

Philips Business Solutions



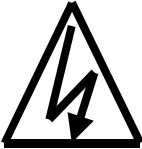

E User Manual



TYPE NR. BDS4221

PHILIPS

Important Safety Instructions

	WARNING RISK OF ELECTRIC SHOCK DO NOT OPEN	
WARNING: To reduce the risk of electric shock, do not remove the front or back covers. No user-serviceable parts inside. Refer servicing to qualified service personnel only.		



The lightning flash with arrow-head within a triangle is intended to inform the user that parts inside the product are a risk of electric shock.



The exclamation point within a triangle is intended to tell the user that important operating and servicing instructions are explained.

Special Notices

- Certain programs may be copyrighted and any unauthorized recording in whole or in part may be in violation of copyright laws in the U.S. and Canada.
- FCC/CSA regulations state that any unauthorized modifications to this display may void user authority to operate it.

Warnings & Precautions

- To prevent damage which may result in fire or shock hazard, do not expose this product to rain or moisture.
- To prevent electric shock, do not remove cover. No user serviceable parts are inside. Refer servicing to qualified service personnel only.
- Keep display away from excessive dust, high temperature, moisture or direct sunlight.
- Use in a well-ventilated area and do not cover ventilation openings.
- Unauthorized modifications to this equipment or usage of an unshielded connecting cable may cause excessive interference.
- When the display is not in use, disconnect it from the electric outlet.
- If the picture displayed is in any way 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.
- Do not place this product on an unstable cart, stand or table. The product may fall, causing serious damage.
- Do not place the unit on a bed, sofa, rug, or other similar surfaces.
- Never place the unit near or over a radiator or heat source.
- Do not install unit in an enclosed area unless proper ventilation is provided.
- The unit should 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.
- The unit is equipped with a 3-pin grounded plug. The plug will only fit into a grounded power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician. Do not alter this plug as this will defeat the safety feature.
- Do not rest objects on the power cord & avoid placing power cord near high traffic areas.
- Do not overload wall outlets and extension cords as this can result in a risk of fire or electric shock.
- Unplug the display from the electric outlet and disconnect the antenna/cable TV system during a lightning storm or when left unused for long periods of time. This will prevent damage to the display caused by lightning and power-line surges.
- Avoid overhead power lines. An outdoor antenna system should not be placed in the vicinity of overhead power lines, electric lights, or power circuits. When installing an outdoor antenna, be careful to not touch any power lines or circuits as contact with these lines can be fatal.
- Do not insert any foreign objects through the ventilation openings to the display. It may touch dangerous voltage points or damage parts.

Important Safety Instructions

- If an outdoor antenna or cable system is connected to the display, be sure the antenna or cable system is grounded to provide some protection against voltage surges and static charge buildups. Section 810 of the National Electrical Code, ANSI/NFPA No. 70-1984, provides information about proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna discharge unit, connection to grounding electrodes, and requirements for the grounding electrode.
- If this display is equipped with separate speakers, please remove the speakers prior to moving the display. Moving the display with the speakers attached may cause damage or injury.
- Disconnect the unit from the main supply and refer servicing to qualified service personnel under the following conditions:
 - Power cord or plug is damaged or frayed.
 - Liquid has been spilled into the product and/or the unit has been exposed to water or moisture.
 - Unit does not operate normally when the operating instructions are not followed. Adjust only those controls that are covered by the operating instructions, improper adjustment of other controls may result in damage which often requires extensive work by a qualified technician to restore the unit to normal operation.
 - Unit has been dropped or the cabinet has been damaged.
 - Unit exhibits a distinct change in performance, indicating a need for service.

Cleaning & Maintenance

- Disconnect from the electric outlet before cleaning. Do not use liquid or aerosol cleaners. Use only a slightly damp cloth for cleaning.

Special Warranty Information

Cell Defects

- Although the display panels are produced with more than 99% percent active cells, there may be some cells that do not produce light or remain lit. This is considered normal and not a manufacturer defect.

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

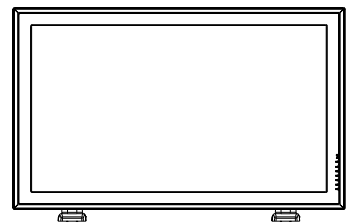
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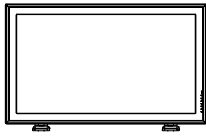


Getting to Know Your Display



Getting to Know Your Display

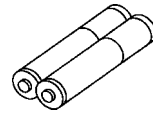
Package Contents



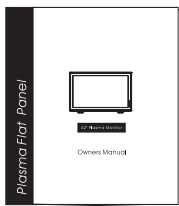
Flat Panel Display



Remote Control



Batteries



User Manual



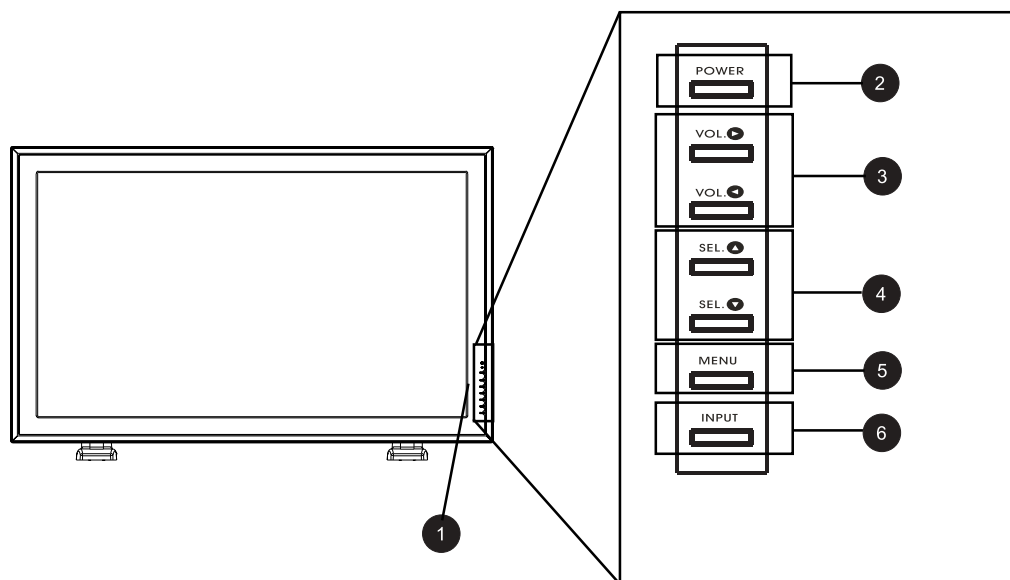
VGA Cable



AC Power Cord

Getting to Know Your Display

Front Panel Controls



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.

5 Menu Button

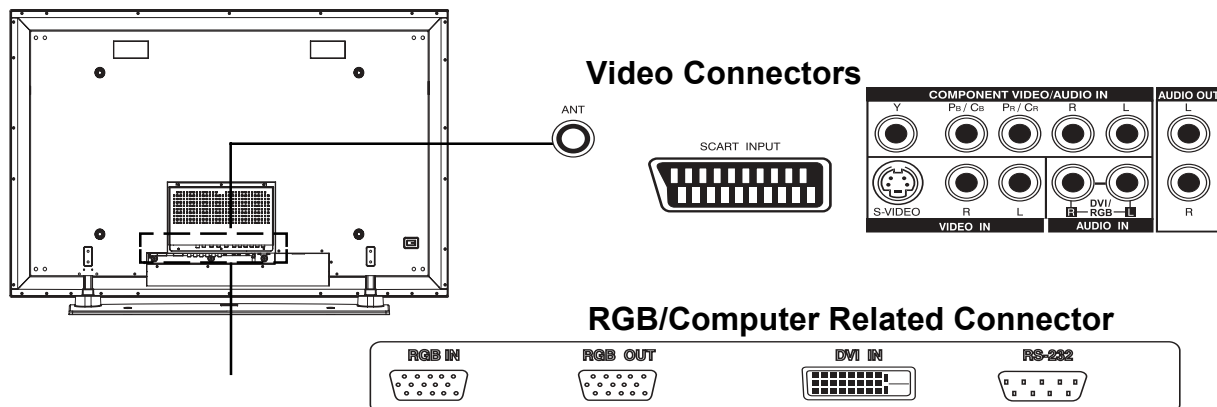
Use this button to engage the On Screen Display menu.

6 Input Button

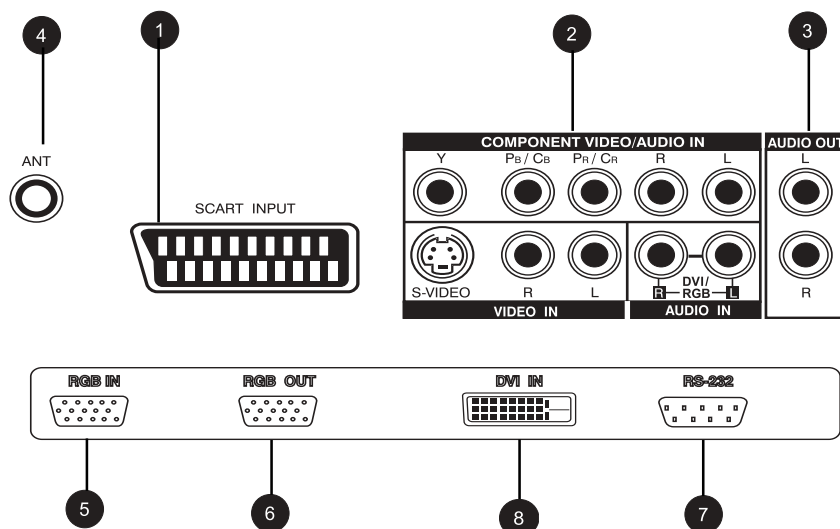
Use this button to switch between available inputs.

