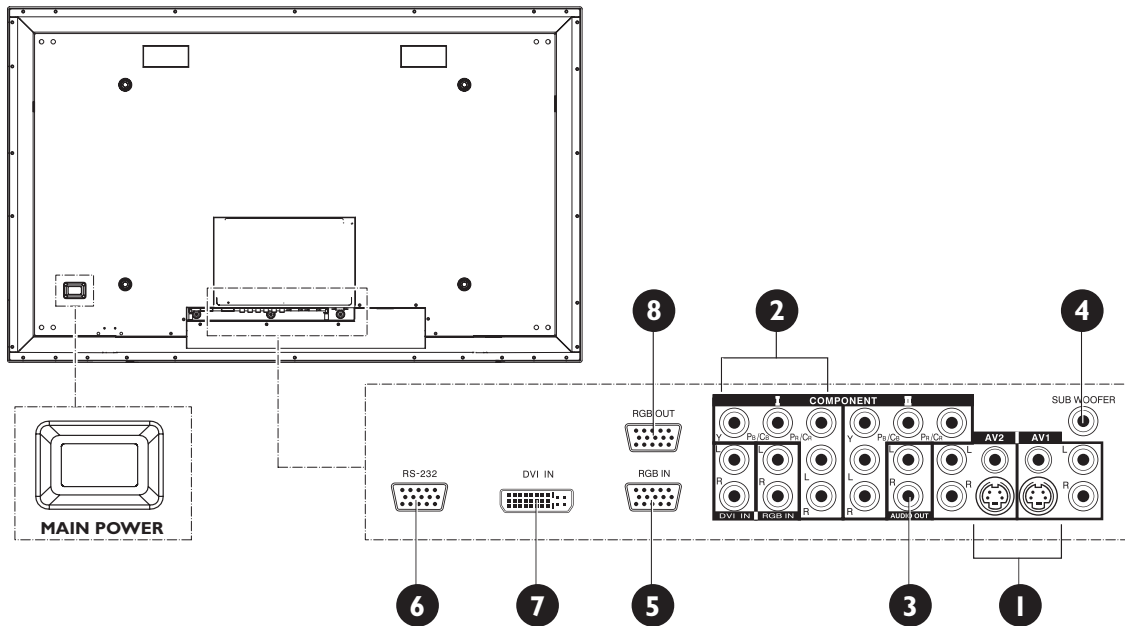
5. Menu Button

Use this button to engage the On Screen Display menu.

6. Input Button

Use this button to switch between available inputs.

4.2 REAR VIEW



1. Composite / S-Video Inputs

Connect Composite or S-Video signals from external sources such as VCRs or DVD players.

2. Component Video Inputs

Auto-detecting component video inputs (Y/Pb/Pr or Y/Cb/Cr) for connecting to the component output jacks of a DVD player or Set-Top Box.

3. Audio Output

Variable or fixed audio output jacks for connecting to an external audio amplifier.

4. Subwoofer Output

Variable or fixed low-frequency audio output jack for connecting to an external amplified subwoofer.

5. RGB Input

Connect to RGB (VGA) output of computer or Set-Top box.

6. RS-232 Connector

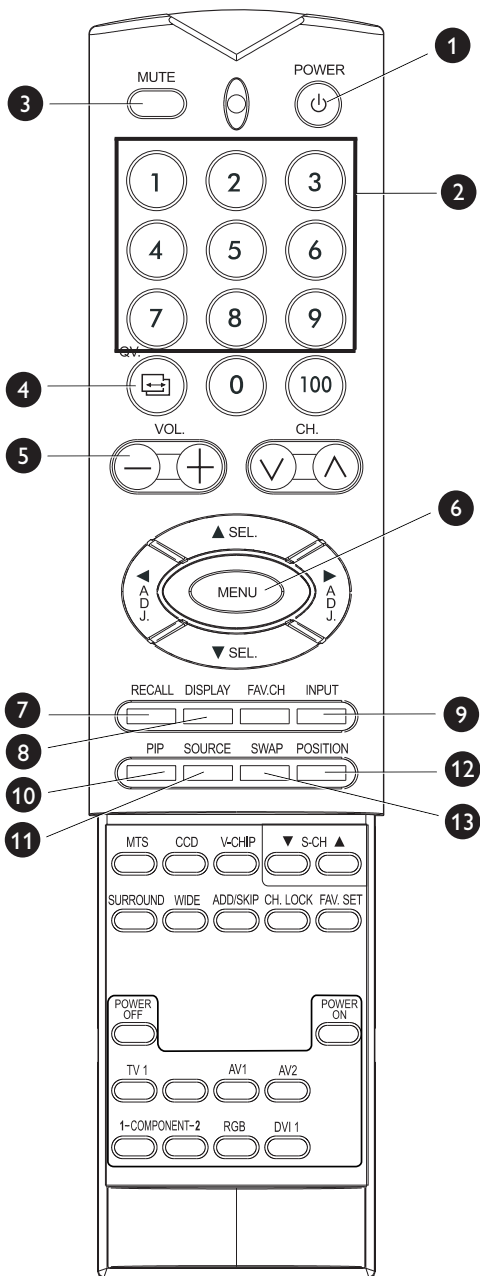
Connect to a computer serial port.

7. Digital DVI Input

Connects to the digital video signals from a set top box or PC.

8. RGB Output

Connect to another computer monitor for daisy chaining applications.



4.3 REMOTE CONTROL

1. Standby Power On/Off

Press this button to turn on the monitor from Standby mode. Press it again to turn it off to Standby mode.

2. Number Keypad

Use number keypad to select the TV channel you want to watch. (Only applicable with TV tuner installed.)

3. Sound Mute On/Off

Recalls the last TV channel watched.

4. QuickView

Recalls the last TV channel watched.

5. Volume +/-

Turns volume up or down.

6. Menu

Activates the OSD menu.

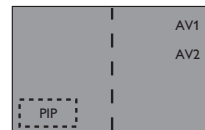
7. Recall

Recalls Factory default settings. (See page 31)

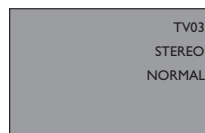
8. Display

Shows the status of the display (See page 27):

AV Mode (PIP/POP On)



AV1 => Main Source
AV2 => PIP/POP Source
TV Mode (w/Tuner)



TV 03 => Main Source
STEREO => Audio Status
NORMAL => Channel Status

Component Mode



COMPONENT1 => Main Source
1080i => Incoming Signal
RGB Mode



RGB => Main Source
M:06 => Incoming Sign

9. Input Select

Selects the input signal modes sequentially. (See page 24)

10. PIP (Picture-in-Picture Button)

Turns on PIP (Picture-in-Picture) mode under DVI input mode. (See page 33)

11. PIP Source

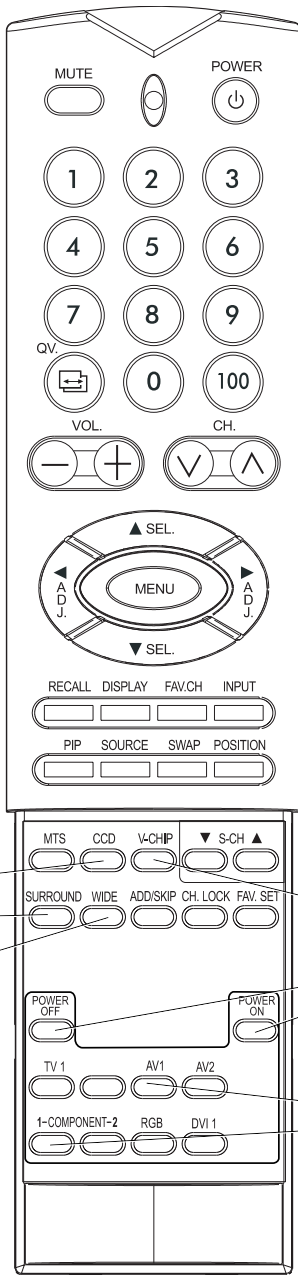
Changes the input source of the PIP among TV/AV Component input sources. (See page 33)

12. PIP Position

Changes the PIP sub-window to 4 different corner locations. (See page 33)

13. Swap

Swaps the main and sub picture windows under PIP or POP modes.



14. Closed Captioning

Turns on Closed Captioning Mode.

15. V-Chip

NOT SUPPORTED.

16. SURROUND

17. WIDE

Toggles between various aspect ratio settings. (See page 29)

18. Discrete Power ON/OFF

Press OFF to send monitor into standby mode. Press ON to power on from standby mode. (See page 23)

19. Direct Input Selection Keys

Directly change input signal selection by pressing the appropriate key.

5. CONNECTION TO EXTERNAL EQUIPMENT

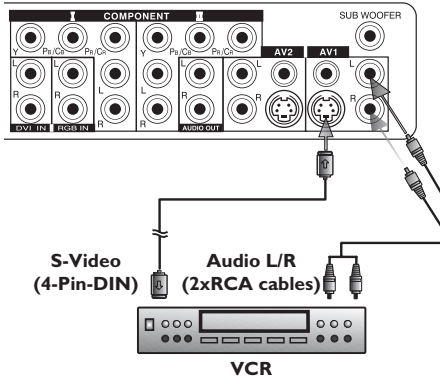
5.1 CONNECTING A VCR

Using S-Video Input

- 1 Connect the S-Video (4-pin DIN) connector from the VCR to the "S-VIDEO" input on the back of monitor.
- 2 Connect the red (R) and white (L) audio jacks from the VCR to the R and L audio-in jacks located next to the "S-VIDEO" connector.

Note:

There are two sets of S-Video inputs provided. You can use either set to connect your VCR.

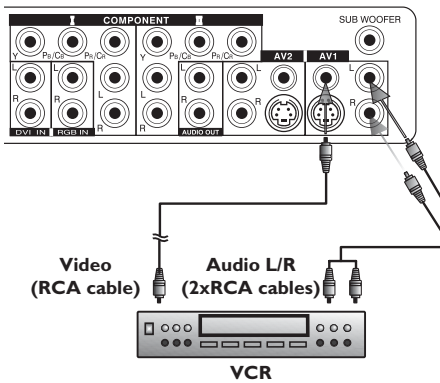


Using Composite (AV) Video Input

- 1 Connect the "yellow" (video) connector from the VCR to the yellow "VIDEO 1" input on the back of monitor.
- 2 Connect the red (R) and white (L) audio jacks from the VCR to the R and L audio-in jacks located next to the yellow "VIDEO 1" connector.

Note:

There are two sets of composite inputs provided. You can use either set to connect your VCR.



