

Trinitron® Multimedia Computer Display

Operating Instructions



CPD-100VS

© 1996 by Sony Corporation

Owner's Record

The model and serial numbers are located at the rear of the unit. Record the serial number in the space provided below. Refer to these numbers whenever you call upon your dealer regarding this product.

Model No. CPD-100VS

Serial No. _____

WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.

Dangerously high voltages are present inside the set. Do not open the cabinet. Refer servicing to qualified personnel only.

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 reception, 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.

You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

NOTICE

This notice is applicable for USA/Canada only.
If shipped to USA/Canada, install only a UL LISTED/CSA LABELLED power supply cord meeting the following specifications:

SPECIFICATIONS

Plug Type	Nema-Plug 5-15p
Cord	Type SVT or SJT, minimum 3 × 18 AWG
Length	Maximum 15 feet
Rating	Minimum 7 A, 125 V

NOTICE

Cette notice s'applique aux Etats-Unis et au Canada uniquement.

Si cet appareil est exporté aux Etats-Unis ou au Canada, utiliser le cordon d'alimentation portant la mention UL LISTED/CSA LABELLED et remplissant les conditions suivantes:

SPECIFICATIONS

Type de fiche	Fiche Nema 5-15 broches
Cordon	Type SVT ou SJT, minimum 3 × 18 AWG
Longueur	Maximum 15 pieds



This monitor is Energy Star Compliant when used with a computer equipped with VESA Display Power Management Signaling (DPMS). As an International ENERGY STAR Partner, Sony Corporation has determined that this product meets the International ENERGY STAR Program for energy efficiency.

Table of Contents

Introduction	4
Plug and play	4
Precautions	5
Functions of Controls	7
Getting Started	9
Installation	10
Using Your Monitor	11
Preset and user modes	11
Using the tilt-swivel	12
Damper wire	12
Adjustments	13
Adjusting the picture brightness	13
Adjusting the picture contrast	14
Adjusting the picture centering	14
Adjusting the picture size	15
Adjusting the picture rotation	16
Adjusting the pincushion	17
Setting the color temperature	18
Adjusting volume	19
Resetting	19
Power Saving Function	20
Specifications	21
Troubleshooting	22

Introduction

Congratulations on your purchase of a Sony Multiscan CPD-100VS monitor!

This monitor incorporates over 25 years of Sony experience with Trinitron display technology, ensuring excellent performance and outstanding reliability.

This monitor's wide scan range (31 – 65 kHz), together with Digital Multiscan Technology, allow it to sync to any video mode from standard VGA through VESA 1024 × 768 at 75 Hz (VESA 1280 × 1024 at 60 Hz). In addition, its two factory preset color modes and one user adjustable color mode gives you unprecedented flexibility in matching on-screen colors to hard copy printouts.

Furthermore, it features excellent sound reproduction via a 10 W sub-woofer and two 3.5 W tweeter speakers.

All together, CPD-100VS delivers incredible performance with the quality and support you can expect from Sony.

Plug and play

This monitor complies with the DDC™*1 and DDC2B which are the Display Data Channel (DDC) standards of VESA.

When a DDC1 host system is connected, the monitor synchronizes with the V. CLK in accordance with the VESA standards and outputs the EDID (Extended Display Identification Data) to the data line.

When a DDC2B host system is connected, the monitor automatically switches to the DDC2B communication.

* DDC™ is a trademark of the non-profit organization, Video Electronics Standard Association.

Precautions

Installation

- Prevent internal heat build-up by allowing adequate air circulation. Do not place the unit on surfaces (rugs, blankets, etc.) or near materials (curtains, draperies) that may block the ventilation holes.
- Do not install the unit near heat sources such as radiators or air ducts, nor in a place subject to direct sunlight, excessive dust, mechanical vibration or shock.
- Do not place the unit near equipment which generates magnetism, such as a converter or high voltage power lines.

Maintenance

- Clean the cabinet, glass panel and controls with a soft cloth lightly moistened with a mild detergent solution. Do not use any type of abrasive pad, scouring powder or solvent, such as alcohol or benzine.
- Do not rub, touch, or tap the surface of the screen with sharp or abrasive items, like a ball point pen or a screwdriver, as this type of contact may result in a scratched picture tube.

Transportation

Do not discard the carton and packing materials. When transporting the unit, use these packing materials so that the unit is properly packaged.