Getting to Know Your Display

Rear Panel



Rear Panel Connections



1 S-Video Inputs

Connect 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 Antenna Jack

Connect to TV or CATV antenna.

5 RGB Input

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

6 RGB Output

Connect to another computer monitor for daisy chaining applications.

7 RS-232 Connector

For factory use only

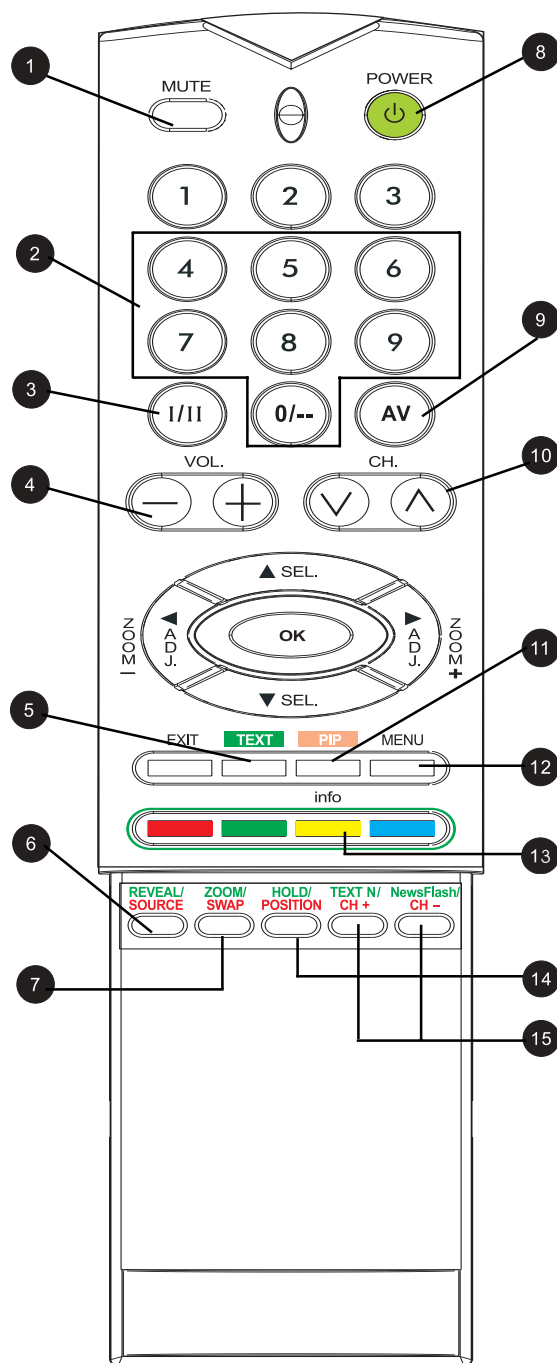
8 Digital DVI Input

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

Getting to Know Your Display

Remote Control

- 1 **Sound Mute On/Off**
- 2 **Number Keypad**
Use number keypad to select the TV channel you want to watch.
- 3 **Stereo and Dual**
Engages Stereo reception for TV or Dual for second language.
- 4 **Volume +/-**
Turns volume up or down
- 5 **Teletext**
Press TEXT key to go to TELETEXT mode.
- 6 **PIP/POP Source**
Changes the input source of the PIP or POP sub-window. (See Page 31)
- 7 **Swap**
This key swaps the main and sub picture windows under PIP or POP modes. (See Page 32)
- 8 **Standby Power On/Off**
Push this button to turn on the monitor from Standby mode. Push it again to turn off to Standby mode.
- 9 **Input Select**
Press to select input signal modes sequentially. (See Page 26)
- 10 **Channel UP/DOWN**
Change TV channels sequentially by pressing +/-.
- 11 **PIP (Picture-in-Picture Button)**
Turns on PIP (Picture-in-Picture) mode and POP (Side-by-Side) picture mode.
- 12 **Menu**
Engages the OSD menu
- 13 **Info**
press to show the status of the monitor.
- 14 **PIP Position**
This key changes the PIP sub-window to 4 different corner locations. (See Page 32)
- 15 **Sub-Picture Channel UP/DOWN**



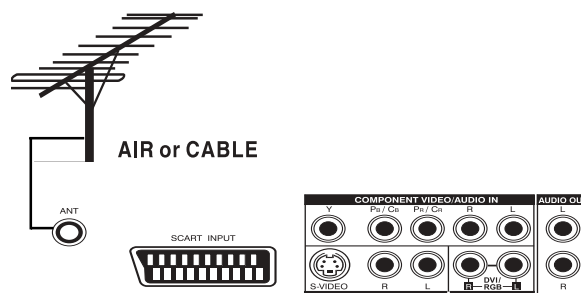
Getting to Know Your Display

Display Connections

Display Connections

Connecting TV or CATV

- 1 Connect the RF cable from the antenna or cable socket to the RF connector labeled as ANT on the back of the monitor.



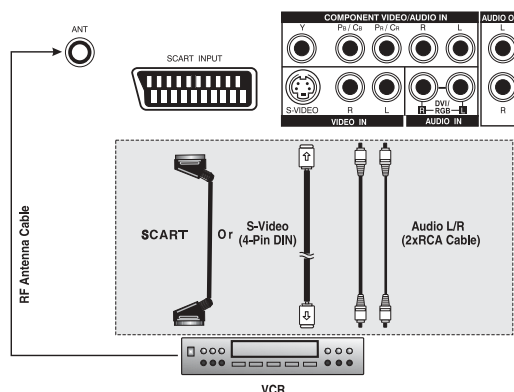
Connecting a VCR

Using SCART (AV) socket input

- 1 Connect the SCART socket on the videorecorder to the SCART socket on the rear panel of the set.
- 2 Connect the videorecorder to the antenna wall socket or cable box.

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.



Using TV Input

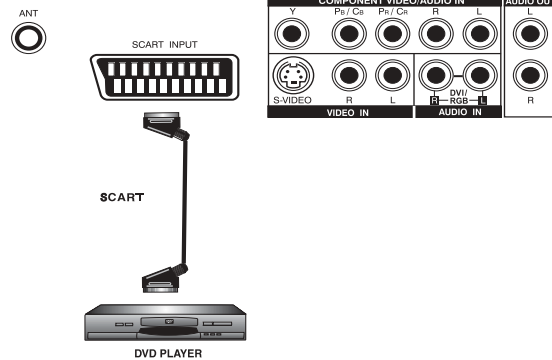
- 1 Connect the antenna out socket on the videorecorder to the corresponding socket (ANT) on the rear panel of the set.
- 2 Connect the videorecorder to the antenna wall socket or cable box.

Display Connections

Connecting a DVD Player

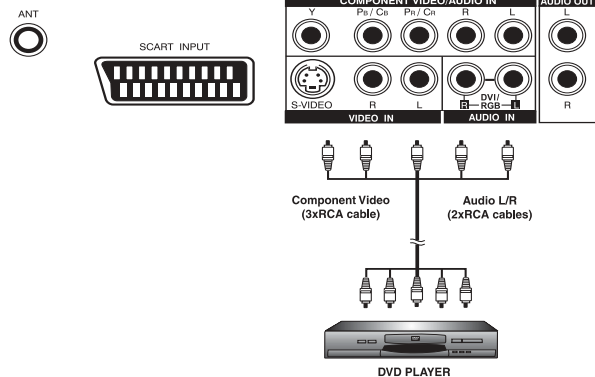
Using SCART (AV) socket Input

- 1 Using SCART (AV) socket input
Connect the SCART socket on the DVD player to the SCART socket on the rear panel of the set.



Using component video input

- 1 Connect the green-colored (labeled as Y) jack from the DVD to the green-colored jack of the monitor.
- 2 Connect the red-colored (labeled as Pr / Cr) jack from the DVD to the red-colored Pr/Cr jack of the monitor.
- 3 Connect the blue-colored (labeled as Pb / Cb) jack from the DVD to the blue-colored Pb/Cb jack of the monitor.
- 4 Connect the red (R) and white (L) audio jacks from the DVD to the R and L audio-in jacks located next to the Pr/Cr connector.

