

TFT LCD Color Computer Display

Operating Instructions _____	GB
Mode d'emploi _____	FR
Bedienungsanleitung _____	DE
Manual de instrucciones _____	ES
Istruzioni per l'uso _____	IT

CPD-L181

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. _____ 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 unit. Do not open the cabinet. Refer servicing to qualified personnel only.

FCC Notice

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.

INFORMATION

This product complies with Swedish National Council for Metrology (MPR) standards issued in December 1990 (MPR II) for very low frequency (VLF) and extremely low frequency (ELF).

INFORMATION

Ce produit est conforme aux normes du Swedish National Council for Metrology de décembre 1990 (MPR II) en ce qui concerne les fréquences très basses (VLF) et extrêmement basses (ELF).

Hinweis

Dieses Gerät erfüllt bezüglich tieffrequenter (very low frequency) und tiefstfrequenter (extremely low frequency) Strahlung die Vorschriften des „Swedish National Council for Metrology (MPR)“ vom Dezember 1990 (MPR II).

INFORMACIÓN

Este producto cumple las normas del Consejo Nacional Sueco para Metrología (MPR) emitidas en diciembre de 1990 (MPR II) para frecuencias muy bajas (VLF) y frecuencias extremadamente bajas (ELF).

この装置は、情報処理装置等電波障害自主規制協議会(VCCI)の基準に基づくクラスB情報技術装置です。この装置は、家庭環境で使用することを目的としていますが、この装置がラジオやテレビジョン受信機に近接して使用されると、受信障害を引き起こすことがあります。取扱説明書に従って正しい取り扱いをしてください。

Dieses Gerät entspricht den folgenden europäischen EMV-Vorschriften für Betrieb in Wohngebieten, gewerblicher Gebieten und Leichtindustrieregionen.

EN55022/1994 Klasse B
EN50082-1/1997

Hinweise

- Aus ergonomischen Gründen wird empfohlen, die Grundfarbe Blau nicht auf dunklem Untergrund zu verwenden (schlechte Erkennbarkeit, Augenbelastung bei zu geringem Zeichenkontrast).
- Aus ergonomischen Gründen (flimmern) sollten nur Darstellungen bei Vertikalfrequenzen ab 70 Hz (ohne Zeilensprung) verwendet werden.
- Die Konvergenz des Bildes kann sich auf Grund des Magnetfeldes am Ort der Aufstellung aus der korrekten Grundeinstellung verändern. Zur Korrektur empfiehlt es sich deshalb, die Regler an der Frontseite für Konvergenz so einzustellen, daß die getrennt sichtbaren Farblinien für Rot, Grün und Blau bei z.B. der Darstellung eines Buchstabens zur Deckung (Konvergenz) gelangen. Siehe hierzu auch die Erklärungen zu Konvergenz.

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 x 18 AWG
Length	Maximum 15 feet
Rating	Minimum 7 A, 125 V

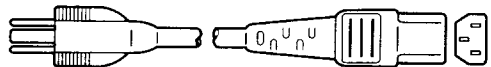
NOTICE

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 x 18 AWG
Longueur	Maximum 15 pieds
Tension	Minimum 7 A, 125 V



As an ENERGY STAR Partner, Sony Corporation has determined that this product meets the ENERGY STAR guidelines for energy efficiency.

Declaration of Conformity

Trade Name: Sony
Model No.: CPD-L181
Responsible Party: Sony Electronics Inc.
Address: 1 Sony Drive, Park Ridge, NJ, 07656 USA
Telephone No.: 201-930-6970

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

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- Macintosh is a trademark licensed to Apple Computer, Inc., registered in the U.S.A. and other countries.
- Windows® and MS-DOS are registered trademarks of Microsoft Corporation in the United States and other countries.
- IBM PC/AT and VGA are registered trademarks of IBM Corporation of the U.S.A.
- VESA is a trademark of Video Electronics Standard Association.
- ENERGY STAR is a U. S. registered mark.
- All other product names mentioned herein may be the trademarks or registered trademarks of their respective companies.
- Furthermore, "™" and "®" are not mentioned in each case in this manual.