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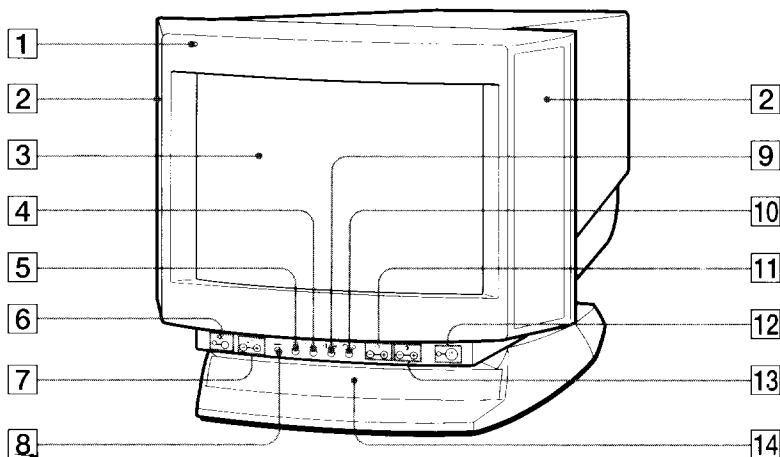
Warning on Power Connection











- Use only the supplied power cord. If you do not, this monitor may not conform to mandatory FCC standards.
- Before disconnecting the power cord, wait at least 30 seconds after turning off the power switch to discharge static electricity from the CRT display surface.
- After the power has been turned on, the CRT is demagnetized for approximately 5 seconds. This generates a strong magnetic field around the bezel which may affect the data stored on magnetic tape or disks near the bezel. Place such magnetic recording equipment and tapes/disks at a distance from this unit.

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

Functions of Controls

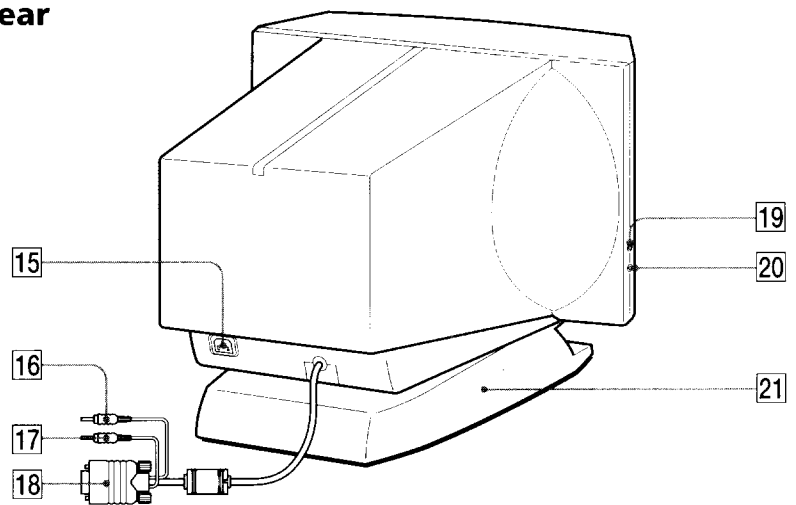
Front



- | | | |
|-----------|---|---|
| 1 | Microphone | The internal microphone is turned off when an external microphone is connected. |
| 2 | Main speaker | — |
| 3 | Display | Displays OSD when adjusting. |
| 4 |  Geometry button | Adjusts pincushion and rotation (pages 16, 17). |
| 5 |  Color temperature button | Adjusts color temperature (page 18). |
| 6 |  Mute button and indicator | Mutes sound (page 19). |
| 7 |  Volume +/- buttons | Adjusts speaker volume (page 19).
The default setting of the volume level is 30 %. |
| 8 |  Reset switch | Resets adjustments to factory setting (page 19). |
| 9 |  Size button | Adjusts picture size (page 15). |
| 10 |  Centering button | Adjusts picture centering (page 14). |
| 11 |  Brightness +/- button | Adjusts picture brightness (page 13). |
| 12 |  Power switch and indicator | Turns on and off the unit. |
| 13 |  Contrast +/- button | Adjusts picture contrast (page 14). |
| 14 | Sub woofer | — |