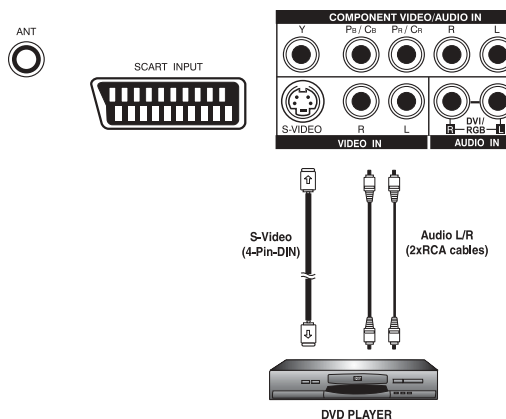


Display Connections

Connecting a DVD (con't)

Using S-Video Input

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



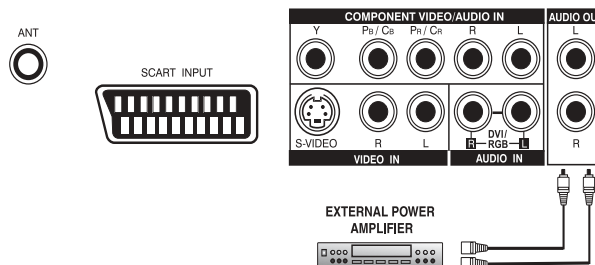
External Audio Connections

Connecting to an External Amplifiers

- 1 This monitor can be connected to an external amplifier using the AUDIO OUT jacks located on the back of the monitor.
- 2 Connect the red (R) and white (L) AUDIO OUT jacks from right side of the connector panel to the external amplifier.

Note:

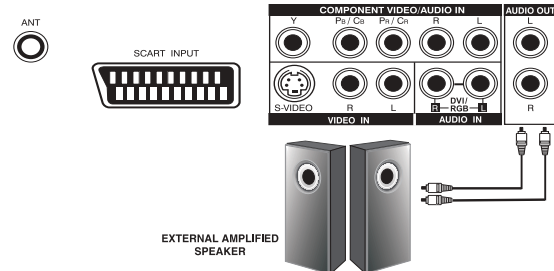
- The AUDIO OUT RCA jacks can be set to either Fixed or Variable audio output levels. (See Page 38 for more information)



Display Connections

Connecting external amplified speakers

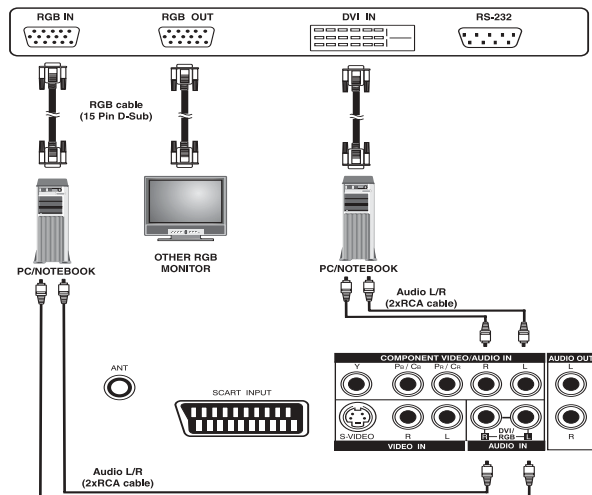
- 1 Connect the red (R) and white (L) audio out sockets located to the right of the connector panel of the set respectively to the right and left amplified speakers.



Connecting a PC

Using RGB or DVI Video Input

- 1 For most PCs, 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 AUDIO OUTPUT. If you are using a DVI interface, simply connect the (R) and (L) audio jacks to the same jacks as RGB.



Note:

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

Display Connections

Connecting a PC (con't)

Setting Up Your Monitor Using Plug and Play

This monitor adheres to VESA Plug and Play standard to eliminate complicated and time consuming setup of monitors. This 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, 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 Window's CONTROL PANEL by clicking: START, SETTINGS, CONTROL PANEL. The CONTROL PANEL Window is displayed. Select the DISPLAY icon from this window.



- 2 The DISPLAY PROPERTIES dialog box is displayed. Select the SETTINGS tab to display your computer's video output settings.

Set the "Screen Resolution" settings to 640x480 PIXELS. For COLOR QUALITY, select 24 BIT COLOR (might also be expressed as 16 million colors).

If a vertical-frequency option exists, set the value to 60 or 60 Hz.

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. To adjust position and size.

Connecting a PC (con't)

Supported Resolutions

This monitor supports the following resolutions

Mode	Horizontal	Vertical	Format	Refresh rate
1	31.469	59.940	640×480 (VGA)	60
2	37.861	72.809	640×480 (VGA)	72
3	37.500	75.000	640×480 (VGA)	75
4	43.269	85.008	640×480 (VGA)	85
5	35.156	56.250	800x600 (SVGA)	56
6	37.879	60.317	800x600 (SVGA)	60
7	48.077	72.188	800x600 (SVGA)	72
8	46.875	75.000	800x600 (SVGA)	75
9	53.674	85.061	800x600 (SVGA)	85
10	48.364	60.004	1024x768 (XGA)	60
11	56.476	70.069	1024x768 (XGA)	70
12	60.023	75.029	1024x768 (XGA)	75
13	68.677	84.997	1024x768 (XGA)	85
14	63.981	60.020	1280x1024 (SXGA)	60
15*	79.976	75.025	1280x1024 (SXGA)	75
16*	91.146	85.024	1280x1024 (SXGA)	85
18	31.469	70.087	720x400 (DOS)	70
19	31.469	50.030	640x480 (VGA)	50
20*	45.000	60.000	1280x720p (HDTV)	60
21*	33.750	60.000	1920x1080i (HDTV)	60
22	31.469	70.087	640x350 (VGA)	70
23	31.413	59.835	852x480 (WVGA)	60
24	35.000	66.667	640x480 (Apple)	67
25	49.725	74.550	832x624 (Apple)	75
26	68.681	75.062	1152x870 (Apple)	75

Notes:

Modes 15, 16 are not available with DVI input.

Modes 24, 25 and 26 are for use with Apple Macintosh computers.

Display Connections



Basic Operations

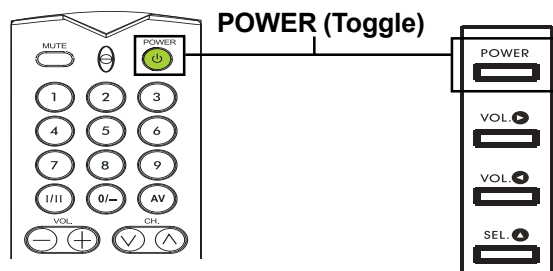
Basic Operations

Powering On/Off

Using Front Panel or Remote Control


Make sure the monitor is plugged into the wall outlet and the main AC switch located on 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.

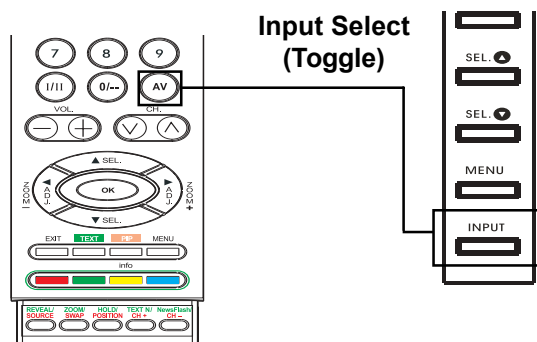
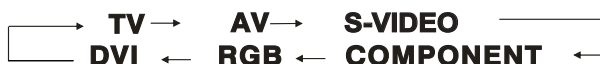
- 1 Press the  key on the panel or the remote control.
- 2 The monitor will now turn on after a brief pause. The STATUS LED will now turn green to indicate power on status.
- 3 To turn power off, simply press the  key on the panel or the remote control once again.



Changing Inputs

Using Front Panel or Remote Control

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



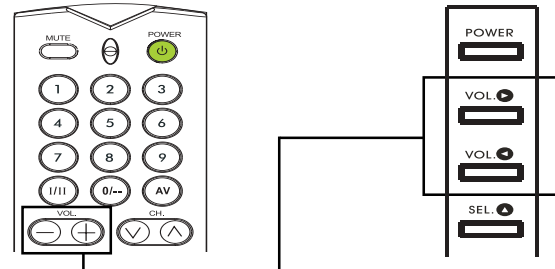
Volume Adjustment

Using Front Panel or Remote Control

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

Note:

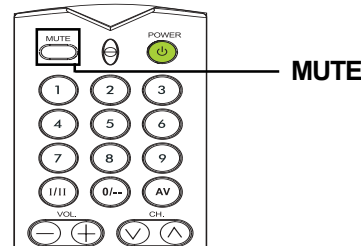
- If the monitor's built-in speakers are turned off, then volume controls will not affect volume generated by the built-in speaker.



VOLUME +/-

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 bottom left corner of the screen.
- 2 To disengage the mute mode, simply press the MUTE key again or the volume buttons.



Note:


- If the monitor's built-in speakers are turned off, then volume controls will not affect volume generated by the built-in speaker.

Basic Operations

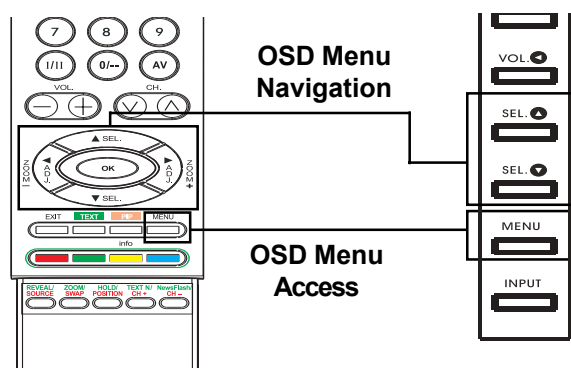
On-Screen Display Menu

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  button on the front panel of monitor or press any one of the four arrow keys located on the remote control.