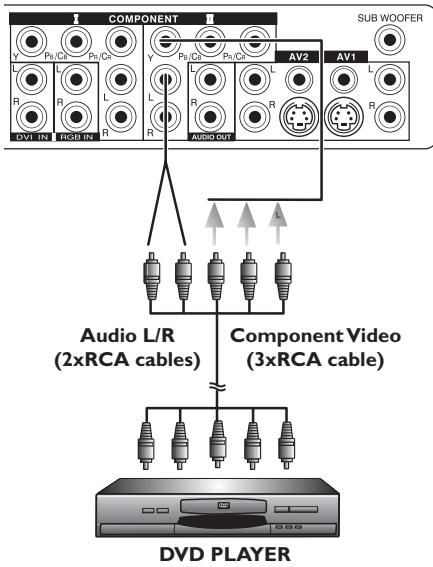
5.2 CONNECTING A DVD PLAYER

Using Component Video Input

- 1 Connect the green-colored (labeled as "Y") jack from the DVD player to the green-colored "Y1" jack of the monitor.
- 2 Connect the red-colored (labeled as "PR" or "CR") jack from the DVD player to the red-colored "PR1/CR1" jack of the monitor.
- 3 Connect the blue-colored (labeled as "PB" or "CB") jack from the DVD player to the blue-colored "PB1/CB1" jack of the monitor.
- 4 Connect the red (R) and white (L) audio jacks from the DVD player to the R and L audio-in jacks located next to the "PR1/CR1" connector.

Note:

There are two sets of component inputs provided. You can use either set to connect your DVD player.

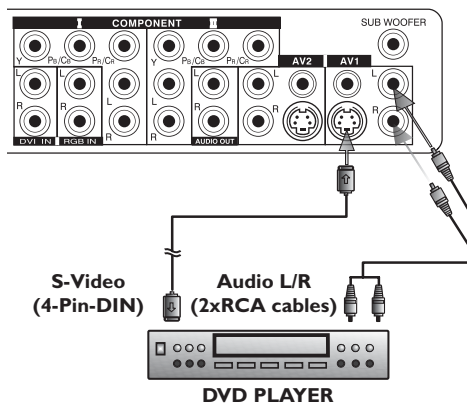


Using S-Video Input

- 1 Connect the S-Video (4-pin DIN) connector from the DVD player to the "S-VIDEO" input on the back of monitor.
- 2 Connect the red (R) and white (L) audio jacks from the DVD player to the R and L audio-in jacks located next to the S-VIDEO connector.

Note:

There are two sets of S-Video inputs provided. You can use either set to connect your DVD player.

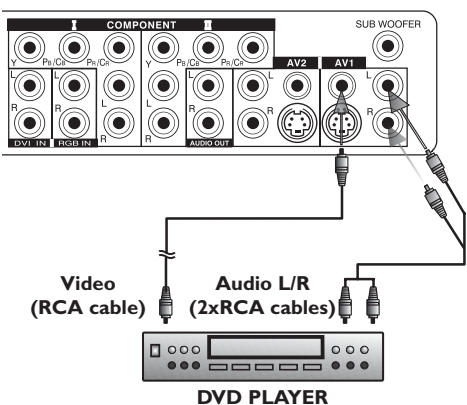


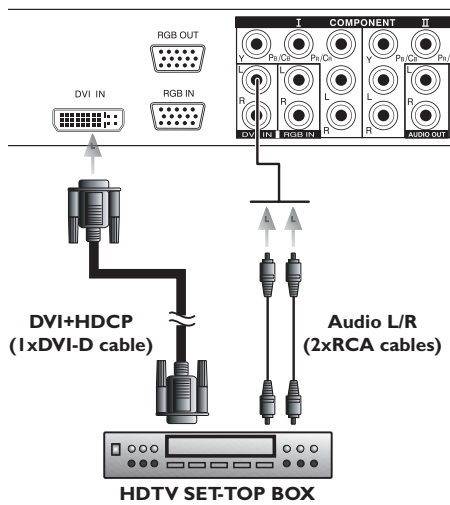
Using Composite (AV) Video Input

- 1 Connect the "yellow" (video) connector from the DVD player to the yellow "VIDEO 1" input on the back of monitor.
- 2 Connect the red (R) and white (L) audio jacks from the DVD player to the R and L audio-in jacks located next to the yellow "VIDEO 1" connector.

Note:

There are two sets of composite inputs provided. You can use either set to connect your DVD player.





Using DVI Input

- 1 Connect the DVI-D connector from the back of the HDTV set top box to the DVI-IN Connector located on the back of the monitor.
- 2 Connect the red (R) and white (L) audio-out jacks from the HDTV set top box to the R and L audio-in jacks located next to the DVI-D connector.

Notes:

- Some HDTV Set-top boxes may not have a DVI output. Use the Component Video input or RGB in method if this is the case.
- Upon connecting your HDTV Set-top box to the DVI input of the monitor, it may be necessary to adjust various picture settings on the monitor to correctly match the output of the HDTV Set-top box. This is caused by the different video timings set by various HDTV Set-top box manufacturers.

5.4 CONNECTING EXTERNAL AUDIO

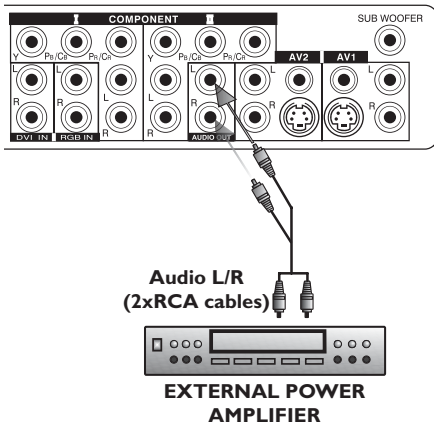
Connecting to an External Amplifier

This monitor can be connected to an external amplifier using the AUDIO OUT jacks located on the back of the monitor.

- 1 Connect the red (R) and white (L) AUDIO OUT jacks on right side of the connector panel to the external amplifier or receiver.

Note:

The AUDIO OUT RCA jacks can be set to either Fixed or Variable audio output levels. (See page 42 for more information.)



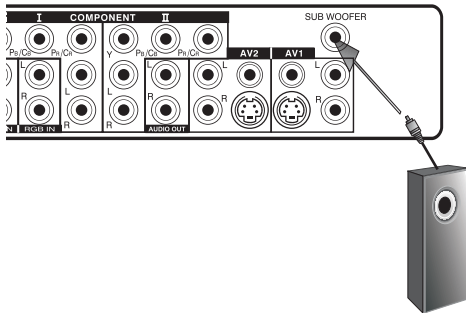
Connecting a Subwoofer

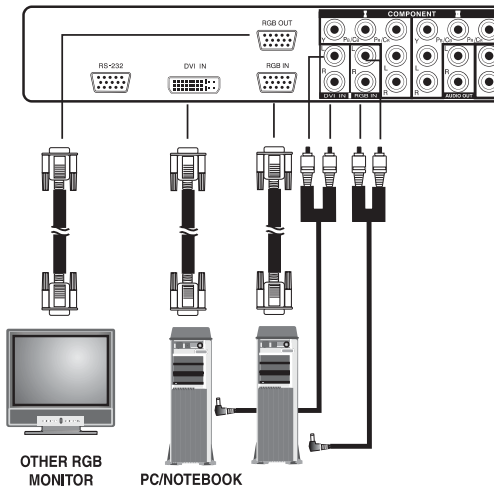
This monitor is equipped with a subwoofer output for connecting to an external amplified subwoofer.

- 1 Connect a RCA cable from the subwoofer output jack to the external subwoofer.

Notes:

- The RCA subwoofer outputs frequencies below 120Hz.
- The subwoofer will use the same Fixed or Variable audio output setting as AUDIO OUT RCA jacks.





5.5 CONNECTING A PC

Using RGB or DVI Video Input

- 1 For most PC's, connect the 15-pin D-Sub RGB connector from the back of the PC to the RGB-IN Connector located on the back of the monitor. If you have a PC that is equipped with a DVI (Digital Visual Interface), you may connect the PC DVI connector from the back of the PC to the DVI-In Connector located on the back of the monitor.
- 2 Connect the red (R) and white (L) audio jacks from the PC to the R and L jacks located next to the RGB connector. If you are using a DVI interface, simply connect the (R) and (L) audio jacks to the R and L jacks located next to the DVI connector.

Note:

- A RGB loop-out labeled "RGB Out" will allow another RGB monitor to be connected. The RGB loop-out will monitor the same signal as the RGB In signal source.

Setting Up Your Monitor Using Plug and Play

This monitor is conform the VESA Plug and Play standaard. The monitor identifies itself to the computer and automatically sends the PC its Extended Display Identification Data (EDID) using Display Data Channel (DDC) protocols.

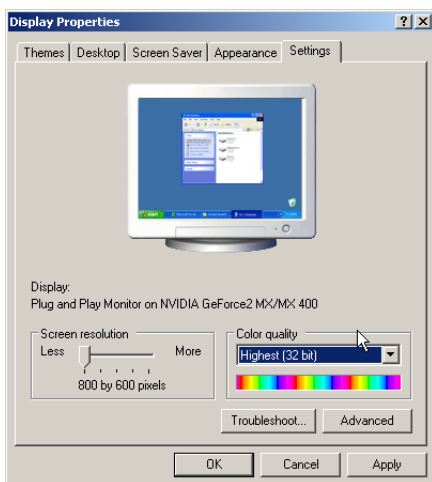
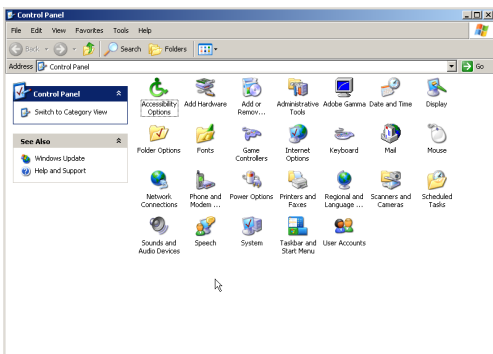
How to Set up Your PC for Use with Monitor (Windows)

The display settings for a typical Windows-based computer are shown below. However, the actual screens on your computer will differ depending on the version of Windows and video card equipped with the computer. Even though the actual screen may look different from example displayed below, basic set-up routine will apply in most cases.

- 1 Go to the Window's CONTROL PANEL by clicking START, SETTINGS, CONTROL PANEL.
=> The CONTROL PANEL Window is displayed.
- 2 Select the DISPLAY icon from this window.
=> The DISPLAY PROPERTIES dialog box is displayed.
- 3 Select the SETTINGS tab to display your computer's video output settings.
- 4 Set the "Screen Resolution" settings to 1024x768 PIXELS.
- 5 For COLOR QUALITY, select 24 BIT COLOR (might also be expressed as 16 million colors).
- 6 If a vertical-frequency option is available, set the value to 60 or 60 Hz.
- 7 Click OK to complete the setting.