Continued to the next page →

Rear



- | | | |
|-----------|----------------------------------|---|
| 15 | AC IN connector | Connect the supplied power cord (page 10). |
| 16 | Audio plug (green) | Connect to the computer's speaker output (page 10). |
| 17 | MIC plug (red) | Connect to the computer's microphone input (page 10). |
| 18 | Video signal cable (blue) | Connect to the computer's video output (page 10). |
| 19 | Headphones jack | Connect headphones (not supplied). The speakers are turned off when headphones are connected. |
| 20 | Microphone jack | Connect a microphone (not supplied). |
| 21 | Tilt-Swivel | Adjusts the angle of the display. |

Getting Started

Before using this monitor, please make sure that the following items are included in your package:

- Multiscan CPD-100VS monitor (1)
- Power cord (1)
- Warranty card (1)
- Operating instruction manual (1)



Tip

This monitor will sync with any IBM or compatible system equipped with VGA¹⁾ or greater graphics capability. Although this monitor will sync to other platforms running at horizontal frequencies between 31 and 65 kHz, including Macintosh²⁾ and Power Macintosh systems, a cable adapter is required. Please consult Sony Technical Support for advice on which adapter is suitable for your needs.

- 1) VGA is a trademark of IBM Corporation.
- 2) Macintosh is a trademark of Apple Computer Inc.

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Installation

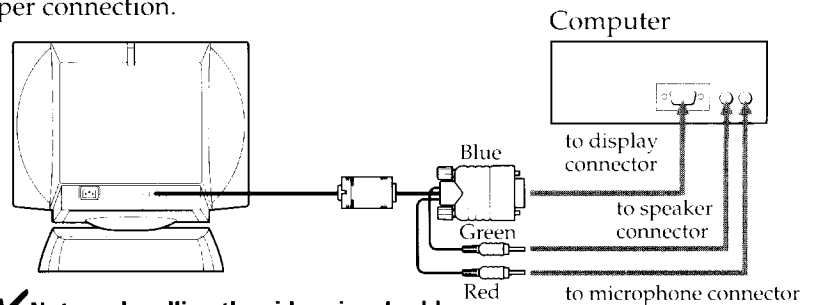
■ Step 1: Connect the computer

With the computer switched off, connect the video signal cable to the display (VGA) connector on your computer. If your computer supports the DDC plug-and-play standard, this connection will enable the DDC communication between the monitor and the computer.

Also the video signal cable is combined with audio and microphone cables. If your computer is equipped with sound capability, connect the audio and microphone plugs to appropriate jacks located on your computer.

For Sony VAIO series computer users:

The color coding on each connector housing will ease your work for proper connection.

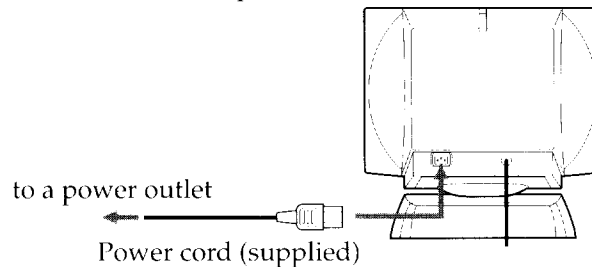


✓ Note on handling the video signal cable

Do not touch the pins of the video signal cable.

■ Step 2: Connect the power cord

With the monitor switched off, connect the power cord to the monitor and the other end to a power outlet.



■ Step 3: Turn on the monitor and computer.

■ Step 4: If necessary...

Adjust the user controls according to your personal preference.

The installation of your monitor is complete. Enjoy your monitor.

Using Your Monitor

Preset and user modes

The Multiscan CPD-100VS monitor has factory preset modes for the 6 most popular industry standards for true “plug and play” capability. For less common modes, its Digital Multiscan Technology will perform all of the complex adjustments necessary to ensure a high quality picture for any timing between 31 and 65 kHz.

NO.	Resolution (dots × lines)	Horizontal Frequency	Vertical Frequency
1	640 × 350	31.5 kHz	70 Hz
2	640 × 400	31.5 kHz	70 Hz
3	640 × 480	31.5 kHz	60 Hz
4	640 × 480	37.5 kHz	75 Hz
5	800 × 600	46.9 kHz	75 Hz
6	1024 × 768	60.0 kHz	75 Hz

✓ Note for Windows® 95 users

If you cannot find this monitor (CPD-100VS) when you selected “SONY” on the device selector display, select “DDC STANDARD MONITOR.”

Windows® is a registered trademark of Microsoft Corporation in the United States and other countries.

✓ Note on recommended horizontal timing conditions

Horizontal sync width should be more than 1.0 μsec.