- 2 Navigation through the OSD Menu can be accomplished using the arrow keys on the remote control or using the front panel control keys.



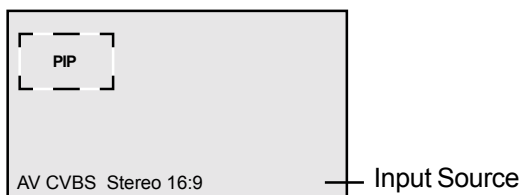
On-Screen Status Display

Displaying Status

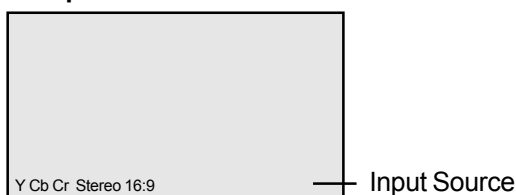
The On-Screen Status Display shows detailed information regarding the operational status of the monitor. The status display automatically appears whenever there is a change in the state of the monitor such as channel change or input change. The status display will automatically disappear after a timeout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

- 1 To manually show the Status Display, simply press the  key on the remote control.

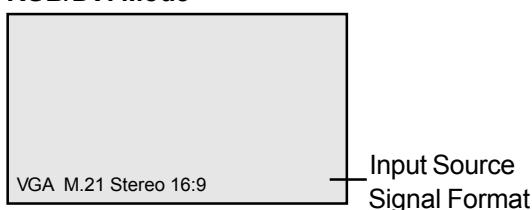
AV Mode



Component Mode



RGB/DVI Mode



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 is suitable for various types of content depending on its size.

For 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.



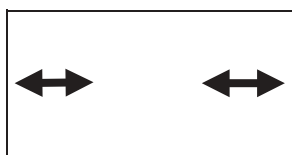
4:3 (NORMAL)

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.

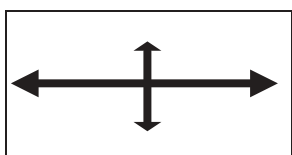


CINERAMA

The original 4:3 image is stretched only on the left and right sides to fill the screen, leaving the center image unchanged.

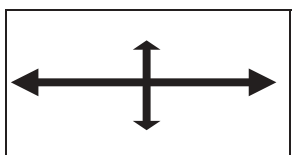
For Widescreen Content

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.



ZOOM

Zoom is set to stretch 2.35:1 content to full screen eliminating the black bars.




ZOOM↑

Zoom↑ is set to show the picture with subtitles.

Basic Operations

Changing Aspect Ratios

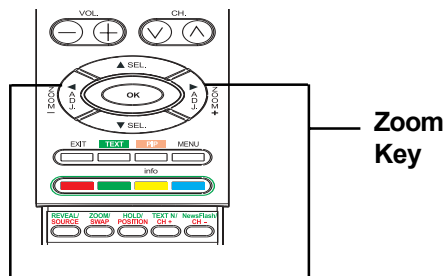
Using Remote Control

- 1 All widescreen viewing modes are available by pressing the  key.

→ ZOOM ↔ ZOOM↑ ↔ CINERAMA ↔
→ 4:3NORMAL 16:9WIDE ←

Note:

- Under RGB and DVI input modes, only 16:9 WIDE and 4:3 Normal modes are available.
- When displaying Y Pb Pr signals, Cinerama mode is not available.






Picture Controls

Picture Controls





Adjusting Picture Settings

Using OSD Menu

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

- 1 Press the  on the front panel or remote control. Use   to select the PICTURE option from the menu.

PICTURE	SOUND	TV	OTHER
Contrast		52	
Brightness		50	
Colour		50	
Sharpness		50	
Tone		Neutral	
Auto format		ON	
Noise reduction		High	
* * Select		* * Adjust	

- 2 Various picture settings are available from the PICTURE menu. Use   to select the option that you wish to adjust and press   key

Notes:

- H-Position, H-Size, V-Position, V-Size adjustments are only available in RGB, DVI, and Component input with Y Pb/Pr.
- When using Component input with Y Cb/Cr signals, H-Size, H-Position, V-Position, V-Size settings are not available.

PICTURE	SOUND	TV	OTHER
Contrast		80	
Brightness		50	
Tone		Neutral	
V-Size		50	
V-Position		50	
H-Size		50	
H-Position		50	
Clock Phase		50	
* * Select		* * Adjust	

Explanation of Various Picture Control Settings

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

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.

Picture Controls

<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>COLOUR 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>tone Select the color temperature for white balance. There are three settings to choose from : Cold, Neutral, Warm.</p>
<p>AUTO FORMAT Use to turn on the auto format of screen or turn off. System will determine the format according to the signal when you turn on the auto format, otherwise, the screen will remain in 16:9.</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>

Notes:


- H-Position, H-Size and V-Position adjustments are only available in RGB, DVI, and Component input modes higher than 480i.
- When using Component inputs with Y Cb/Cr signals, H-Size, H-Position, V-Size, V-Position settings are not available.

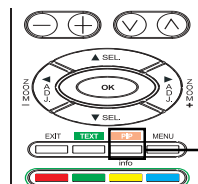
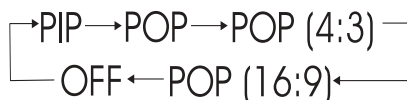
Picture Controls

Picture-in-Picture / Side-by-Side Picture

Turning On PIP/Side-by-Side Picture (POP)

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

- 1 Press the  key once on the remote control to engage in Picture-in-Picture mode. Pressing the key repeatedly will cycle thru the following modes:



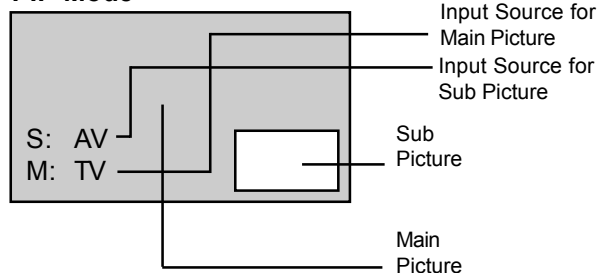
PIP Key

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

Note:

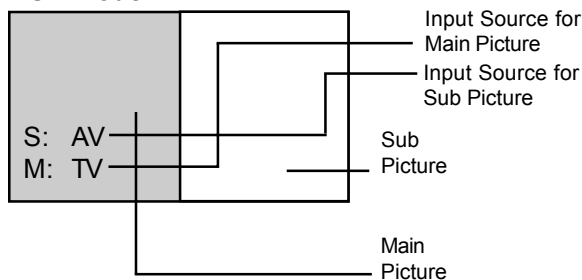
- Once PIP is turned off, the next time you return on PIP mode, the position of the sub-window will start at default position.

PIP Mode



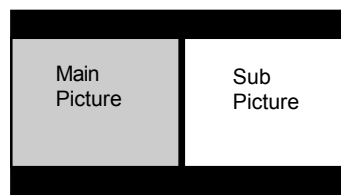
If switched to POP mode, the screen will be split in half. The screen on the left side is the main picture and the screen on the right is the sub-picture. The OSD on the bottom left corner will denote the input signal source for both the main and sub-pictures.

POP Mode

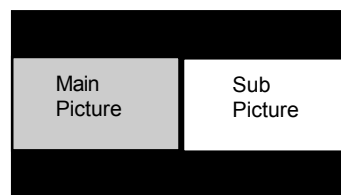


There are two Side-by-Side picture modes available in addition to the standard POP mode. POP (4:3) mode will display both main and sub-picture in a 4:3 aspect ratio within the POP windows. POP (16:9) mode will display both main and sub-picture in 16:9 aspect ratio within the POP windows.

POP 4:3 Mode




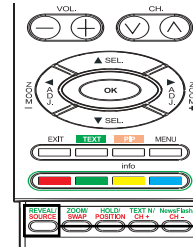
POP 16:9 Mode




Selecting Signal Source for Sub-Picture

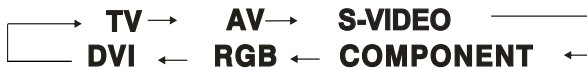
Various signal sources can be displayed within the sub-window under PIP and Side-by-Side picture modes. To select the input source for sub-window, please follow the steps below.

- 1 Once the PIP mode is turned on, you can change the sub-picture input source by pressing the  key.




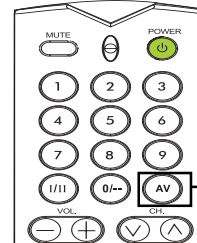
Source Select

- 2 Pressing the  key repeatedly will cycle through all available inputs for the sub-picture.



Selecting Signal Source for Main Picture

- 1 Once the PIP mode is turned on, you can change the main picture input source by pressing the  key.





Input select

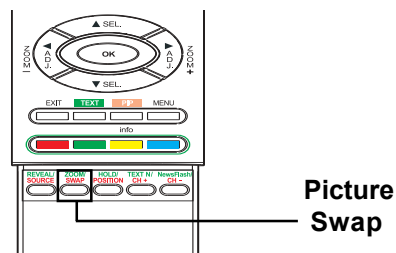
Picture Controls

Picture-in-Picture / Side-by-Side Picture (Con't)

Main and Sub-Window Swap



You can swap the main picture and sub-picture.