Note:

Both screen position and size will vary, depending on the type of PC graphics card and its resolution selected. See page 51 for an overview of the supported resolutions.



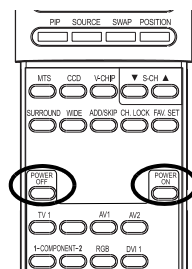
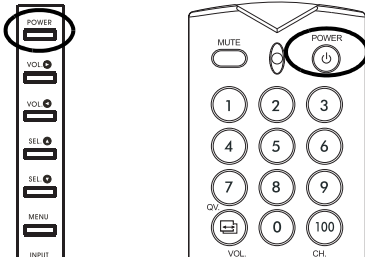
6. BASIC FUNCTIONS

6.1 POWERING ON/OFF

Make sure the monitor is plugged into the wall outlet and the main AC switch located in the rear of the monitor is switched to ON position. If the power is plugged in and the AC switch is on, the STATUS LED will illuminate in orange color.

Using Front Panel or Remote Control

- 1 Press the POWER button on the front panel or the remote control.
=> The monitor will now turn on after a brief pause. The STATUS LED will now turn green to indicate power on status.
- 2 Turn off the power by pressing the POWER button on the monitor panel or remote control again.



Using Discrete Power ON/OFF Keys

The discrete POWER ON/OFF keys sends two discrete signals to the monitor.

- 1 Turn on the power by pressing the POWER ON button. If the monitor is turned on already, pressing this button will have no effect.
- 2 Turn off the power by pressing the POWER OFF button. If the monitor is already turned off, pressing this button will have no effect.

Status LED:

- **Not Illumated = No AC Power detected**

If the main power switch (rear of panel) is turned off, this LED will not illuminate.

- **Orange = Standby (Power OFF) with AC power detected**

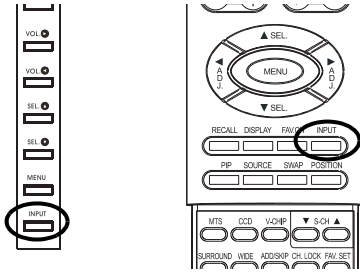
The LED will illuminate in orange color if the monitor is in standby mode.

- **Solid Green = Power ON**

6.2 CHANGING INPUTS

Using Front Panel or Remote Control

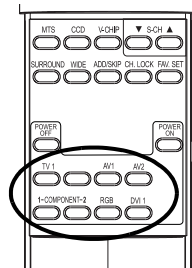
- 1 Press the INPUT key on the monitor panel or the INPUT key on the remote control.
- 2 Pressing the INPUT key will cycle the monitor through all available input signal sources.



Using Direct Input Selection Keys

If you prefer not to cycle thru all available inputs, you can use the Direct Input Selection keys on the remote control.

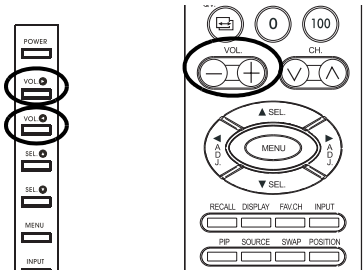
- 1 Simply select the input that you would like to switch to and press the Direct Input Selection key for that input.



6.3 VOLUME ADJUSTMENT

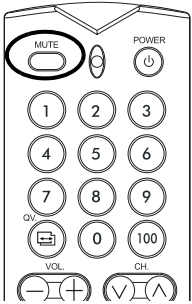
Using Front Panel or Remote Control

- 1 To turn up sound volume, press VOLUME + on the monitor panel or remote control.
- 2 To turn down sound volume, press VOLUME - on the monitor panel or remote control.



Using MUTE

- 1 If you would like to silence the volume on a temporary basis, simply press the MUTE key to silence the volume. When the monitor's volume is muted, the monitor will display MUTE on the upper right corner of the screen.
- 2 To disengage the mute mode, simply press the MUTE key again or the volume buttons.

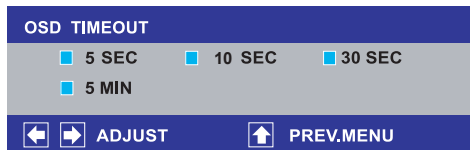
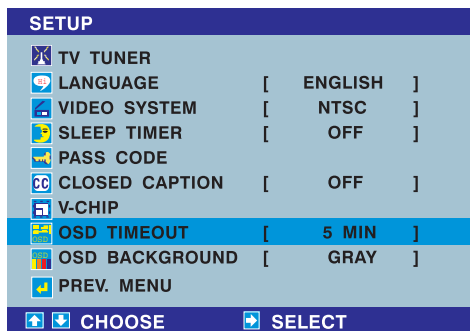
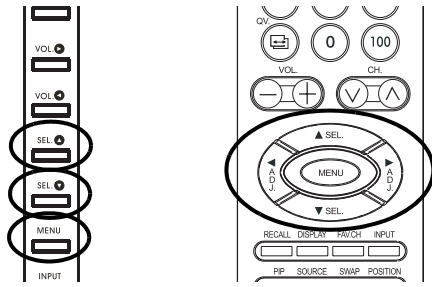


6.4 ON-SCREEN DISPLAY MENU

Accessing OSD Menu via Remote Control or Front Panel

The On-Screen Display (OSD) menu allows access to setup various parameters equipped with this display.

- 1 To access the OSD menu, press the MENU button on the monitor panel or remote control.
- 2 Navigation through the OSD Menu can be accomplished using the arrow keys on the remote control or monitor panel SEL keys.



Changing OSD Menu Timeout Setting

OSD Menu will automatically disappear after a preset period of time so that it doesn't remain on the screen. To change the OSD timeout period, please follow the steps below.

- 1 Press the MENU key on the monitor panel or remote control.
- 2 Use the SEL ▲ or SEL ▼ key to select the SETUP option from the menu.
- 3 Use the SEL ▲ or SEL ▼ key to highlight OSD TIMEOUT.
- 4 Press the ADJ ► key to confirm selection.
=> The OSD TIMEOUT window is displayed.
- 5 Use the ADJ ◀ or ADJ ► key to adjust your settings.
- 6 Press the SEL ▲ key to confirm selection.

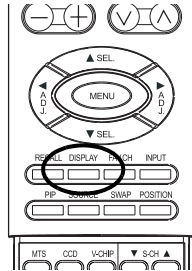
OSD Background Color Setting

The background color of the OSD Menu can be customized.

- 1 Press the MENU key on the monitor panel or remote control.
- 2 Use the SEL ▲ or SEL ▼ key to select the SETUP option from the menu.
- 3 Use the SEL ▲ or SEL ▼ key to highlight OSD BACKGROUND.
- 4 Press the ADJ ► key to confirm selection.
=> The OSD BACKGROUND window is displayed.
- 5 Use the ADJ ◀ or ADJ ► key to adjust your settings.
- 6 Press the SEL ▲ key to confirm selection.

6.5 ON-SCREEN DISPLAY STATUS

The On-Screen Status Display shows detailed information regarding the operational status of the monitor. The status display automatically appears whenever there is a change in the state of the monitor such as channel change or input change. The status display will automatically disappear after a timeout period.



Showing Display Status

- 1 Press the DISPLAY key on the remote control to manually show the Status Display.

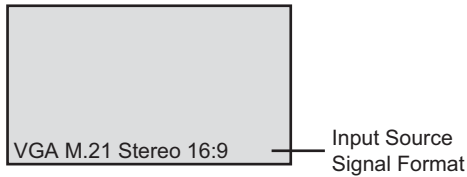
AV Mode



Component Mode



RGB/DVI Mode



Notes:

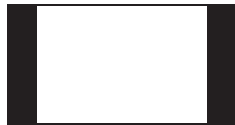
- When using AV1 and AV2, priority is given to the S-Video input.
- When using S-video connection AV1 and AV2, the status display will denote "[S]" to indicate the input source is using S-Video connector.

6.6 UNDERSTANDING WIDESCREEN MODES

This monitor is capable of displaying a widescreen image on the native 16:9 aspect ratio screen. However, not all available video content fits perfectly in a widescreen (16:9) format resulting in unused screen space. This monitor is capable of displaying images in various formats that are suitable for various types of content depending on its size.

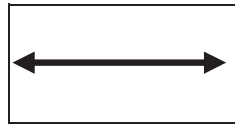
6.6.1 4:3 (SQUARE) CONTENT

Content from traditional TV, VCR, and some DVD's are formatted using a "square" 4:3 format. When viewing content in this "Square" format the following viewing modes are suitable.



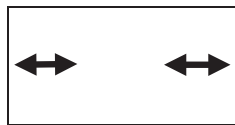
4:3 (NORMAL)

In 4:3 mode, the original 4:3 image is preserved but black bars are used to fill the the extra space on the left and right.



16:9 (FULL)

The original 4:3 image is proportionally stretched to fill the entire screen. This is the default setting from factory.

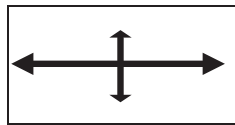


PANORAMA

The original 4:3 image is expanded in both the horizontal and vertical directions. The center of the picture is almost normal while the edges are considerably expanded.

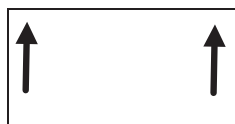
6.6.2 WIDESCREEN CONTENT

Depending on the content displayed on this 16:9 monitor, you may notice smaller black bars on top or bottom of the screen. Use the following zoom modes to eliminate black bars.



ZOOM1:

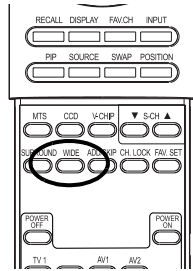
Zoom 1 is set to stretch 2.35:1 content to full screen. This Zoom mode can also be used with images displayed in 2.0:1 aspect ratio.



ZOOM2:

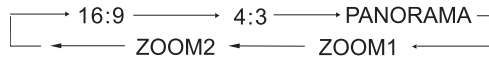
Zoom 2 shifts the image up to facilitate the display of sub-titles.