Horizontal blanking width should be more than 3.6 μsec.

■ To enter new timings

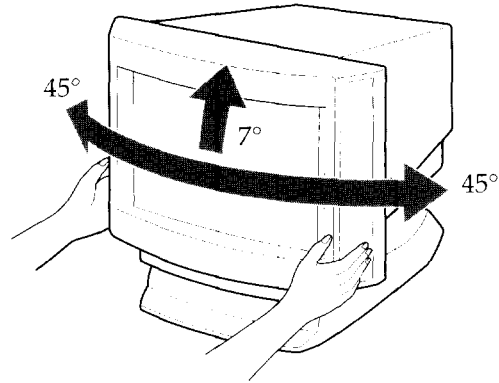
When using a video mode that is not one of the 6 factory preset modes, some fine tuning may be required to optimize the display to your preferences. Simply adjust the monitor according to the adjustment instructions. The adjustments will be stored automatically and recalled whenever that mode is used.

A total of 10 user-defined modes can be stored in memory. If an 11th mode is entered, it will replace the first.

Using the tilt-swivel

With the tilt-swivel, this unit can be adjusted to be viewed at your desired angle within 90° horizontally and 7° vertically.

To turn the unit vertically and horizontally, hold it at its bottom with both hands.

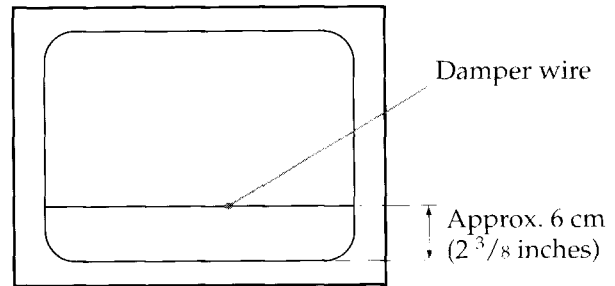


Damper wire

Using a white background, a very thin horizontal line on the screen is visible as shown below. This line is a damper wire.

The Trinitron tube has a vertically striped Aperture Grille inside. The Aperture Grille allows more light to pass through to the screen giving the Trinitron CRT more color and brightness.

The damper wire is attached to the Aperture Grille to prevent vibration of the Aperture Grille wire so that the screen image is constantly stable.



Adjustments

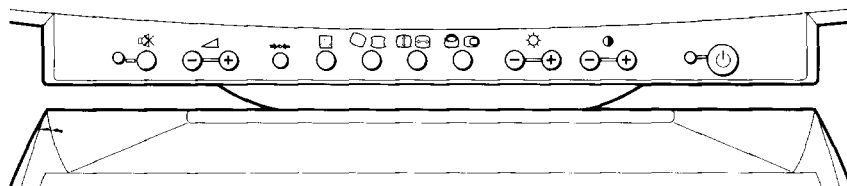
When one of the preset-type signals is input, no picture adjustment is necessary.

You can, however, adjust the picture to your preference by following the procedure described below.

To adjust the monitor, turn on the monitor and computer.
Select the adjustment item. You can adjust all items except sound controls via the OSD (On Screen Display).




Adjustments are automatically stored in the monitor's memory.

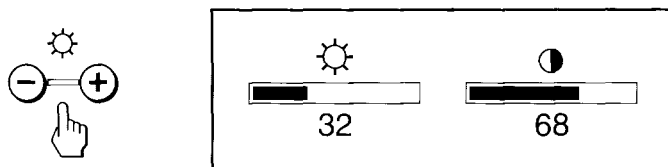
Control Panel




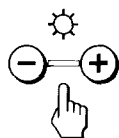
Adjusting the picture brightness



The adjustment data becomes the common setting for all input signals.

1. Press the  + or - button.
The " " OSD appears.






2. Press the  +/- buttons to adjust the picture brightness.
+ for more brightness
- for less brightness

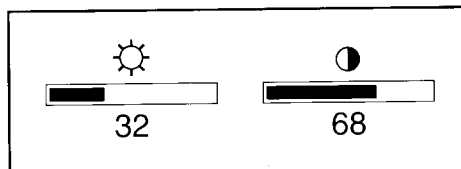
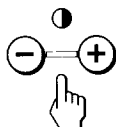



The " " OSD disappears 2 seconds after you release the buttons.

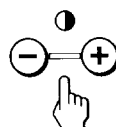
Adjusting the picture contrast



The adjustment data becomes the common setting for all input signals.