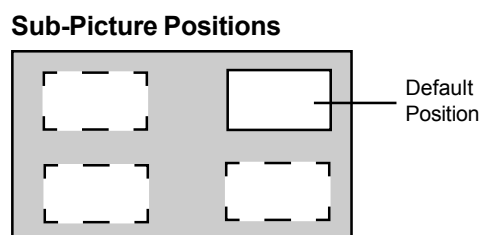
- 1 Press the  key once to swap. Press the  key once again to switch back.



Changing Location of PIP Image


There are four preset positions where the PIP sub-window can be positioned. Once the PIP mode is turned on, you can switch the PIP sub-picture position to any one of the four corners of the screen.

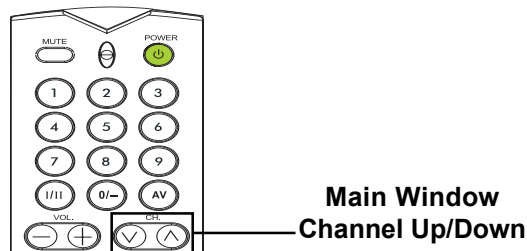
- 1 Press the  key to switch positions. Pressing the  key repeatedly will cycle through all four corners of the screen.



Changing Channels in PIP Mode










When under PIP or POP modes, if TV mode is in main window, just use the method described below to change TV channels.

- 1 To change main window's TV channels, simply press the  key to change channels.



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  on the front panel or remote control. Use   to select the PICTURE option from the menu.
- 2 Various settings are available from the PICTURE menu. Use   to select the TONE option from the menu.
- 3 Use   to change the setting. Press EXIT to close the OSD screen or press   key to keep adjusting.

PICTURE	SOUND	TV	OTHER
Contrast		52	
Brightness		50	
Colour		50	
Sharpness		50	
Tone		Neutral	
Auto format		ON	
Noise reduction		High	
* * Select		* * Adjust	

PICTURE	SOUND	TV	OTHER
Contrast		52	
Brightness		50	
Colour		50	
Sharpness		50	
Tone		Neutral	
Auto format		ON	
Noise reduction		High	
* * Select		* * Adjust	

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  on the front panel or remote control. Use   to select the PICTURE option from the menu.
- 2 Use   to select CLOCK PHASE option from the menu.
- 3 Use   to change the setting so that your video picture is best fit within the display area of the monitor. Press EXIT to close the OSD screen or press   to keep adjusting.




PICTURE	SOUND	TV	OTHER
Contrast		80	
Brightness		50	
Tone		Neutral	
V-Size		50	
V-Position		50	
H-Size		50	
H-Position		50	
Clock Phase		50	
* * Select		* * Adjust	

PICTURE	SOUND	TV	OTHER
Contrast		80	
Brightness		50	
Tone		Neutral	
V-Size		50	
V-Position		50	
H-Size		50	
H-Position		50	
Clock Phase		50	
* * Select		* * Adjust	



Picture Controls

In certain special cases, users may desire to manually adjust V-Size. To do so, please use the following procedures:



Due to various PC video cards and set-top boxes with differing specifications, it is likely that the initial picture may not fit exactly to the size of the monitor. Please use the following procedures to adjust the picture size and position.

- 1 Press the  on the front panel or remote control. Use   to select the PICTURE option from the menu.

PICTURE	SOUND	TV	OTHER
Contrast		80	
Brightness		50	
Tone		Neutral	
V-Size		50	
V-Position		50	
H-Size		50	
H-Position		50	
Clock Phase		50	
* * Select		* * Adjust	

- 2 Various settings are available from the PICTURE menu. Use   to select V-Size, V-Position, H-Size, or H-Position from the menu.

PICTURE	SOUND	TV	OTHER
Contrast		80	
Brightness		50	
Tone		Neutral	
V-Size		50	
V-Position		50	
H-Size		50	
H-Position		50	
Clock Phase		50	
* * Select		* * Adjust	

- 3 Use   to change the setting so that your video picture is best fit within the display area of the monitor.

- 4 Repeat procedure for V-Size, V-Position, H-Size, and H-Position settings until video picture is fully displayed within the monitor's display area.




Sound Controls

Sound Controls



Adjusting Sound Settings

Using OSD Menu





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

- 1 Press the  on the front panel or remote control. Use   to select the SOUND option from the menu.

PICTURE	SOUND	TV	OTHER
Sound type		Stereo	
Bass		53	
Treble		50	
Balance		50	
Intern. Speaker		ON	
Audio Output		Variable	
* * Select		* * Adjust	

- 2 Various SOUND settings are available from the SOUND menu. Use   to select the option that you wish to adjust.

PICTURE	SOUND	TV	OTHER
Sound type		Stereo	
Bass		53	
Treble		50	
Balance		50	
Intern. Speaker		ON	
Audio Output		Variable	
* * Select		* * Adjust	

- 3 Use   to change the setting. After achieving desired setting, press EXIT key to close the OSD screen or press   key to keep adjusting.

Explanation of Various Sound Control Settings

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




BASS Adjusts the BASS level of the sound. For more bass response, increase the BASS level.
TREBLE Adjusts the TREBLE level of the sound. For more vocal and high frequency response, increase the TREBLE level.
BALANCE Adjusts the BALANCE level between LEFT and RIGHT channels.
SPEAKER Sets the speakers to ON to turn on the speakers or sets the speakers to OFF to turn off. This setting will not affect AUDIO OUTPUT jacks.
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 and volume controls have no effect.

Sound Controls



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  on the front panel or remote control. Use   to select the SOUND option from the menu.

PICTURE	SOUND	TV	OTHER
Sound type	Stereo		
Bass	53		
Treble	50		
Balance	50		
Intern. Speaker	ON		
Audio Output	Variable		
* * Select		* * Adjust	

- 2 Use   to select the INTERN.SPEAKER option.




- 3 Use   to change the setting. To turn OFF, select OFF position. After achieving desired setting, press EXIT key to close the OSD screen or press   key to keep adjusting.



PICTURE	SOUND	TV	OTHER
Sound type	Stereo		
Bass	53		
Treble	50		
Balance	50		
Intern. Speaker	ON		
Audio Output	Variable		
* * Select		* * Adjust	

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  on the front panel or remote control. Use   to select the SOUND option from the menu.

- 2 Use   to select the AUDIO OUTPUT option.

PICTURE	SOUND	TV	OTHER
Sound type	Stereo		
Bass	53		
Treble	50		
Balance	50		
Intern. Speaker	ON		
Audio Output	Variable		
* * Select		* * Adjust	

- 3 Use   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, press EXIT key to close the OSD screen or press   key to keep adjusting.

PICTURE	SOUND	TV	OTHER
Sound type	Stereo		
Bass	53		
Treble	50		
Balance	50		
Intern. Speaker	ON		
Audio Output	Variable		
* * Select		* * Adjust	




Advanced Functions

Advanced Functions



OSD Menu Language

Setting OSD Menu Language





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

- 1 Press the  on the front panel or remote control. Use   to select the OTHER option from the menu.

PICTURE	SOUND	TV	OTHER
Power Save		ON	
Menu Language		English	
AVI Input		Video	
S/W Verion		040309	
		031003	
♦ ♦ Select		♦ ♦ Adjust	

- 2 Use   to select the MENU LANGUAGE option.




PICTURE	SOUND	TV	OTHER
Power Save		ON	
Menu Language		English	
AVI Input		Video	
S/W Verion		040309	
		031003	
♦ ♦ Select		♦ ♦ Adjust	

- 3 Use   to select the desired OSD language. Available settings are: ENGLISH, FRENCH, SPANISH, ITALIAN, GERMAN. Press EXIT to close the OSD screen or press   key to keep adjusting.



Power Save Mode

Setting Power Save Mode Using OSD Menu





This monitor is equipped with a Power Save mode under RGB or DVI input modes. When there are no signals detected by the monitor for 15 minutes, the monitor will automatically go into sleep mode until signal is restored.

- 1 Press the  on the front panel or remote control. Use   to select the OTHER option from the menu.

PICTURE	SOUND	TV	OTHER
Power Save		ON	
Menu Language		English	
AVI Input		Video	
S/W Verion		040309	
		031003	
★ ★ Select		★ ★ Adjust	

- 2 Use   to select the POWER SAVE option.

PICTURE	SOUND	TV	OTHER
Power Save		ON	
Menu Language		English	
AVI Input		Video	
S/W Verion		040309	
		031003	
★ ★ Select		★ ★ Adjust	




- 3 Use   to turn on the power save function or turn off. After achieving desired setting, please press EXIT to close the OSD screen or press   key to keep adjusting.

Advanced Functions

Information Display

The information display sub-menu retains much useful information regarding the status of the monitor. Explanations for each type of information being displayed are listed below.

Accessing Information Display Menu

- 1 Press the  on the front panel or remote control. Use   to select the OTHER option from the menu.