6.7 CHANGING ASPECT RATIOS

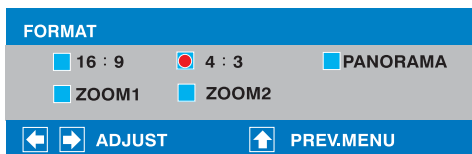
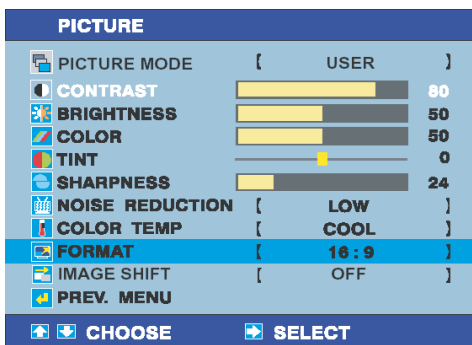
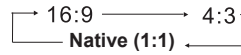


Using Remote Control

- 1 All widescreen viewing modes are available by pressing the WIDE key. Press this key repeatedly to cycle through all available modes:



RGB/DVI mode



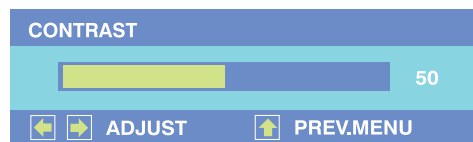
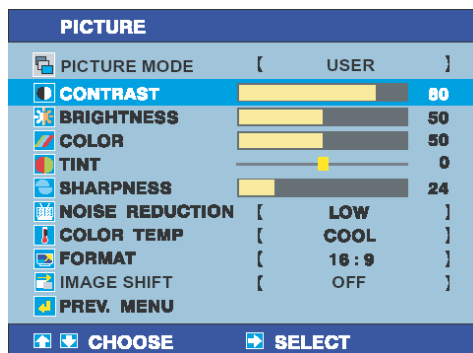
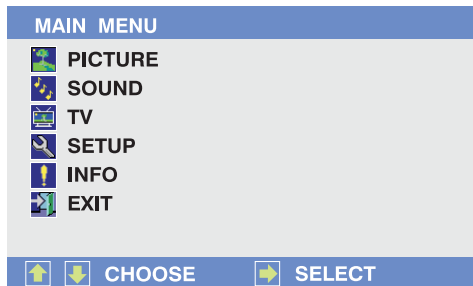
Using OSD Menu

- 1 Press the MENU key on the monitor panel or remote control.
- 2 Use the SEL ▲ or SEL ▼ key to select the PICTURE option from the menu.
- 3 Use the SEL ▲ or SEL ▼ key to highlight FORMAT.
- 4 Press the ADJ ► key to confirm the selection.
=> The FORMAT window is displayed.
- 5 Use the ADJ ◀ or ADJ ► key to select the desired format mode. As you select each mode, the screen changes.
- 6 Press the SEL ▲ key to confirm selection.

Notes:

- Under RGB and DVI input modes, only 16:9, 4:3 and Native modes are available.
- Under Component video input mode, only 16:9 and 4:3 modes are available.

7. ADVANCED FUNCTIONS



7.1 PICTURE CONTROLS

7.1.1 ADJUSTING PICTURE SETTINGS

Using OSD Menu

Various picture adjustments can be set using the Picture Adjustment OSD menu.



- 1 Press the MENU key on the monitor panel or remote control.
- 2 Use the SEL ▲ or SEL ▼ key to select the PICTURE option from the menu.
- 3 Press the ADJ ► key to confirm selection.
=> Various picture options are available in the PICTURE menu.
- 4 Use the SEL ▲ or SEL ▼ key to select the option that you wish to adjust
- 5 Press the ADJ ► key to confirm selection.
=>A small display window appears.

Notes:

- H-Position, H-Size, V-Position, V-Size adjustments are only available in RGB and Component video input modes.
 - To restore picture settings to factory default, simply press the RECALL key from the remote control when the PICTURE menu is displayed.
- 6 Use the ADJ ◀ or ADJ ► key to change the setting. As you change the setting, changes in the picture are immediately reflected in the video picture.
 - 7 After achieving desired setting, press the SEL ▲ key to confirm setting and return to the previous menu.

Explanation of Various Picture Control Settings

Explanation of each available picture control settings are listed in the table below.

	<p>CONTRAST Adjust Contrast to increase or decrease the level of white in the video picture. Increasing contrast will make white areas of the video picture brighter. Contrast works in conjunction with Brightness.</p>
	<p>BRIGHTNESS Adjust brightness to enhance the level of dark areas in the video picture such as night scenes and shadow scenes. Increasing brightness will make dark areas more visible.</p>
	<p>COLOR Use color to adjust the color saturation of the video picture. Increasing color will make the color more intense. Reducing color setting will make the color less intense.</p>
	<p>TINT Use tint to adjust the color of fleshtones. Increase in the right direction will shift the picture with more green in appearance. Decreasing setting in left direction will shift the picture with more red in appearance.</p>
	<p>SHARPNESS Use sharpness to adjust the amount of detail enhancement to the video picture. Increasing the setting will enhance the edges of objects in the video picture. Decreasing the setting will reduce enhancement.</p>
	<p>NOISE REDUCTION To improve the quality of the picture in the case of poor reception.</p>
	<p>COLOR TEMP Select the color temperature for white balance. There are four settings to choose from: (1) COOL sets to 11000K; (2) NATURAL - sets to 9300K; (3) WARM - sets to 6500D.</p>
	<p>FORMAT Use to change various screen width modes. There are six modes to choose from: (1) 16:9, (2) 4:3, (3) Panorama, (4) Zoom 1, (5) Zoom 2. See page 28 for more information</p>
	<p>IMAGE SHIFT Use the Image Shift function to prevent image sticking effects when a static image is displayed for a long period of time. Increase the value to extend the time interval between each image shift operation.</p>
	<p>V-SIZE Use to change vertical size of the picture. Increase to enlarge the picture size in the vertical direction. Decrease to reduce the picture size in the vertical direction.</p>
	<p>V-POSITION Use to change vertical position of the picture. Increase to shift the picture up. Decrease to shift the picture down.</p>
	<p>H-SIZE Use to change horizontal size of the picture. Increase to enlarge the picture size in the horizontal direction. Decrease to reduce the picture size in the horizontal direction.</p>
	<p>H-POSITION Use to change horizontal position of the picture. Increase to shift the picture to the right. Decrease to shift the picture to the left.</p>
	<p>CLOCK PHASE Use clock phase to fine-tune the monitor to perfectly synchronize to the video signal source under RGB mode.</p>

Note:

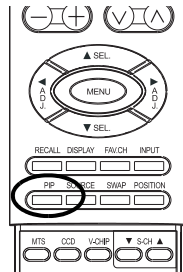
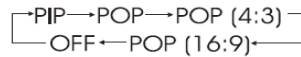
H-Position, H-Size, V-Position and V-Size adjustments are only available in RGB and Component input modes.

7.1.2 PICTURE-IN-PICTURE (PIP) / SIDE-BY-SIDE PICTURE (POP)

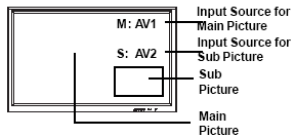
PIP and POP modes allow you to view two video input sources simultaneously.

Turning on PIP or POP Mode

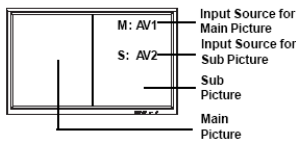
- 1 Press the PIP key once on the remote control to activate in PIP mode.
- 2 Press the PIP again to switch to POP mode.
- 3 Press the PIP key sequentially will cycle between:



PIP Mode



POP Mode



PIP mode:

In PIP mode, a small window is displayed in one of the four corners. The OSD on the upper right corner will denote the input selected for main picture (large screen) and the sub-picture (small screen) displayed.

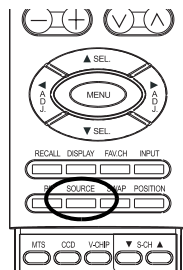
POP mode:

In POP mode, the screen will be split in half. The screen on the left side is the main picture and the screen on the right is the sub-picture. The OSD on the upper right corner will denote the input signal source for both the main and sub-pictures.

Changing the Input Source for Sub-Picture

Once the PIP or POP mode is turned on;

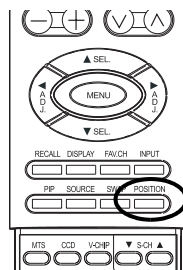
- 1 Press the SOURCE key to change the sub-picture's input source
- 2 Press the SOURCE key repeatedly to cycle through all available inputs for the subpicture.

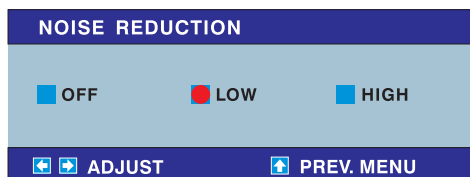
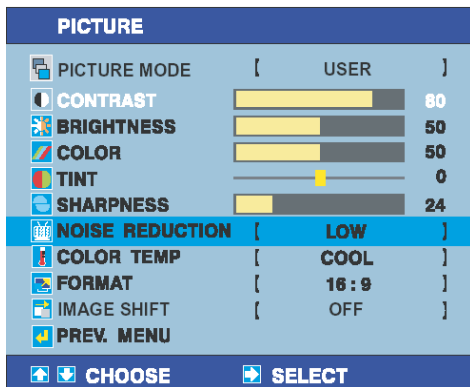
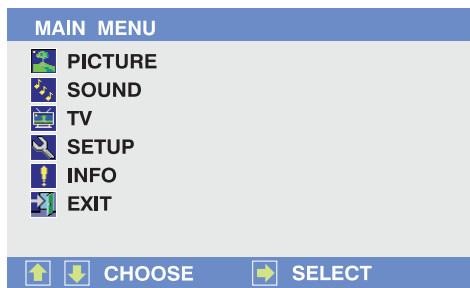


Changing the Sub-Picture Position in PIP Mode

Once the PIP mode is turned on;

- 1 Press the POSITION key to switch position.
- 2 Press the POSITION key repeatedly to cycle through all four corners of the screen.

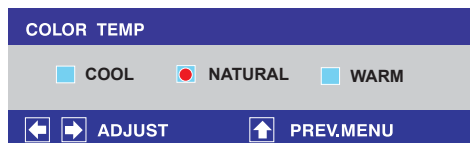
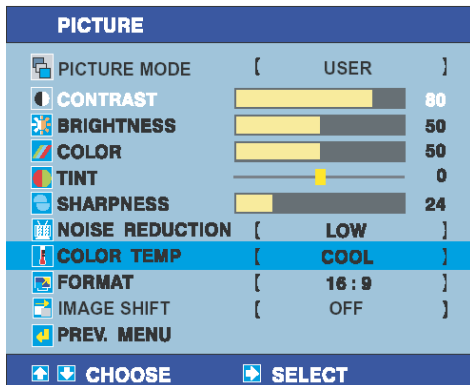
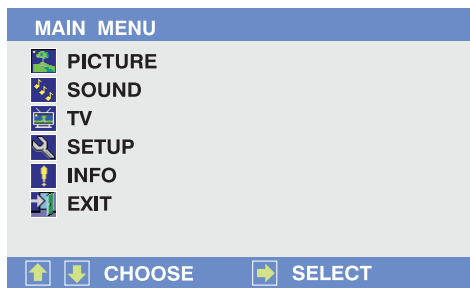




7.1.3 NOISE REDUCTION

To improve the quality of the picture in the case of poor reception.