Precautions

Installation

- Prevent internal heat build-up by allowing adequate air circulation. Do not place the monitor on surfaces (rugs, blankets, etc.) or near materials (curtains, draperies) that may block the ventilation holes.
- Do not install the monitor near heat sources such as radiators or air ducts, or in a place subject to direct sunlight, excessive dust, mechanical vibration or shock.
- Do not place the monitor near equipment which generates magnetism, such as a transformer or high voltage power lines.

Handling the LCD screen

- **Bright points of light (red, blue or green) may appear on the LCD screen. This is not a malfunction. The LCD screen is made with high-precision technology and more than 99.99 % of the picture element is intact. However, some of the picture element may not appear or some of the picture element may appear constantly.**
- Do not leave the LCD screen facing the sun as it can damage the LCD screen. Take care when you place the monitor by a window.
- Do not push or scratch the LCD screen. Do not place a heavy object on the LCD screen. This may cause the screen to lose uniformity.
- If the monitor is used in a cold place, a residual image may appear on the screen. This is not a malfunction. When the monitor becomes warm, the screen returns to normal.
- If a still picture is displayed for a long time, a residual image may appear. The residual image will eventually disappear.
- The screen and the cabinet become warm during operation. This is not a malfunction.

Replacement of the fluorescent tube

A specially designed fluorescent tube is installed as the lighting apparatus for this monitor. If the LCD screen becomes dark, unstable or does not turn on, replace the fluorescent tube with a new one. Consult your Sony dealer when replacing the fluorescent tube.

Maintenance

- Clean the cabinet, 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 such as a ballpoint pen or screwdriver. This type of contact may result in a scratched picture tube.
- Clean the screen with a soft cloth. If you use a glass cleaning liquid, do not use any type of cleaner containing an antistatic solution or similar additive as this may scratch the screen's coating.

Transportation

- When you transport this monitor, grip the bottom of the screen firmly with both hands. If you drop the monitor, you may be injured or the monitor may be damaged.
- When you transport this monitor for repair or shipment, use the original carton and packing materials.

Warning on power connection

- Use an appropriate power cord for your local power supply.

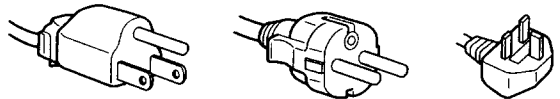
For the customers in the U.S.A.

If you do not use the appropriate cord, this monitor will not conform to mandatory FCC standards.

For the customers in the UK

If you use the monitor in the UK, please use the supplied UK cable with the UK plug.

Examples of plug types



for 100 to 120 V AC for 200 to 240 V AC for 240 V AC only

The outlet should be installed near the equipment and be easily accessible.

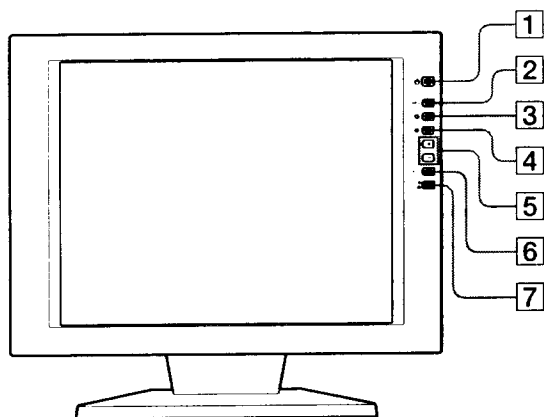
Disposal of the monitor

- **Do not dispose of the monitor with general waste.** Do not include the monitor with household waste.
- **The fluorescent tube includes mercury. Dispose of the monitor in accordance with the regulations of your local sanitation authority.**