PICTURE	SOUND	TV	OTHER
Power Save			ON
Menu Language			English
AVI Input			Video
S/W Verion			040309
			031003
← ← Select			→ → Adjust

- 2 Various information is displayed in the INFO menu. To exit the INFO menu, press EXIT on remote control.



Explanation of Information

S/W Version

Shows the monitor's firmware version number.

Using the Teletext

The Teletext service is available in many countries under a variety of names (TOP Text, Fasttext, FLOF test, Videotext). It is provided as a free service by some television broadcasters. This service provides a real wealth of information, available at any time, on weather, sporting results, news, games, etc. The information is presented in pages or organised in topics specified in colour on the screen and you can access this information by simply pressing the buttons of the same colour on the remote control.

To access the Teletext, press the  button on the remote control. Teletext opens on the index page(100). To display another page, use the  buttons to select the next and previous pages, or enter its number using the numeric buttons.



The page/subpage number appears:


1. In green when the page has not been found yet.
2. In white when the page has been found.


A teletext page contains a header line with page and subpage number, and broadcaster information (date and time, channel number, etc.).



When enter the main screen of Teletext(index page), there are some options with colour displayed at the bottom of the screen and gives direct access to the corresponding pages, just press the relevant buttons on the remote control.

This unit also provides several Teletext functions:



HOLD: freezes the current page, preventing update and subpage display. To select this function, press the  button on the remote control. To cancel, press the  button again.

REVEAL: to reveal a hidden page information, just press the  button to show the information again.


ZOOM: press the  button once to zoom in on the top part of the screen, twice to zoom in on the bottom part of the screen, and three times to return to normal display.

If you want to show PIP in Teletext, press the  button on the remote control first to display PIP screen, then press the  button on the remote control

Newsflash

When access NewsFlash page, Teletext is automatically enabled and displays the new information. If you want to hide the information screen, just press  to conceal the screen, to show, just press  again.

TEXT N

You can change the character of Teletext at any time, just press the  button and there are 7 Texts can be chose.

Using the Teletext

Other useful functions in Teletext

Subtitles



Some channels provide subtitles for some of their programmes through Teletext. The numbers of the relevant pages are specified on the Teletext index page.

To display the subtitles, enter the number of the relevant page. Once it is found, the subtitles appear in the TV picture. The header disappears after a couple of seconds. To display them again, press any button (except EXIT or the volume adjustment buttons) on the remote control.

To return to TV mode, press EXIT.

Alarm page

In some countries (Spain, Benelux, etc.), you can set a time to display certain Teletext pages (alarm pages).

To do this, display the relevant alarm page and press the  and  buttons to enter subpage mode. Enter the time instead of the subpage number (e.g. 1435 for 14:35) and press exit. The page will disappear and will appear again at the set time, as long as you do not change channels or switch off the set beforehand.

Fasttext


If fasttext is available, you can easily access the topic and relevant pages you want by pressing the **red**, **green**, **yellow** and **blue** buttons on the remote control.

In Teletext mode, volume controls remain available, but the relevant symbols are not shown on the screen.



TV Functions

TV FUNCTIONS

Initial Set Up

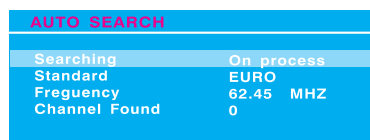
- 1 When you turn on the TV first time, the language selection appears, choose one of them then press  key to confirm the selection.



- 2 A list of countries appears, use   key to select the country you are in. If your country is not in the list, select Other.






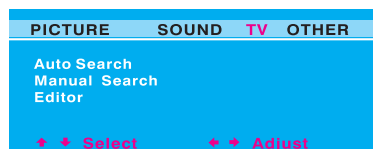
- 3 The monitor will now search all available channels. It may take several minutes for the search to complete. When the search is complete, the screen will show how many channels are found then change to the EDITOR screen.






Channel Manual Search



You may also make a manual search, in case, some channels are not stored during the initial set up, just key in all required settings then system would start searching.

- 1 Press the  on the front panel or remote control. Use   to select the TV option from the menu.



- 2 Various TV settings are available from the SETUP menu. Use   to select the MANUAL SEARCH option. Press  key to confirm selection.



- 3 Select the "Standard" option and choose signal system first then use   to search the frequency based on the current frequency showed on the menu. Or you can just key in the frequency with number key on the remote control.



- 4 When a channel is searched, the "Save on CH" option will be flashing with red color. Press OK key to confirm the channel which is searched.






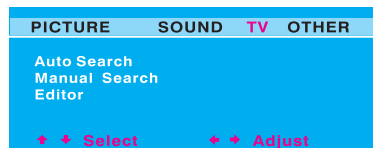
TV Functions

Channel Edit




Users can swap, delete the channel, even to change the name of channel in EDITOR menu.

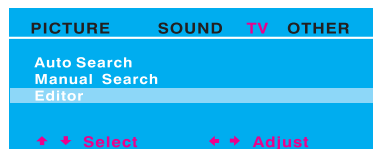
1

Press the  on the front panel or remote control. Use   to select the TV option from the menu.





2

Various TV settings are available from the SETUP menu. Use   to select the EDITOR option. Press  key to confirm selection.



3

The EDITOR menu is now displayed. Use   keys to select SWAP, DELETE or CHANGE CH NAME to do the relevant setting.




4

After adjusting, press OK key to confirm.

On-Screen Status Display (TV Mode)

Displaying Status

The On-Screen Status Display shows detailed information regarding the operational status of the monitor under TV mode. The status display automatically appears whenever there is a change in TV channels. The status display will automatically disappear after a timeout period.

- 1 To manually show the Status Display, simply press the  key on the remote control.


TV Mode (Single Tuner)

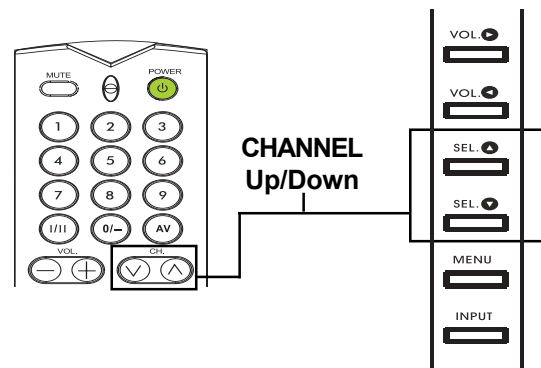


Changing Channels

Using Remote Control or Front Panel


To change TV channels, users can use either the remote control or the front panel keys.

- 1 Switch input to TV. Press  button on the remote control to change channels. To use the front panel, press SEL UP/DOWN keys to adjust the TV channels when there is no OSD on the screen.






TV Functions



SOUND TYPE





SOUND TYPE option sets audio reception settings for the TV tuner. This function is also accessible using the remote control key. Pressing the  key will cycle the tuner through all available settings.

Accessing via OSD Menu

- 1 Press the  on the front panel or remote control. Use   to select the SOUND option from the menu.

PICTURE	SOUND	TV	OTHER
Sound type	Stereo		
Bass	53		
Treble	50		
Balance	50		
Intern. Speaker	ON		
Audio Output	Variable		
* * Select		* * Adjust	


- 2 Use   to select the SOUND TYPE option.

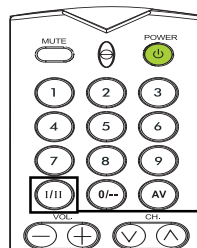
- 3 Use   to change the setting. See the table for reference about the available options. After selecting desired setting, press EXIT key to close the OSD menu or press   to keep adjusting.

PICTURE	SOUND	TV	OTHER
Sound type	Stereo		
Bass	53		
Treble	50		
Balance	50		
Intern. Speaker	ON		
Audio Output	Variable		
* * Select		* * Adjust	

Broadcast	Options
Mono	Mono, Automatic
Stereo	Mono, Stereo
Bilingual	Sound1, Sound2
NICAM bilingual	Sound1, Sound2, Sound3
AV1 or AV2	Stereo, Sound1, Sound2

Accessing via Remote Control

- 1 Press the  key on the remote control repeatedly to cycle through all available audio modes.



STEREO,
DUAL KEY

Appendix

Appendix

Troubleshooting

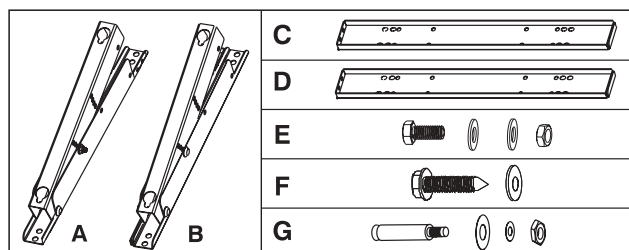
The following table lists possible problems and methods for remedy. Please refer to this table prior to contacting a service representative.