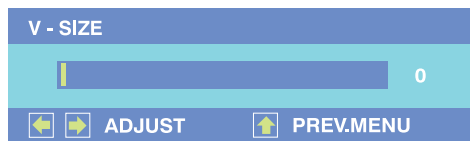
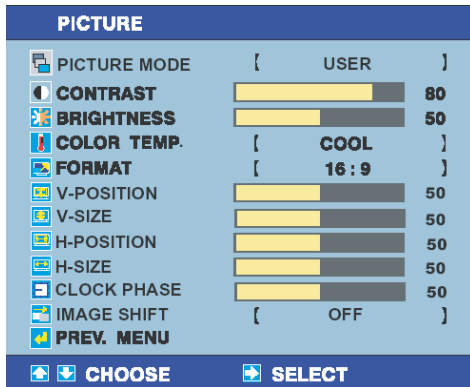
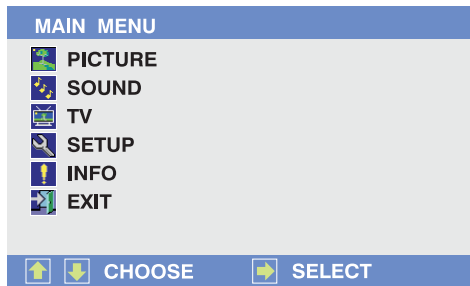
- 1 Press the MENU button on the monitor panel or remote control.
- 2 Use the SEL ▲ or SEL ▼ key to select the PICTURE option from the menu.
- 3 Press the ADJ ► key to confirm selection.
=> Various options are available in the PICTURE menu.
- 4 Use the SEL ▲ or SEL ▼ key to select the NOISE REDUCTION option from the menu.
- 5 Press the ADJ ► key to confirm selection.
=> The NOISE REDUCTION menu appears.
- 6 Use the ADJ ◀ or ADJ ► to change the setting.
- 7 Press ADJ ► key to confirm setting and return to previous menu.



7.1.4 SELECTING COLOR TEMPERATURE

This monitor is capable of applying various color temperatures (also known as White Balance) onto the video signal for display.

- 1 Press the MENU button on the monitor panel or remote control.
- 2 Use the SEL ▲ or SEL ▼ key to select the PICTURE option from the menu.
- 3 Press the ADJ ► key to confirm the selection.
=> Various options are available in the PICTURE menu.
- 4 Use the SEL ▲ or SEL ▼ key to select the COLOR TEMP option from the menu.
- 5 Press the ADJ ► key to confirm the selection.
=> The COLOR TEMP menu appears.
- 6 Use the ADJ ◀ or ADJ ► to change the setting.
- 7 Press ADJ ► key to confirm setting and return to the previous menu.

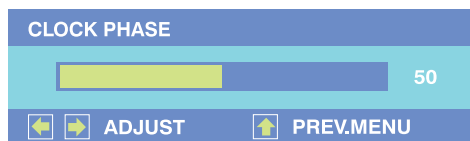
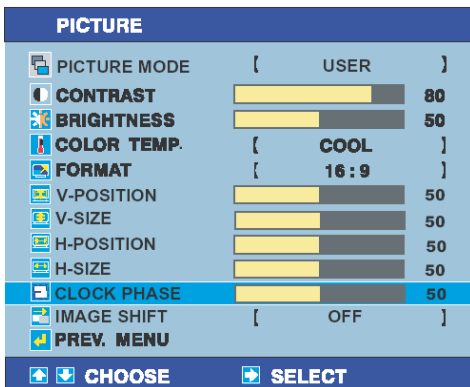
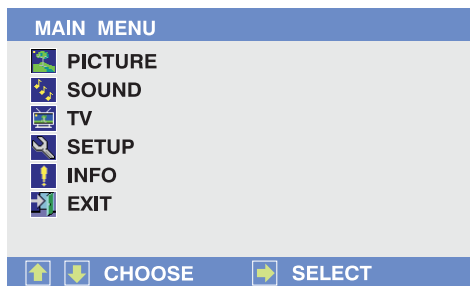


7.1.5 ADJUSTING SCREEN SIZE

- 1 Press the MENU button on the monitor panel or remote control.
- 2 Use the SEL ▲ or SEL ▼ key to select the PICTURE option from the menu.
- 3 Press the ADJ ► key to confirm the selection.
=> Various options are available in the PICTURE menu.
- 4 Use the SEL ▲ or SEL ▼ key to select the to select V-Size, V-Position, H-Size, or H-Position from the menu.
- 5 Press the ADJ ► key to confirm the selection.
=> A small display window appears.
- 6 Use the ADJ ◀ or ADJ ► key to change the setting, so that your video picture is best fit within the display area of the monitor.
- 7 Press the ADJ ► key to confirm setting and return to the previous menu.
- 8 Press the SEL ▲ key to confirm setting and return to previous menu.
- 9 Repeat procedure for V-Size, V-Position, H-Size, and H-Position settings until the video picture is fully displayed within the monitor's display area.

Note:

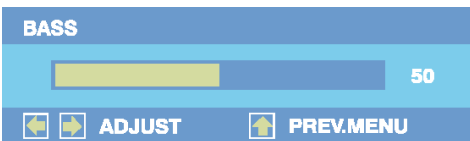
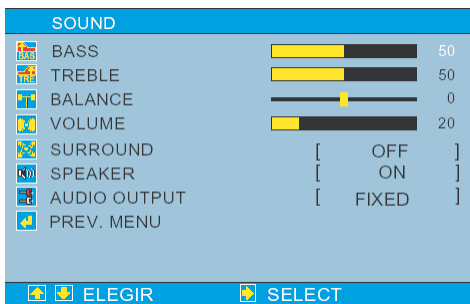
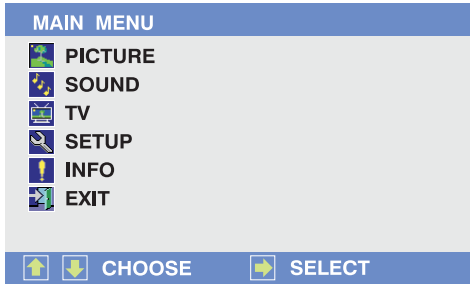
H-Position, H-Size, V-Position and V-Size adjustments are only available in RGB and Component input modes.



7.1.6 FINE TUNING RGB MODE

Due to various PC video cards and set-top boxes with differing specifications, it is likely that the initial video picture have subtle noise or imperfections. Please use the following procedures to adjust the picture quality when using under RGB mode.

- 1 Press the MENU button on the monitor panel or remote control.
- 2 Use the SEL ▲ or SEL ▼ key to select the PICTURE option from the menu.
- 3 Press the ADJ ► key to confirm the selection.
=> Various options are available in the PICTURE menu.
- 4 Use the SEL ▲ or SEL ▼ key to select the CLOCK PHASE option from the menu.
- 5 Press the ADJ ► key to confirm the selection.
=> The CLOCK PHASE menu appears.
- 6 Use the ADJ ◀ or ADJ ► key to optimize the video picture.
- 7 Press the SEL ▲ key to confirm setting and return to the previous menu.



7.2 SOUND CONTROLS

7.2.1 ADJUSTING SOUND SETTINGS








Using OSD Menu

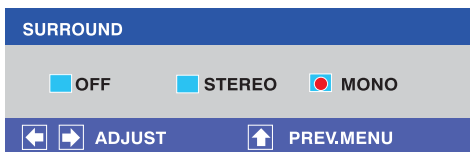
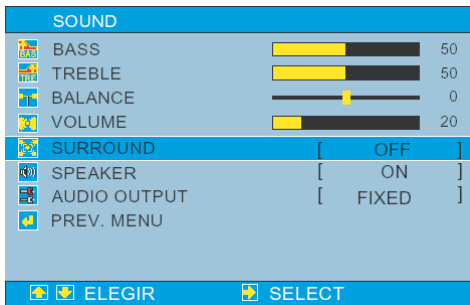
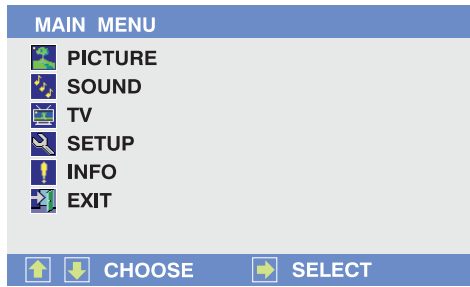
Various sound adjustments can be set using the Sound Adjustment OSD menu.

- 1 Press the MENU button on the monitor panel or remote control.
- 2 Use the SEL ▲ or SEL ▼ key to select the SOUND option from the menu.
- 3 Press the ADJ ► key to confirm the selection.
=> Various options are available in the SOUND menu.
- 4 Use the SEL ▲ or SEL ▼ key to select the option to change.
- 5 Press the ADJ ► key to confirm the selection.
=> A small display window appears.
- 6 Use the ADJ ◀ or ADJ ► key to optimize the sound.
- 7 Press the SEL ▲ key to confirm setting and return to the previous menu.

Explanation of Various Sound Control Settings

Explanation of each available sound control settings are listed in the table below.

	<p>BASS Adjusts the BASS level of the sound. For more bass response, increase the BASS level.</p>
	<p>TREBLE Adjusts the TREBLE level of the sound. For more vocal and high frequency response, increase the TREBLE level.</p>
	<p>BALANCE Adjusts the BALANCE level between LEFT and RIGHT channels.</p>
	<p>VOLUME Use to adjust the monitor's volume..</p>
	<p>SURROUND This monitor is equipped with Surround Sound circuitry. Use Surround Sound to simulate a surround sound effect if you are not using a multi-channel sound setup.</p>
	<p>SPEAKER Set to ON to turn on the monitor's internal amplification and internal speakers. Set to OFF to turn off internal amplification and speakers. This setting will not affect AUDIO OUTPUT jacks.</p>
	<p>AUDIO OUTPUT Sets the type of audio output sent from the audio output jacks located in the rear of monitor. When set to VARIABLE, audio output is affected by the monitor's internal volume controls . When set to FIXED, the audio output bypasses the monitor's internal audio control so that functions such as bass, treble, surround and volume controls have no effect.</p>



7.2.2 USING SURROUND SOUND

Turning On Surround Sound

This monitor is equipped with a surround sound circuitry that enhances the sound when using two speakers.