1. Press the  + or - button.
The " 







2. Press the  +/- buttons to adjust the picture contrast.
+ for more contrast
- for less contrast

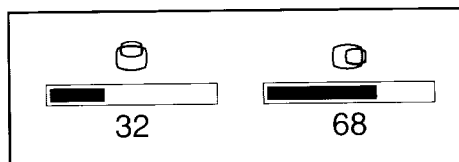


The " 

Adjusting the picture centering

The adjustment data becomes the individual setting for each input signal received.

1. Press the   button.
The " 

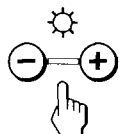


2. For vertical adjustment

Press the +/- buttons.

+ to move up

- to move down

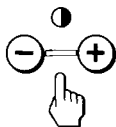


For horizontal adjustment

Press the +/- buttons.

+ to move right

- to move left



To exit the OSD

Press the button again.



Tip

If you don't touch any button, the OSD automatically disappears after 20 seconds.

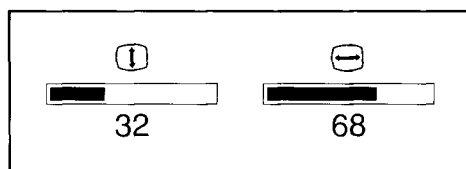
When you want to adjust another item, press the button of the item. The OSD of the selected item appears.

Adjusting the picture size

The adjustment data becomes the individual setting for each input signal received.

1. Press the button.

The OSD appears.

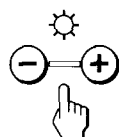


2. For vertical adjustment

Press the +/- buttons.

+ to increase

- to decrease

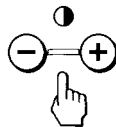


For horizontal adjustment

Press the +/- buttons.

+ to increase

- to decrease



Continued to the next page →

To exit the OSD



Press the   button again.



Tip

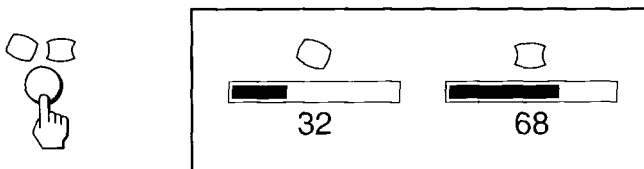
If you don't touch any button, the OSD automatically disappears after 20 seconds.
When you want to adjust another item, press the button of the item. The OSD of the selected item appears.


Adjusting the picture rotation

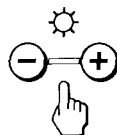
The adjustment data becomes the common setting for all input signals.

1. Press the   button.

The " 

" OSD appears.

2. Press the  +/- buttons.
+ to rotate clockwise
- to rotate counterclockwise



To exit the OSD



Press the   button again.

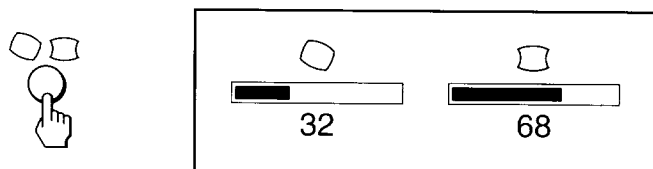
Tip


If you don't touch any button, the OSD automatically disappears after 20 seconds.
When you want to adjust another item, press the button of the item. The OSD of the selected item appears.

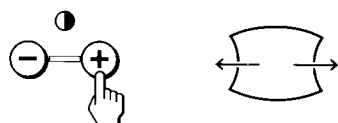
Adjusting the pincushion

The adjustment data becomes the individual setting for each input signal received.

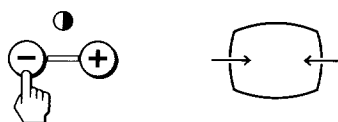
1. Press the  button.
The "" OSD appears.



2. Press the  +/- buttons.
+ to expand the picture sides



– to diminish the picture sides



To exit the OSD


Press the  button again.


Tip

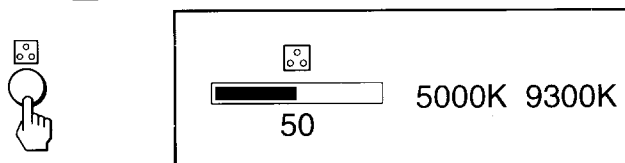
If you don't touch any button, the OSD automatically disappears after 20 seconds.
When you want to adjust another item, press the button of the item. The OSD of the selected item appears.