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 rear panel is on the OFF position. 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. Put the main power switch on the ON position. 3. Connect the selected device to the monitor. 4. Press any key on your keyboard.
Poor picture or poor sound.	<ol style="list-style-type: none"> 1. Electrical appliances, cars, motorcycles or fluorescent lights may be nearby. 	<ol style="list-style-type: none"> 1. Move the monitor to another location to reduce interference.
Color is abnormal.	<ol style="list-style-type: none"> 1. The signal cable is not connected properly. 	<ol style="list-style-type: none"> 1. Make sure that the signal cable is attached firmly to the rear panel of the monitor.
Picture is distorted.	<ol style="list-style-type: none"> 1. The signal cable is not connected properly. 2. The input signal is not supported by the monitor 	<ol style="list-style-type: none"> 1. Make sure that the signal cable is attached firmly. 2. Check that the video signal source is supported by the monitor (refer to the specifications section).
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 settings are incorrectly set. 	<ol style="list-style-type: none"> 1. Use the H-Size and V-Size options in the PICTURE menu to adjust the size of the picture.
Sound with no picture.	<ol style="list-style-type: none"> 1. The signal cable is not connected properly. 	<ol style="list-style-type: none"> 1. Make sure that both video and sound inputs are correctly connected.
Picture with no sound.	<ol style="list-style-type: none"> 1. The signal cable is not connected properly. 2. Volume is turned all the way down. 3. The sound is muted. 	<ol style="list-style-type: none"> 1. Make sure that both video inputs and sound inputs are correctly connected. 2. Use the volume adjustment buttons to adjust sound. 3. Switch MUTE off using the MUTE button on the remote control.
The remote control buttons do not work.	<ol style="list-style-type: none"> 1. The remote control batteries are flat, or incorrectly installed. 2. The position of the selection switch does not correspond to the selected selected input. 	<ol style="list-style-type: none"> 1. Change the batteries. Please note that you must then reprogram the remote control. 2. Put the selection switch on the correct position.
Some picture elements do not light up.	<ol style="list-style-type: none"> 1. Some pixels of the plasma display may not turn on. 	<ol style="list-style-type: none"> 1. This monitor was manufactured using an extremely high level of technology; however, sometimes some pixels of the monitor may not display. This is not a malfunction.
After-Images can be seen on the monitor after it has been powered off. (Examples of still pictures include logos, video games, computer images, and images displayed in 4:3 format)	<ol style="list-style-type: none"> 1. A still picture was displayed for an extended period of time. 	<ol style="list-style-type: none"> 1. 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 screen.

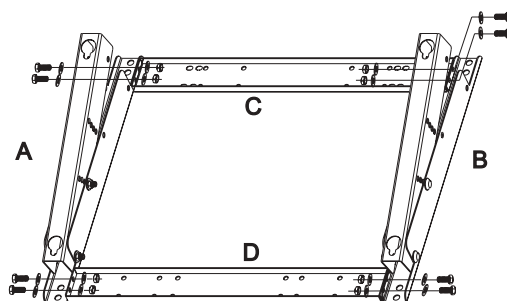
Wall Mount Instructions

- 1 Empty contents of the package.
Make sure the following items are present.

- A. Left Wall Angle Module
- B. Right Wall Angle Module
- C. Horizontal Support
- D. Horizontal Support
- E. Screws for Fix Angle x 8
- F. Screws for Wooden Wall Mounting x 8
- G. Screws for Cement Wall Mounting x 8



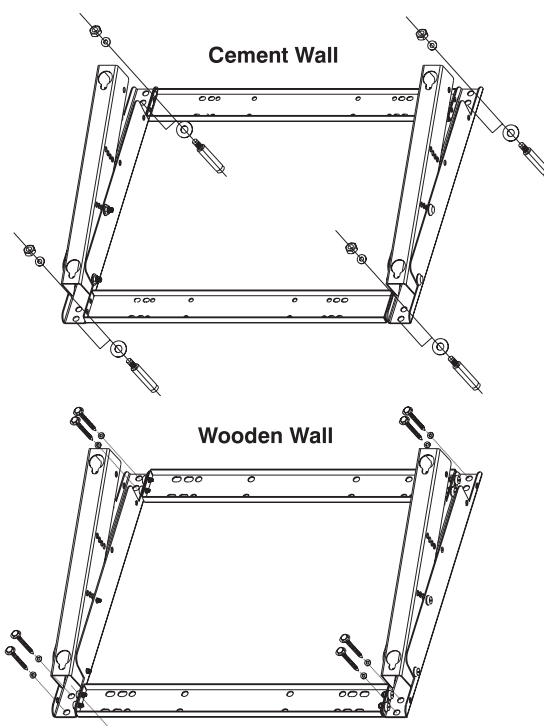
- 2 Attach Horizontal Supports (C and D) to the Left and Right Wall Angle Module (A and B) with screws (E).



- 3 Install the Wall Mount Bracket onto the wall.

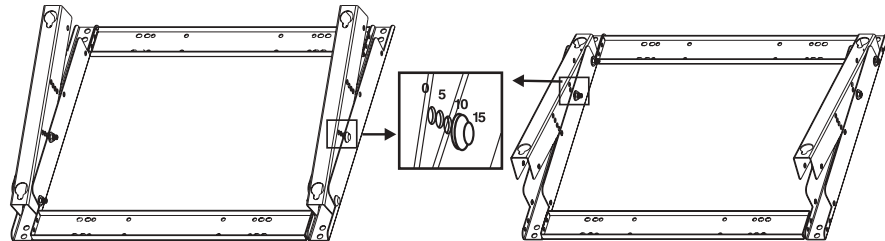
Note:

The screws in this package are for mounting onto a wooden or a cement wall. Different kind of walls needs different type screws. Please consult with a qualified installer to make sure your wall is capable of supporting this bracket and plasma monitor.

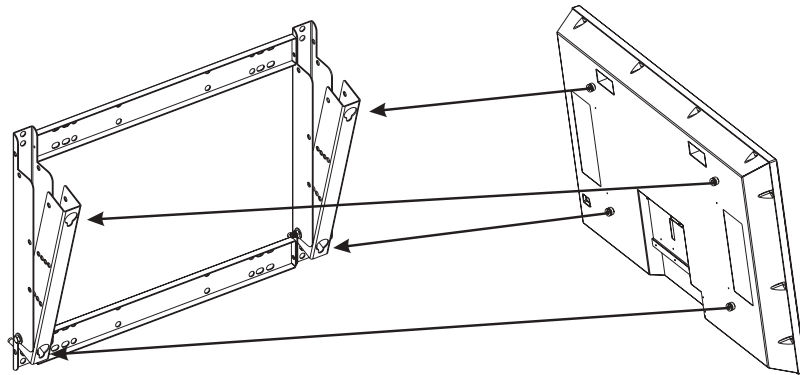


Appendix

- 4 You can adjust the mounting direction and inclination angle (0, 5, 10, 15 degrees) by adjusting the screws position on the Wall Mounting Angle Module.



- 5 Remove the pedestal table-top stand on the unit, install the unit onto the wall mount bracket.



- 6
- Wall mount bracket is an optional accessory, please contact your local sales agent for more information.
 - This type of equipment is to be installed by qualified installers, please contact with authorized dealer for installation.
 - Please make sure that your wall is capable of supporting this wall mount and plasma monitor which can easily weigh over 120 kg (265 lbs.).

Specifications

Display Panel

Screen size	42"
Aspect ratio	16:9
Number of pixels	852 (Horizontal) x 480 (Vertical) pixels
Pixel Pitch	1.08 (Horizontal)mm x 1.08 (Vertical)mm
Luminance	1000 cd/m ² , (1/25 white window pattern at center)

Power Source

Input voltage	100 ~ 240Vac, 50 / 60Hz
Input current	3.8A
Inrush current	60A p-p/20ms Max.
Power consumption	380+/-10% Watts (at 110Vac/color bar pattern)
Stand-by	5 Watts Max. (at 110Vac)

Connection

Connector Types	Scart socket Cinch sockets for Y/CB/CR and Y/PB/PR 4 pin Din S-terminal for S-Video 9 pin D-SUB for RS-232 15 pin D-SUB for RGB 24 pin DVI
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Video/S-Video Signal

Type	Analog
Polarity	Positive
Amplitude d.	Video 1Vp-p (with sync), S-Video Y=1Vp-p C=0.286Vp-p
Frequency	H: 15.734KHz V: 60Hz (NTSC) H: 15.625KHz V: 50Hz (PAL)
Input impedance	75 ohms

Y/CB/CR or Y/PB/PR Signal(Component)

Type	Analog
Polarity	Positive
Amplitude	Y: 1Vp-p (with sync) CB/PB:0.7Vp-p, CR/PR:0.7Vp-p
Frequency	
Y/CB/CR	H: 15.734KHz V: 60Hz (NTSC) H: 15.625KHz V: 50Hz (PAL)
Y/PB/PR: HDTV	H: 31KHz V: 60Hz (480p) H: 45KHz V: 60Hz (720p) H: 37.5Hz V: 50Hz (720p) H: 33KHz V: 60Hz (1080i) H: 31.25KHz V: 50Hz (576p) H: 28.125KHz V: 50Hz (1080i)

RGB Signal

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

DVI Signal

Type	Digital
Polarity	Positive or Negative
Frequency	H: support to 31K ~ 63KHz V: support to 50 ~ 85Hz

Audio Signal

Audio Signal	Analog 500mV rms/more than 22K ohm
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Appendix

Specifications (Con't)