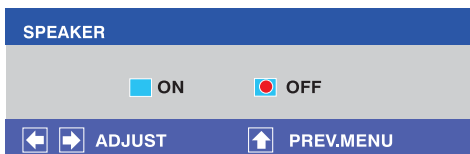
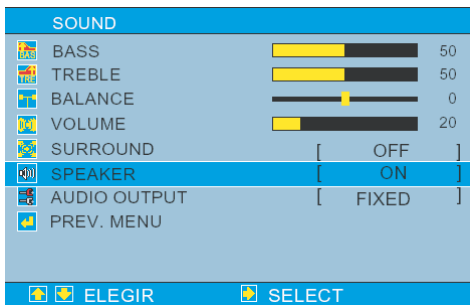
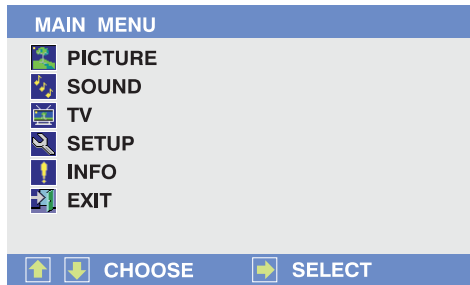
- 1 Press the MENU button on the front panel or remote control.
- 2 Use the SEL ▲ or SEL ▼ key to select the SOUND option from the menu.
- 3 Press the ADJ ► key to confirm the selection.
=> Various options are available in the SOUND menu.
- 4 Use the SEL ▲ or SEL ▼ key to select the SURROUND option.
- 5 Press the ADJ ► key to confirm the selection.
=> The SURROUND menu appears.
- 6 Use the ADJ ◀ or ADJ ► key to optimize the sound.
 - Select OFF to maintain normal stereo.
 - Select STEREO to turn on surround circuitry.
 - Select MONO to turn off stereo.
- 7 Press the SEL ▲ key to confirm setting and return to the previous menu.

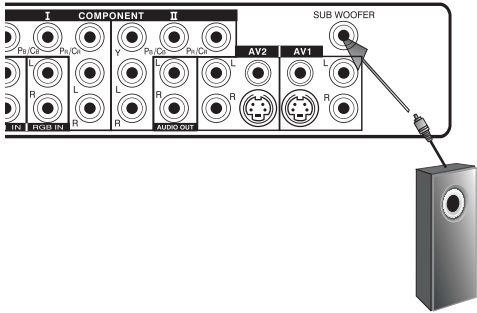
7.2.3 BUILT-IN AMPLIFICATION (SPEAKER)

Turning On Built-in Amplification

This monitor is equipped with a built-in amplification for optional external speakers. You can switch the amplification ON or OFF using the OSD. Because these speakers are general purpose, you may consider switching them OFF during hi-fidelity playback of movies or other content.

- 1 Press the MENU button on the monitor panel or remote control.
- 2 Use the SEL ▲ or SEL ▼ key to select the SOUND option from the menu.
- 3 Press the ADJ ► key to confirm the selection.
=> Various options are available in the SOUND menu.
- 4 Use the SEL ▲ or SEL ▼ key to select the SPEAKER option.
- 5 Press the ADJ ► key to confirm the selection.
=> The SPEAKER menu appears.
- 6 Use the ADJ ◀ or ADJ ► key to optimize the sound.
 - Select OFF to switch off.
- 7 Press the SEL ▲ key to confirm setting and return to the previous menu.





7.2.4 USING AN EXTERNAL SUBWOOFER

Connecting a Subwoofer

This monitor is equipped with a subwoofer output to connect to an external amplified subwoofer.

- 1 Connect a RCA cable from the subwoofer's input to the subwoofer's output jack on the back of the monitor.

Notes:

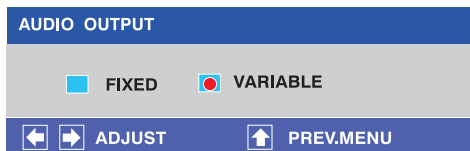
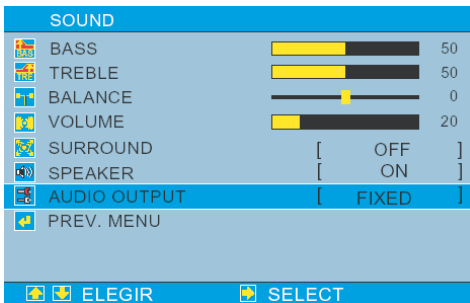
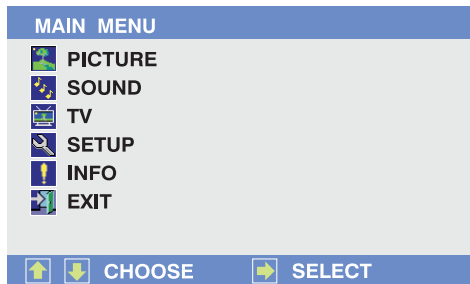
- The RCA subwoofer outputs frequencies below 120Hz.
- The subwoofer output jack is governed by FIXED or VARIABLE audio output setting and works in conjunction with AUDIO OUT jacks.

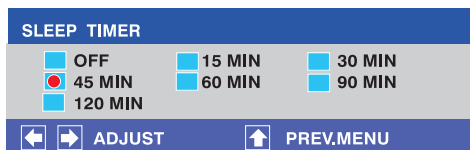
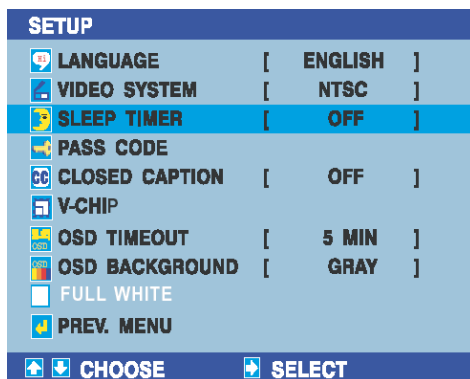
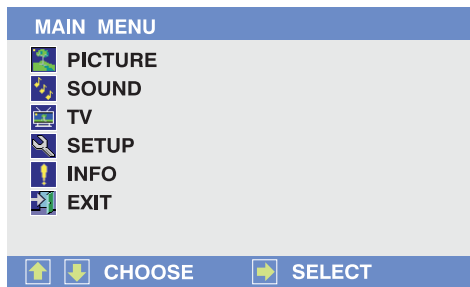
7.2.5 FIXED / VARIABLE AUDIO OUTPUT

Setting Output Using OSD Menu

You can set the type of output this monitor outputs from its rear panel audio output jacks. By using OSD menu, you can easily choose between variable or fixed audio outputs.

- 1 Press the MENU button on the front panel or remote control.
- 2 Use the SEL ▲ or SEL ▼ key to select the SOUND option from the menu.
- 3 Press the ADJ ► key to confirm the selection.
=> Various options are available in the SOUND menu.
- 4 Use the SEL ▲ or SEL ▼ key to select the AUDIO OUTPUT option.
- 5 Press the ADJ ► key to confirm selection.
=> The AUDIO OUTPUT menu appears.
- 6 Use the ADJ ◀ or ADJ ► key to change the setting.
 - When set to VARIABLE, audio output is affected by the monitor's internal audio controls.
 - When set to FIXED, the audio output bypasses the monitor's internal audio controls. After achieving desired setting,
- 7 Press the SEL ▲ key to confirm setting and return to the previous menu.





7.3 SLEEP TIMER

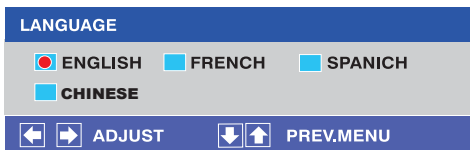
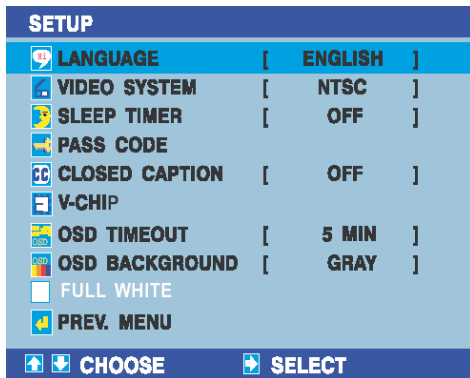
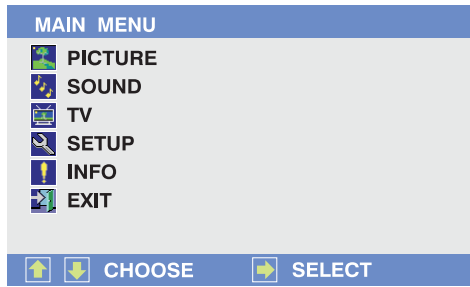
Setting the Sleep Timer Using the OSD Menu

This monitor has a built-in sleep timer function. Once set, the monitor will automatically shut-off without user intervention.

- 1 Press the MENU button on the monitor panel or remote control.
- 2 Use the SEL ▲ or SEL ▼ key to select the SETUP option from the menu.
- 3 Press the ADJ ► key to confirm the selection.
=> Various options are available in the SETUP menu.
- 4 Use the SEL ► or SEL ▼ key to select the SLEEPTIMER option.
- 5 Press the ADJ ► key to confirm selection.
=> The SLEEP TIMER menu appears.
- 6 Use the ADJ ◀ or ADJ ► key to change the setting (OFF, 15MIN, 30MIN, 45MIN, 60MIN, 90MIN, 120MIN).
- 7 Press the SEL ▲ key to confirm setting and return to the previous menu.

Note:

The monitor will function normally until the 1-minute mark. At the 1-minute mark, the sleep timer will display a second by second countdown clock to notify that you that the monitor is about to turn off.



7.4 OSD MENU LANGUAGE

Setting OSD Menu Language

This monitor has multiple OSD Menu languages built-in including: English, French, Spanish and Chinese.

- 1 Press the MENU button on the monitor panel or remote control.
- 2 Use the SEL ▲ or SEL ▼ key to select the SETUP option from the menu.
- 3 Press the ADJ ► key to confirm the selection.
=> Various options are available in the SETUP menu.
- 4 Use the SEL ▲ or SEL ▼ key to select the LANGUAGE option.
- 5 Press the ADJ ► key to confirm selection.
=> The LANGUAGE menu appears.
- 6 Use the ADJ ◀ or ADJ ► key to select the desired OSD language.
- 7 Press the SEL ▲ key to confirm setting and return to the previous menu.