Setting the color temperature

The selected color temperature becomes the common setting for all input signals.


1. Press the  button.

The "" OSD appears.



2. Adjust with the  +/- and  +/- buttons.

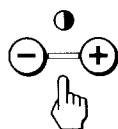
To select 5000K or 9300K

Press  +/- buttons.


The selected color temperature is indicated in yellow.

+ to select 9300K

- to select 5000K

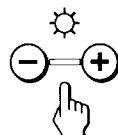


To obtain the desired color temperature between 5000K and 9300K


Press  +/- buttons.

+ for higher temperature


- for lower temperature



 **Tip**

The first press of  + or - button recalls the color temperature which was obtained at the last adjustment.

To exit the OSD

Press the  button again.

 **Tip**

If you don't touch any button, the OSD automatically disappears after 20 seconds.

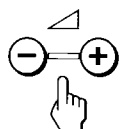
When you want to adjust another item, press the button of the item. The OSD of the selected item appears.

Adjusting volume

Adjust with the +/- buttons.

+ to increase volume

– to decrease volume

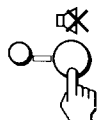


Tips

- The indicator flashes while adjusting volume.
- The default setting of the volume level is 30 %.
- No indicator about volume level appears.
- Adjust the volume while listening to the sound.
- Excessively high volume may cause howling.

■ To mute the sound

Press the button. The indicator lights.

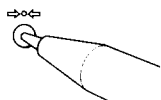


Press again to cancel muting.

Resetting

■ To recall the factory settings for the current mode

Press the button to recall the factory settings.



✓ Note

The brightness, contrast, rotation and color temperature do not return to the factory settings.

■ To recall the factory settings for all modes

Press and hold the button for 5 seconds.

All adjustments return to the factory settings.

Power Saving Function

This monitor meets the power saving guidelines set by the International ENERGY STAR Program. It is capable of reduced power consumption when used with a computer equipped with Display Power Management Signaling (DPMS). By sensing the absence of the sync signal coming from the computer, it will reduce the power consumption as follows:

✓ CAUTION

The Power Saving function will automatically put the monitor into Active-off state if the power switch is turned on without any video signal input. Once the horizontal and vertical syncs are sensed, the monitor will automatically return to its Normal operation state.

State	Power consumption	Required resumption time	Power indicator	Speaker
1 Normal operation	130 W (max)	—	Green	On
2 Suspend (1st step of power saving)	15 W (max) ¹⁾	Approx. 3 sec.	Green ↔ Orange	Off ²⁾
3 Active-off (2nd step of power saving)	8 W (max)	Approx. 10 sec.	Orange	Off ²⁾
4 Power-off	Approx. 6 W ³⁾	—	Off	Off

✓ Notes

- 1) When the audio circuitry is inactive.
- 2) The audio circuitry will constantly be active as long as the monitor keeps receiving the audio signal including noise.
When the audio signal is completely shut down, the audio circuitry will be automatically turned off after 30 seconds. Once turned off, the audio circuitry will not be active again until the monitor returns to its Normal operation state.
- 3) To lower the power consumption to 0 W, disconnect the power cord.

Specifications


Picture tube	0.25 mm aperture grille pitch, 15 inches measured diagonally, 90-degree deflection, AR coating
Viewable image size	Approx. 284 × 212 mm (w/h) (11 ¹ / ₄ × 8 ³ / ₈ inches) 13.9" viewing image
Logical resolution	Horizontal: Max. 1280 dots Vertical: Max. 1024 lines
Physical resolution	Horizontal: Max. 1024 dots Vertical: Max. 768 lines
Standard image area	Approx. 270 × 202 mm (w/h) (10 ³ / ₄ × 8 inches)
Deflection frequency	Horizontal: 31 to 65 kHz Vertical: 50 to 120 Hz
Speaker	Left, right: 3.5 W × 2, Sub-woofer: 10 W 50 – 20 kHz
Microphones	Uni-direction, electret condenser microphone
Microphones output	Miniplug
Audio input	Stereo miniplug, input impedance 47 kΩ, input level 0.7 Vrms typical
Headphones output	Stereo minijack, 4 mW + 4 mW at 16 Ω
Microphones input	Minijack, plug-in-power
AC input voltage/current	100 to 120 V, 50/60 Hz, 2.2 A
Dimensions	Approx. 424 × 419 × 388 mm (w/h/d) (16 ³ / ₄ × 16 ¹ / ₂ × 15 ³ / ₈ inches)
Mass	Approx. 16.8 kg (37 lb 1 oz)


Design and specifications are subject to change without notice.