Identifying Parts and Controls

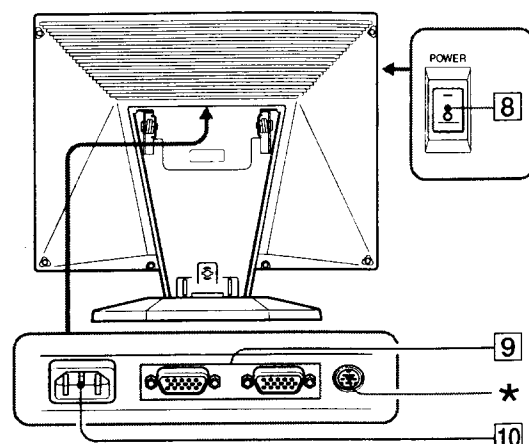
See the pages in parentheses for further details.

Front



- 1** (power) switch and indicator (pages 8, 17)
Turns the monitor on or off.
The indicator lights up in green when the monitor is turned on, and either flashes in green and orange or lights up in orange when the monitor is in power saving mode.
- 2** **MENU (menu) button** (pages 9 – 16, 19)
Displays the MENU OSD (On-Screen Display).
- 3** (brightness) () button (pages 9 – 16)
Adjusts the picture brightness.
Functions as the button when selecting menu items.
- 4** (contrast) () button (pages 9 – 16)
Adjusts the contrast.
Functions as the button when selecting menu items.
- 5** **+/- (adjust) buttons** (pages 11 – 16)
Adjusts the selected menu item.
- 6** **AUTO button** (page 10)
When the signal from the computer is displayed on this monitor, press the AUTO button to automatically adjust the picture to the computer.
You also should press this button if the picture is not centered or if it is fuzzy.

Rear



- 7** **1, 2 input switch and indicator** (page 8)
Selects the input signal from or . Each time you press the button, the input changes and the corresponding indicator lights up.
- 8** **POWER (main power) switch** (page 8)
To turn on the main power, press the “-” side. To turn off, press the “O” side.
- 9** **1/2 input connectors (HD15)** (pages 6, 8)
Input analog RGB video signals (0.714 Vp-p, positive) and SYNC signals.
- 10** **AC IN connector** (page 6)
Provides AC power to the monitor from the wall outlet.
* This connector is used by service personnel only. Do not connect anything to this outlet.

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Setup

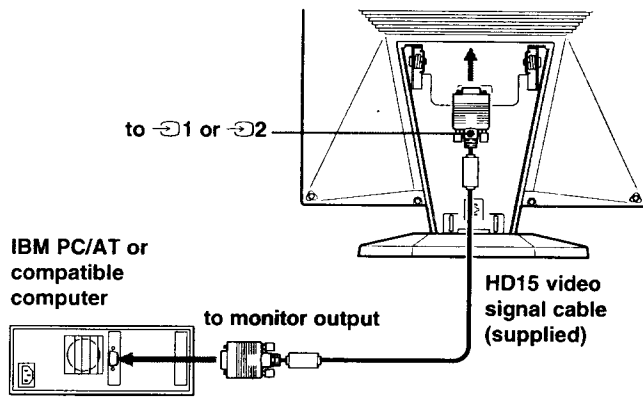
Before using this monitor, check that the following items are included in your carton:

- LCD monitor (1)
- Rear cover (1)
- Power cord (1)
- HD15 video signal cable (1)
- Macintosh adapter (1)
- Windows Monitor Information Disk/Utility Disk (1)
- Macintosh Utility Disk (1)
- Warranty card (1)
- These operating instructions (1)

Step 1: Connect the monitor to the computer

Turn off the monitor and computer before connecting.