7.5 SETTING POWER SAVE MODE

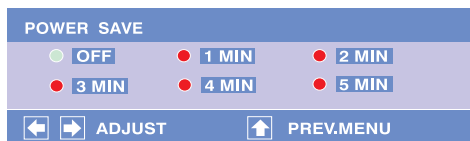
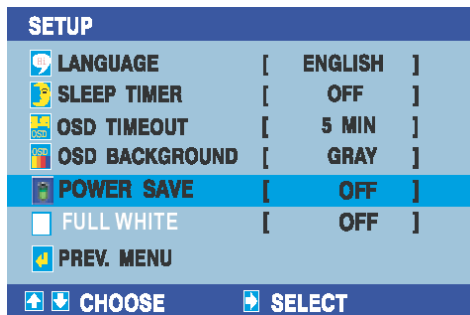
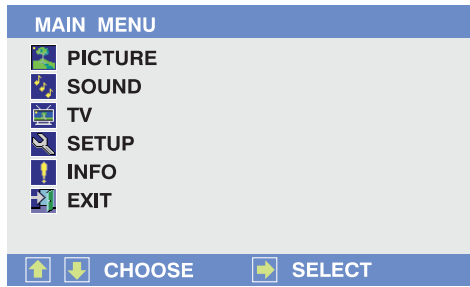
Using OSD Menu

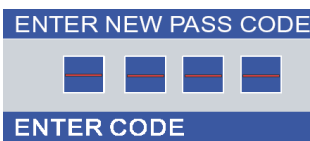
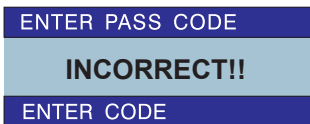
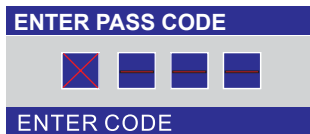
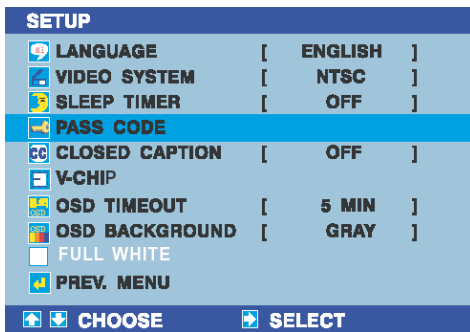
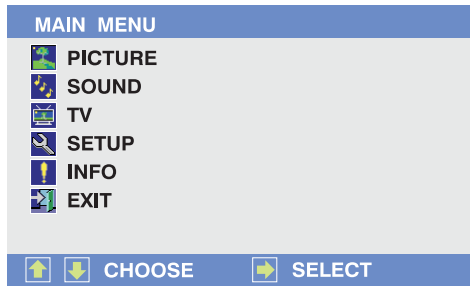
This monitor is equipped with a Power Save mode under RGB input modes. When there are no signals detected by the monitor, the monitor will automatically go into sleep mode until signal is restored.

- 1 Press the MENU on the monitor panel or remote control.
- 2 Use the SEL ▲ or SEL ▼ key to select the SETUP option from the menu.
- 3 Press the ADJ ► key to confirm the selection.
=> Various options are available in the SETUP menu.
- 4 Use the SEL ▲ or SEL ▼ key to select the POWER SAVE option
- 5 Press the ADJ ► key to confirm selection.
=> The POWER SAVE menu appears.
- 6 Use the ADJ ◀ or ADJ ► key to select the desired amount of time to power down when no signal is detected (1MIN, 2MIN, 3MIN, 4MIN and 5MIN).
- 7 Press the SEL ▲ key to confirm setting and return to previous menu.

Note:

To turn on the monitor from sleep mode, simply follow Power On procedure.





7.6 SYSTEM PASS CODE

Setting System Pass code

The system pass code setting is used in conjunction with V-Chip (Parental Guide) and Channel Lock functions. The same security passcode is used for both functionality. By default, this monitor is shipped with the security pass code set at 0000.

- 1 Press the MENU on the monitor panel or remote control.
- 2 Use the SEL ▲ or SEL ▼ key to select the SETUP option from the menu.
- 3 Press the ADJ ► key to confirm the selection.
=> Various options are available in the SETUP menu.
- 4 Use the SEL ▲ or SEL ▼ key to select the PASS CODE option.
- 5 Press the ADJ ► key to confirm selection.
=> The ENTER PASS CODE window appears.
- 6 Use the number keys on the remote control to enter the currently used pass code. As each numeric digit is entered, a small "X" fills each slot.
 - If the code has not been set before, please use the default "0000" code.
 - If the code entered is incorrect, an "Error" status is displayed. Simply enter the pass code again.

Notes:

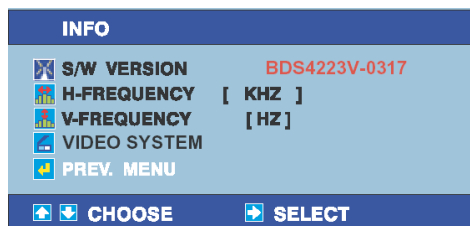
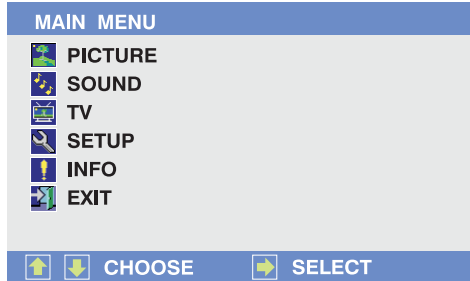
- When entering the 4-digit pass code, please enter the digits slowly. The monitor will display "X" in each of the number slots as it receives the pass code.
 - If the wrong passcode is entered three times, the monitor will go back to the SETUP menu. Repeat the above procedure to reset your pass code.
- 7 When the currently used passcode is entered correctly, the monitor will prompt to enter of a new passcode. Enter the four digit passcode using the numeric keypad on the remote control.
 - 8 Re-enter the new passcode one more time to confirm.

Note:

Please contact authorized customer service center if you did forget the pass code.

7.7 INFORMATION DISPLAY MENU

The information display sub-menu retains much useful information regarding the status of the monitor.



Accessing Information Display Menu

- 1 Press the MENU on the front panel or remote control.
- 2 Use the SEL ▲ or SEL ▼ key to select the INFO option from the menu.
- 3 Press the ADJ ► key to confirm selection.
=> Various information items are displayed in the INFO menu.
- 4 To exit the INFO menu, use the SEL ▲ or SEL ▼ key to select PREV. MENU option.
- 5 Press the ADJ ► key to confirm exit.

Explanation of Information

- **S/W Version**
Shows the monitor's firmware version number.
- **H-Frequency**
Displays the horizontal scanning frequency of the signal being displayed.
- **V-Frequency**
Displays the vertical scanning frequency of the signal being displayed.
- **Video System (For TV, AV and Component input with 480i signal)**
Displays the video system (NTSC) of the signal being displayed.
- **Resolution (For RGB, DVI and Component input with 480p, 720p and 1080i signals)**
Displays the resolution of the signal currently being displayed by the monitor.

8. TECHNICAL SPECIFICATIONS

Display Panel

Screen Size	42"
Aspect Ratio	16:9
Number of Pixels	852 (Horizontal) x 480 (Vertical)
Pixel Pitch	1.095mm (Horizontal) x 1.110 mm(Vertical)
Luminance	1000 cd/m ² (1% white window at center)

Power Source

Input Voltage	100 ~ 240 Vac; 50/60 Hz
Input Current	3.8 A
Inrush Current	60 A p-p/ 20 ms max.
Power Consumption	380±10% Watts (at 110 Vac/ color bar pattern)
Stand-by & Power Save	5 Watts max. (at 110 Vac)

Connections

Connector Types	RCA Jacks for audio, video, Y/C _B /C _R and Y/P _B /P _R 4-pin DIN S-terminal for S-Video 9-pin Sub-D for RS-232 15-pin Sub-D for RGB 24-pin DVI
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Video/S-Video Signal

Type	Analog
Polarity	Positive
Amplitude	Video: 1 Vp-p (with sync), S-Video: Y=1 Vp-p C=0.286 Vp-p
Frequency	H: 15.734 kHz V: 60 Hz (NTSC)
Input Impedance	75 ohms

Y/C_B/C_R or Y/P_B/P_R Signal (Component 1 & 2)

Type	Analog
Polarity	Positive
Amplitude	Y: 1 Vp-p (with sync) C _B /P _B : 0.7 ± 0.1 Vp-p C _R /P _R : 0.7 ± 0.1 Vp-p
Frequency	H: 15.734 kHz V: 60 Hz (NTSC)
Y/C _B /C _R	H: 31 kHz V: 60 Hz (480p)
Y/P _B /P _R : HDTV	H: 45 kHz V: 60 Hz (720p)
	H: 33 kHz V: 60 Hz (1080i)

RGB Signal

Type	TTL
Polarity	Positive or Negative
Amplitude	RGB: 0.7 Vp-p
Frequency	H: support to 31k ~ 69 kHz V: support to 50 ~ 85 Hz

DVI Signal

Type Digital
Polarity Positive or Negative
Frequency H: support to 31k ~ 69 kHz
V: support to 50 ~ 85 Hz

Audio Signal Analog 500 mV_{rms} / more than 22 kohms

Pin Assignments for Sub-D Connector (In/ Loop Out)

1 - RED	6 - RED GND	11 - GND
2 - GREEN	7 - GREEN GND	12 - SDA
3 - BLUE	8 - BLUE GND	13 - H-SYNC
4 - GND	9 - NC	14 - V-SYNC
5 - GND	10 - GND	15 - SCL

Pin Assignments for 24-pin DVI Connector (Digital only)

1 - TMDS Data 2-	9 - TMDS Data 1-	17 - TMDS Data 0-
2 - TMDS Data 2+	10 - TMDS Data 1+	18 - TMDS Data 0+
3 - TMDS Data 2/4 Shield	11 - TMDS Data 1/3 Shield	19 - TMDS Data 0/5 Shield
4 - TMDS Data 4-	12 - TMDS Data 3-	20 - TMDS Data 5-
5 - TMDS Data 4+	13 - TMDS Data 3+	21 - TMDS Data 5+
6 - DDC Clock	14 - +5 V Power	22 - TMDS Clock Shield
7 - DDC Data	15 - Ground (for +5 V)	23 - TMDS Clock+
8 - Not Connected	16 - Hot Plug Detect	24 - TMDS Clock-

RGB/DVI for VESA Standard

This monitor supports the following resolutions.