Troubleshooting


This section may help you isolate a problem and as a result, eliminate the need to contact technical support, allowing continued productivity.


No picture

If the  indicator is not lit

- Check that the power cord is properly connected.
- Check that the  switch is in the "ON" position.


If the  indicator is flashing in orange



- Check that your computer power switch is in the "ON" position.
- The monitor may recover when you press any key on the keyboard of the computer.
- Check that the video cable is properly connected.
- Ensure that no pins are bent or pushed in the HD15 connector of the cable.
- Check that the video card in your computer is seated completely in a proper bus slot.
- Check that the video sync signal is within that specified for the monitor.
- This monitor has a self-diagnostics function. To activate the function, turn off the computer and the monitor. Press and hold the  switch of the monitor for about 8 seconds. If the monitor is operating correctly, the screen will become white first and then the color bars will appear.

If the  indicator is flashing in red

- Check that the video sync signal is specified for the monitor.
- There is a potential monitor failure. Contact Sony Technical Support.

No sound from speaker

If the  indicator is lit

- Press the  button to cancel muting.
- Check that the audio plug is properly connected.
- Adjust the volume with  +/- buttons.
- Check that the headphones are not connected.
- Check that the sound board of the computer is properly connected.
- Check that the volume control, muting, sound selector, etc. of the sound board. (See the computer's manual.)

Microphone mixing is not possible

- Check that the MIC plug is properly connected.
- Check that the sound board of the computer is properly connected.
- Check that the microphone control, sound selector, etc. of the sound board. (See the computer's manual.)

Howling (feed-back) is heard

- Decrease the volume with \triangleleft +/- buttons, or turn down the microphone input volume of the sound board.

Picture is scrambled

- Check your graphics board manual for the proper monitor setting on the monitor.
- Check this manual and confirm that the graphic mode and the frequency at which you are trying to operate is supported. Even within the proper range, some video boards may have a sync pulse that is too narrow for the monitor to sync correctly.

Color is not uniform

- Trip the \odot switch once to activate the Auto-degauss cycle*.

Screen image is not centered or sized properly

- Adjust picture centering, size, or geometry (rotation/ pincushion) on the OSD (pages 16, 17).
- Some video modes do not fill the screen to the edge of the monitor. There is no single answer to solve the problem. There is a tendency for this problem to occur on higher refresh timings.

Picture is fuzzy

- Adjust the contrast and brightness on the OSD (pages 13, 14). Some brands of SVGA boards have an excessive video output level which creates a fuzzy picture at maximum contrast.
- Trip the \odot switch once to activate the Auto-degauss cycle*.

Picture bounces or has wavy oscillations

- Isolate and eliminate any potential sources of electric or magnetic fields. Common causes for this symptom are electric fans, fluorescent lighting, laser printers, etc.
- If you have another monitor close to this monitor, increase the distance between them to reduce interference.
- Try plugging the monitor into a different AC outlet, preferably on a different circuit.

Picture appears to be ghosting

- Eliminate the use of video extension cables and/or video switch boxes if this symptom occurs. Excessive cable length or weak connections can produce this symptom.

A fine horizontal line (wire) is visible

- This wire stabilizes the vertically striped Aperture Grille. The Aperture Grille allows more light to pass through to the screen giving the Trinitron CRT more color and brightness.

Continued to the next page →

Wavy or elliptical (moire) pattern is visible

- Due to the relationship between resolution, monitor Aperture Grille pitch and the pitch of some image patterns, certain screen backgrounds, especially gray, sometimes show moire which looks like wavy lines. This can only be eliminated by changing your desktop pattern.

Hum is heard right after the power is turned on

- When the power is turn on, the Auto-degauss cycle* is activated. While the Auto-degauss cycle is activated, a hum may be heard. This is not a malfunction.

* The Auto-degauss function demagnetizes the metal frame of the CRT to obtain a neutral field for uniform color reproduction. If a second degauss cycle is needed, allow a minimum interval of 20 minutes for the best result.

- If the problem persists, call your authorized Sony dealer from a location near you, or call Sony Technical Support at 1-800-326-9551.
- Note the model name and the serial number of your monitor. Also note the make and name of your computer and video board.