Connecting to an IBM PC/AT or compatible computer



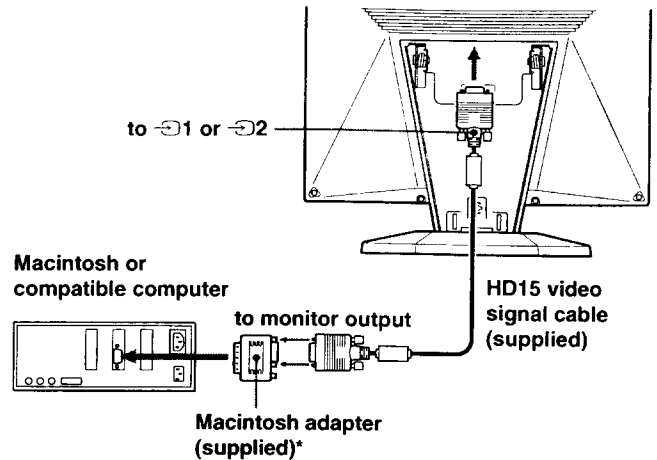
If your PC system is not compatible with Plug & Play (DDC2B and DDC2Bi)

This monitor uses the No. 9 pin in the video signal connector for Plug & Play (DDC2B and DDC2Bi) compatibility. See page 20 for the location of the No. 9 pin.

- If your computer accepts the No. 9 pin, use the supplied HD15 video signal cable.
- If your computer does not accept the No. 9 pin, please consult your dealer for advice on obtaining an HD15 adapter.

Connecting to a Macintosh

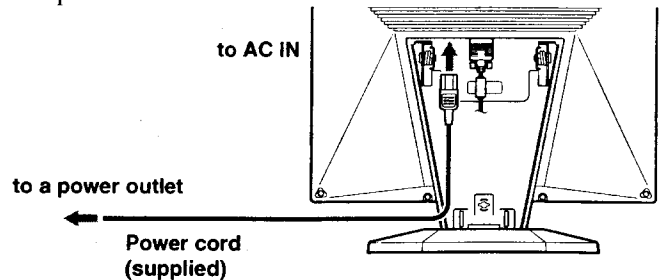
Use the supplied Macintosh adapter.



- * Connect the supplied Macintosh adapter to the computer before connecting the cable. This adapter is compatible with Macintosh LC, Performa, Quadra, Power Macintosh and Power Macintosh G3 series computers (sold before January, 1999). If you are connecting to a Power Macintosh G3 series that sold after January 1999, you will need a different adapter (not supplied). Macintosh II series and some older versions of PowerBook models may need an adapter with micro switches (not supplied).

Step 2: Connect the power cord

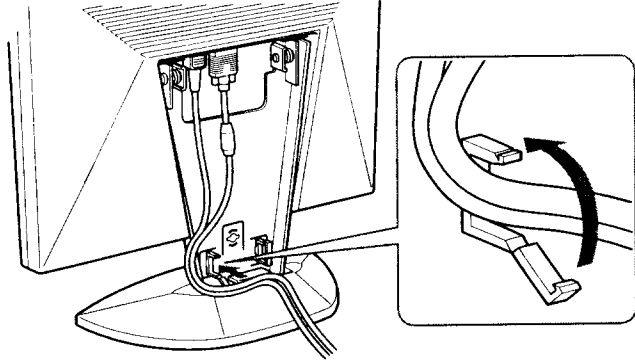
With the monitor and computer switched off, connect one end of the AC power cord to the monitor and the other end to a power outlet.



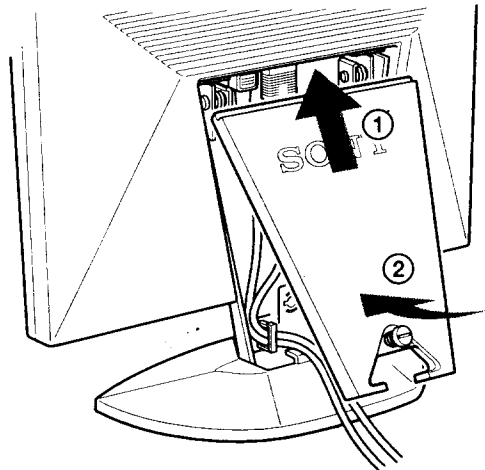
Step 3: Attaching the rear cover

After connecting the computer and power cord, attach the supplied rear cover. Make sure that you keep the screen upright when attaching the rear cover.