Dot x Line	Horizontal Frequency (KHz)	Vertical Frequency (KHz)	Dot Rate (MHz)	Vertical Polarity	Horizontal Polarity
640 x 480@60Hz	31.469	59.940	25.175	-	-
640 x 480@72Hz	37.861	72.809	31.500	-	-
640 x 480@75Hz	37.500	75.000	31.500	-	-
640 x 480@85Hz	43.269	85.008	36.000	-	-
800 x 600@60Hz	37.879	60.317	40.000	+	+
800 x 600@72Hz	48.077	72.188	50.000	+	+
800 x 600@75Hz	46.875	75.000	49.500	+	+
800 x 600@85Hz	53.674	85.061	56.250	+	+
1024 x 768@60Hz	48.363	60.004	65.000	-	-
1024 x 768@70Hz	56.476	70.069	75.000	-	-
1024 x 768@75Hz	60.023	75.029	78.750	+	+
1024 x 768@85Hz	68.677	84.977	94.500	+	+
1280 x 1024@60Hz	63.981	60.020	108.000	+	+
720 x 400@70Hz	31.469	70.087	28.322	+	-
720 x 480@60Hz	31.469	59.94	27.000	-	-
1280 x 720p@60Hz	45.000	60.000	74.250	+	+
1920 x 1080i@60Hz	33.750	60.000	74.250	+	+
1366 x 768@60Hz	48.000	60.000	76.800	-	-

Y/P_B/P_R for Component 1 and 2

Mode	Resolution	Refresh Rate
1	640x480p	60
2	1920x1080i	60
3	1280x720p	60

Max. Resolution Up to 1280x1024 pixels

Dimensions & Weight

	With Stand	Without Stand
Width	1081.1 mm	1081.1 mm
Height	736.0 mm	677.1 mm
Depth	279.4mm	95 mm
Weight	80.5 lbs/ 36.5 kg	76.5 lbs/ 34.7 kg

Operating Conditions

Temperature	0 ~ 40°C (32 ~104°F)
Relative Humidity	20 ~ 80%
Pressure	700 ~ 1114 hPa

Non-Operating Conditions

Temperature	-5 ~ 50°C
Relative Humidity	20 ~ 80%
Pressure	600 ~ 1114 hPa
Vibration	X/Y/Z 0.5G/ 10 ~ 55 Hz (sweep)/ 10 minutes

Acoustics

(IHF A-weighted 1 meter) 40 dB max.

Sound

Residual hum (at max. Volume)	500 µW max.
Practical max. audio output (at 10% THD max.)	5 W +5 W max. /12 ohms
Sound distortion (at 250 mW 1 kHz)	1% max.
Audio output (input at 1.4 Vp-p)	>= 1.0 Vp-p

Reliability Requirement

The MTBF is 20,000 hrs under operation at 25 ± 5°C (Half luminosity, motion picture).

Emission Requirement

The unit meets the EMI limits in all screen modes, as qualified by FCC, class B, part 15.

Power Management

Mode	H-sync	V-sync	Video	Power dissipation
Normal	Pulse	Pulse	Active	Normal power
Stand-by	No pulse	No pulse	No video	Power off
Power saving	Pulse	No pulse	Blanked	Less than 6 Watts
Power saving	No pulse	Pulse	Blanked	Less than 6 Watts

9. CLEANING AND TROUBLESHOOTING

9.1 CLEANING

Cautions When Using the Plasma Display

- Do not bring your hands, face or objects close to the ventilation holes of the plasma display. Top of plasma display is usually very hot due to the high temperature of exhaust air being released through the ventilation holes. Burns or personal injuries may occur if any body parts are brought too close. Placing any object near the top of the display could also result in heat related damages to the object as well as the display itself.
- Be sure to disconnect all cables before moving the plasma display. Moving the display with its cables attached may damage the cables and thus case fire or electric shock danger.
- Disconnect the power plug from the wall outlet as a safety precaution before carrying out any type of cleaning or maintenance procedure.

Front Panel Cleaning Instructions

- The front of the display has been specially treated. Wipe the surface gently using only a cleaning cloth or a soft, lint-free cloth.
- If the surface is particular dirty, soak a soft, lint-free cloth in a mild detergent solution. Wring the cloth to remove excess liquid. Wipe the surface of the display to remove dirt. Then use a dry cloth of the same type to dry.
- Do not scratch or hit the surface of the panel with fingers or hard objects of any kind.
- Do not use volatile substances such as insect sprays, solvents and thinners.

Cabinet Cleaning Instructions

- If the cabinet becomes dirty, wipe the cabinet with a soft, dry cloth.
- If the cabinet is extremely dirty, soak a lint-free cloth in a mild detergent solution. Wring the cloth to remove as much moisture possible. Wipe the cabinet. Use another dry cloth to wipe over until the surface is dry.
- Do not allow any water or detergent to come into contact with the surface of the display. If water or moisture gets inside the unit, operating problems, electrical and shock hazards may result.
- Do not scratch or hit the cabinet with fingers or hard objects of any kind.
- Do not use volatile substances such as insect sprays, solvents and thinners on the cabinet.
- Do not place anything made from rubber or PVC near the cabinet for any extended periods of time.

9.2 TROUBLESHOOTING

Symptom	Possible Cause	Remedy
No picture is displayed	<ol style="list-style-type: none"> 1 The power cord is disconnected. 2 The main power switch on the back of the monitor is not switched on. 3 The selected input has no connection. 4 The monitor is in standby mode in RGB mode. 	<ol style="list-style-type: none"> 1 Plug in the power cord. 2 Make sure the power switch is switched on. 3 Connect a signal connection to the monitor. 4 Press any key on your keyboard.
Interference displayed on the monitor or audible noise is heard	Caused by surrounding electrical appliances, cars/ motorcycles or fluorescent lights.	Move the monitor to another location to see if the interference is reduced.
Color is abnormal	The signal cable is not connected properly.	Make sure that the signal cable is attached firmly to the back of the monitor.
Picture is distorted with abnormal patterns	<ol style="list-style-type: none"> 1 The signal cable is not connected properly. 2 The input signal is beyond the capabilities of the monitor. 	<ol style="list-style-type: none"> 1 Make sure that the signal cable is attached firmly. 2 Check the video signal source to see if it is beyond the range of the monitor. Please verify its specifications with this monitor's specification section
Display image doesn't fill up the full size of the screen	<ol style="list-style-type: none"> 1 If under RGB mode, the H-Size and V-Size is incorrectly set. 2 If under AV1, AV2, or Component with 480i input, the 4:3 WIDE mode is switched on. 	<ol style="list-style-type: none"> 1 Use H-Size and V-Size to adjust the size of the video. 2 Use the WIDE key to scroll through various full screen modes.
Can hear sound, but no picture	Improperly connected source signal cable. 1.	Make sure that both video inputs and sound inputs are correctly connected.
Can see picture but no sound is heard	<ol style="list-style-type: none"> 1 Improperly connected source signal cable. 2 Volume is turned all the way down. 3 MUTE is turned on. 	<ol style="list-style-type: none"> 1 Make sure that both video inputs and sound inputs are correctly connected. 2 Use VOLUME +/- to hear sound. 3 Switch MUTE off by using the MUTE button.
Some picture elements do not light up	Some pixels of the plasma display may not turn on	<p>This monitor is manufactured using an extremely high level of precision technology; however, sometimes some pixels of the monitor may not display.</p> <p>This is not a malfunction. Please see the enclosed warranty card for more information.</p>
After-Images can still be seen on the monitor after the monitor is powered off. (Examples of still pictures include logos, video games, computer images, and images displayed in 4:3 normal mode)	A still picture is displayed for an over extended period of time.	Do not allow a still image to be displayed for an extended period of time as this can cause a permanent after-image to remain on the monitor.

10. LIMITED WARRANTY (USA)

One Year Free Labor

One Year Free Parts

WHO IS COVERED?

You must have proof of the date purchased to receive warranty service. A sales receipt or other document showing the date that you purchased the product is considered proof of purchase.

WHAT IS COVERED?

Warranty coverage begins the day you buy your product. For one year thereafter, all defective parts will be repaired or replaced and labor is free. After one year from the day of purchase, you pay for the replacement or repair of all parts, and for all labor charges. All parts, including repaired and replaced parts, are covered only for the original warranty period. When the warranty on the product expires, the warranty on all replaced and repaired parts also expires.

WHAT IS EXCLUDED?

Your warranty does not cover:

- labor charges for removal, installation or setup of the product, adjustment of customer controls on the product, and installation or repair of antenna systems outside of the product.
- product repair and/or part replacement because of misuse, accident, unauthorized repair or other cause not within the control of Philips Consumer Electronics North America.
- reception problems caused by signal conditions or cable or antenna systems outside the unit.
- a product that requires modification or adaptation to enable it to operate in any country other than the country for which it was designed, manufactured, approved and/or authorized, or repair of products damaged by these modifications.
- incidental or consequential damages resulting from the product. (Some states do not allow the exclusion of incidental or consequential damages, so the above exclusion may not apply to you. This includes, but is not limited to, prerecorded material, whether copyrighted or not copyrighted.)
- modifications or adaptations to enable the product to operate in any country other than the country for which it was designed, manufactured, approved and/or authorized, or the repair of products damaged by these modifications.
- normal wear and tear (decreased light output of PDP module) over the product's lifetime.
- phosphor burn. Do not display static images for prolonged periods, otherwise phosphor burn might appear on part of the panel.
- limited quantity of cells (fine pixel elements) that do not produce light, or that remain lit after they should have turned off.

WHERE IS SERVICE AVAILABLE?

Warranty service is available in all countries where the product is officially distributed by Philips Consumers Electronics North America. In countries where Philips Consumers Electronics North America does not distribute the product, the local Philips service organization will attempt to provide service (although there may be a delay if the appropriate spare parts and technical manual(s) are not readily available).

MAKE SURE YOU KEEP ...

Please keep your sales receipt or other document showing proof of purchase. Attach it to this owner's manual and keep both nearby. Also keep the original box and packing material in case you need to return your product.

BEFORE REQUESTING SERVICE ...

Please check your owner's manual before requesting service. Adjustments of the controls discussed there may save you a service call.

**TO GET WARRANTY SERVICE U.S.A.,
PUERTO RICO OR US VIRGIN ISLANDS ...**

Please contact Philips at:
1-877-835-1838

or an authorized service center to arrange repair. (In U.S.A., Puerto Rico and U.S. Virgin Islands, all implied warranties, including implied warranties of merchantability and fitness for a particular purpose, are limited in duration to the duration of this express warranty. But, because some states do not allow limitations on how long an implied warranty may last, this limitation may not apply to you.)

TO GET WARRANTY SERVICE IN CANADA ...

Please contact Philips at:
800-661-6162 (French Speaking) (within Canada only)
800-531-0039 (English Speaking)

(In Canada, this warranty is given in lieu of all other warranties. No other warranties are expressed or implied, including any implied warranties of merchantability or fitness for a particular purpose. Philips is not liable under any circumstances for any direct, indirect, special, incidental or consequential damages, howsoever incurred, even if notified of the possibility of such damages.)

REMEMBER ...

Please record the model and serial numbers found on the product below. Also, please fill out and

mail your warranty registration card promptly. It will be easier for us to notify you if necessary.

MODEL # _____

SERIAL # _____wo____