RGB/DVI For VESA Standard

Mode No.	Mode	Resolution	H-Frequency (KHz) +/- 0.5KHz	V-Frequency (Hz) +/- 1Hz	Dot rate Polarity (MHz)	V-Sync Polarity (TTL)	H-Sync (TTL)
1	VGA	640 x 480@60Hz	31.469	59.940	25.175	-	-
2		640 x 480@72Hz	37.861	72.809	31.500	-	-
3		640 x 480@75Hz	37.500	75.000	31.500	-	-
4		640 x 480@85Hz	43.269	85.008	36.000	-	-
5	SVGA	800 x 600@56Hz	35.156	56.250	36.000	+	+
6		800 x 600@60Hz	37.879	60.317	40.000	+	+
7		800 x 600@72Hz	48.077	72.188	50.000	+	+
8		800 x 600@75Hz	46.875	75.000	49.500	+	+
9		800 x 600@85Hz	53.674	85.061	56.250	+	+
10	XGA	1024 x 768@60Hz	48.364	60.004	65.000	-	-
11		1024 x 768@70Hz	56.476	70.069	75.000	-	-
12		1024 x 768@75Hz	60.023	75.029	78.750	+	+
13		1024 x 768@85Hz	68.677	84.977	94.500	+	+
14	SXGA	1280 x 1024@60Hz	63.981	60.020	108.000	+	+
18	DOS	720 x 400@70Hz	31.469	70.087	28.322	+	-
19	VGA	640 x 480@50Hz	31.469	50.030	25.175	-	-
20	HDTV	1280 x 720p@60Hz	45.000	60.000	74.250	+	+
21	HDTV	1920 x 1080i@60Hz	33.750	60.000	74.250	+	+
22	VGA	640 x 350@70Hz	31.469	70.087	25.175	-	+
23	WGA	852 x 480@60Hz	31.413	59.835	30.000	-	-
24	OTHER	640 x 480@67Hz	35.000	66.667	30.240	-	-
25		832 x 624@75Hz	49.725	74.550	57.283	-	-
26		1152 x 870@75Hz	68.681	75.062	100.000	-	-

Notes:

- Modes 24, 25 and 26 are for use with Apple Macintosh computers.
Modes 15, 16 are not available with DVI input.

Specifications (Con't)

Pin Assignments For D-SUB connector (in / loop out)

Pin Signal Assignment Pin Signal Assignment Pin Signal Assignment

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

Pin Assignments For 24 Pin DVI connector (digital only)

Pin Signal Assignment	Pin Signal Assignment	Pin Signal Assignment
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 +5V Power	22 TMDS Clock Shield
7 DDC Data	15 Ground (For +5V)	23 TMDS Clock +
8 No Connect	16 Hot Plug Detect	24 TMDS Clock -

Y/PB/PR For Component 1 and 2

Mode	Resolution	Refresh Rate
1	640 x 480p	60
2	1920 x 1080i	60
3	1280 x 720p	60
4	1280 x 720p	50
5	720 x 576p	50
6	1920 x 1080i	50

Maximum Resolution Up to 1280 x 1024

Dimensions & Weight

	With/Stand Without/Speakers	Without/Stand Without/Speakers
Width	1081 mm	1081 mm
Height	722 mm	677 mm
Depth	291 mm	95 mm
Weight	80.5 lbs / 36.5 kg	77.6 lbs/35.2 kgs

Operating

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

Non-Operating

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

Appendix

Specifications (Con't)

Acoustics

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

Sound

Residual hum (at volume Max.)	500μW Max.
Practical Max. Audio output (at 10% THD Max.)	5W + 5W Max./12 ohm
Sound distortion (at 250 mw 1KHz)	1% Max.
Audio output (input at 1.4Vp-p)	>=1.0Vp-p

Reliability Requirement

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

Emission Requirement

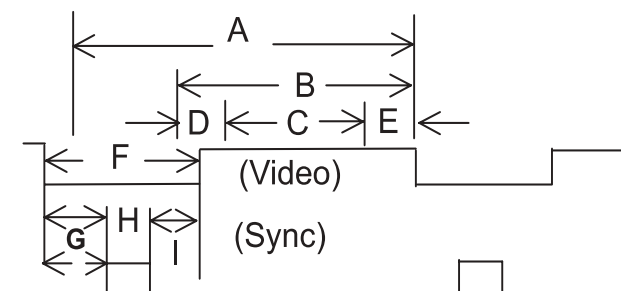
The unit shall meet the EMI limits in all screen modes as qualified by FCC class B part 15.

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	B	Less than 5 watts
Power saving	No pulse	Pulse	B	Less than 5 watts

Specifications (Con't)

Preset Timing Chart



Item Description:

- A Total time
- B Active display area including borders
- C Active display area excluding borders
- D Left/Top border
- E Right/bottom border
- F Blanking time
- G Front porch
- H Sync-width
- I Back porch

Mode No	1	2	3	4	5	6	7	8	9	
H Resolution	640	640	640	640	800	800	800	800	800	
V Resolution	480	480	480	480	600	600	600	600	600	
Refresh Rate	60	72	75	85	56	60	72	75	85	Hz
Pixel	25.175	31.500	31.500	36.000	36.000	40.000	50.000	49.500	56.250	MHz
Horizontal visible	640	640	640	640	800	800	800	800	800	Dots
Horizontal total	800	832	840	832	1024	1056	1040	1056	1048	Dots
Horizontal front porch	16	24	16	56	24	40	56	16	32	Dots
Horizontal sync	96	40	64	56	72	128	120	80	64	Dots
Horizontal back porch	48	128	120	80	128	88	64	160	152	Dots
Horiz blanking time	160	192	200	192	224	256	240	256	248	Dots
Vertical visible	480	480	480	480	600	600	600	600	600	Lines
Vertical total	525	520	500	509	625	628	666	625	631	Lines
Vertical front porch	10	9	1	1	1	1	37	1	1	Lines
Vertical sync	2	3	3	3	2	4	6	3	3	Lines
Vertical back porch	33	28	16	25	22	23	23	21	27	Lines
Vertical blanking time	45	40	20	29	25	28	66	25	31	Lines
Horizontal frequency	31.469	37.861	37.500	43.269	35.156	37.879	48.077	46.875	53.674	KHz
Vertical frequency	59.940	72.809	75.000	85.008	56.250	60.317	72.188	75.000	85.061	Hz
Vertical sync polarity	-	-	-	-	+	+	+	+	+	TTL
Horiz sync polarity	-	-	-	-	+	+	+	+	+	TTL

Appendix

Specifications (Con't)

Mode No	10	11	12	13	14	18	19	20	21	
H Resolution	1024	1024	1024	1024	1280	720	640	1280	1920	
V Resolution	768	768	768	768	1024	400	480	720p	1080i	
Refresh Rate	60	70	75	85	60	70	50	60	60i	Hz
Pixel Clock	65.000	75.000	78.750	94.500	108.000	28.322	25.175	74.250	74.250	MHz
Horizontal visible	1024	1024	1024	1024	1280	720	640	1280	1920	Dots
Horizontal total	1344	1328	1312	1376	1688	900	800	1650	2200	Dots
Horizontal front porch	24	24	16	48	48	18	16	70	44	Dots
Horizontal sync	136	136	96	96	112	108	96	40	44	Dots
Horizontal back porch	160	144	176	208	248	54	48	260	192	Dots
Horiz blanking time	320	304	288	352	408	180	160	370	280	Dots
Vertical visible	768	768	768	768	1024	400	480	720	540	Lines
Vertical total	806	806	800	808	1066	449	629	750	562.5	Lines
Vertical front porch	3	3	1	1	1	12	62	5	3	Lines
Vertical sync	6	6	3	3	3	2	2	5	2	Lines
Vertical back porch	29	29	28	36	38	35	85	20	18	Lines
Vertical blanking time	38	38	32	40	42	49	149	30	23	Lines
Horizontal frequency	48.364	56.476	60.023	68.677	63.981	31.469	31.469	45.000	33.750	KHz
Vertical frequency	60.004	70.069	75.029	84.997	60.020	70.087	50.030	60.000	60.000	Hz
Vertical sync polarity	-	-	+	+	+	+	-	+	+	TTL
Horiz sync polarity	-	-	+	+	+	-	-	+	+	TTL

Mode No	22	23	24	25	26	
H Resolution	640	852	640	832	1152	
V Resolution	350	480	480	624	870	
Refresh Rate	70	60	67	75	75	Hz
Pixel	25.175	30.000	30.240	57.283	100.000	MHz
Horizontal visible	640	852	640	832	1152	Dots
Horizontal total	800	955	864	1152	1456	Dots
Horizontal front porch	16	19	64	32	32	Dots
Horizontal sync	96	48	64	64	128	Dots
Horizontal back porch	48	36	96	224	144	Dots
Horiz blanking time	160	103	224	320	304	Dots
Vertical visible	350	480	480	624	870	Lines
Vertical total	449	525	525	667	915	Lines
Vertical front porch	37	10	3	1	3	Lines
Vertical sync	2	2	3	3	3	Lines
Vertical back porch	60	33	39	39	39	Lines
Vertical blanking time	99	45	45	43	45	Lines
Horizontal frequency	31.469	31.413	35.000	49.725	68.681	KHz
Vertical frequency	70.087	59.835	66.667	74.550	75.062	Hz
Vertical sync polarity	-	-	-	-	-	TTL
Horiz sync polarity	+	-	-	-	-	TTL