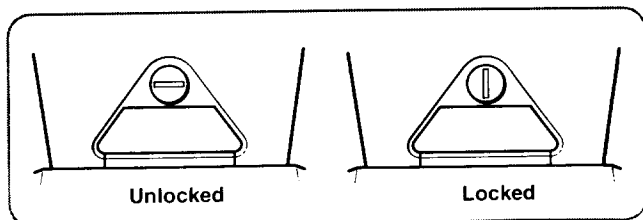
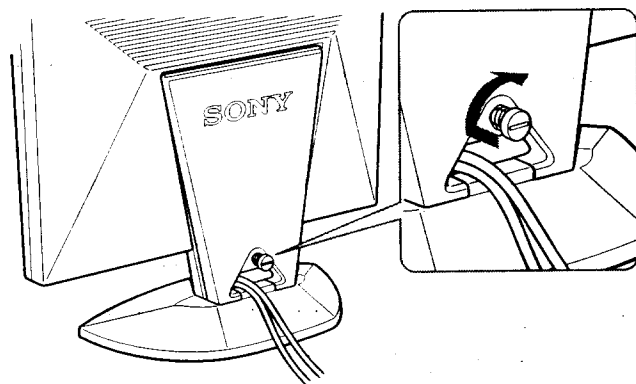
1 Hook the computer cable and power cord.



2 Press the top of the rear cover against the top of the part for attaching the cover, and then push the rear cover in.

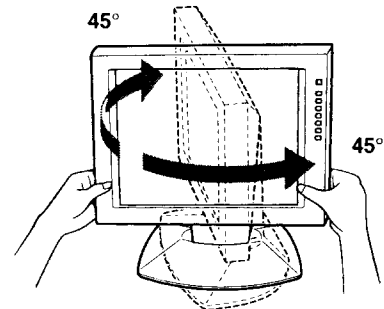
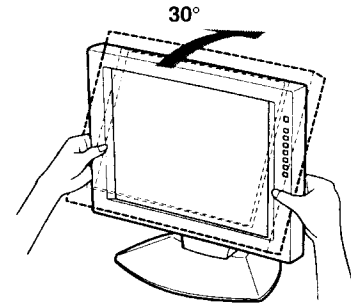


3 Turn the screw to fasten the rear cover.



Use of the Tilt

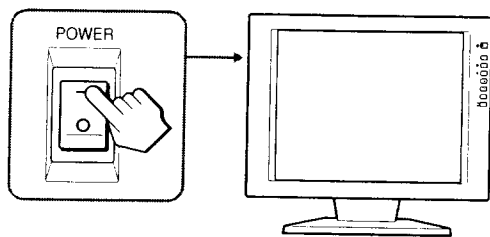
The tilt feature will adjust the monitor within 30° upward, and 45° to the left or right. However, best viewing results can be obtained by tilting the screen upward by 5° or more. To turn the monitor, hold at the bottom with both hands as illustrated below.



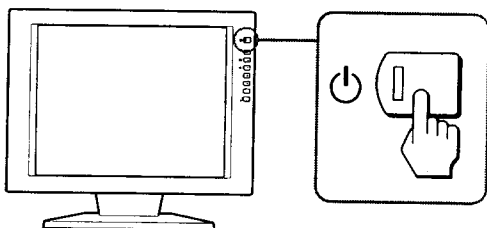
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Turning on the Monitor and Computer

- 1 Press the "-" side of the POWER switch.



- 2 Press the ⏻ switch.



- 3 Turn on the computer.

The installation of your monitor is complete.
If necessary, use the monitor's controls to adjust the picture.

If no picture appears on your screen

- Check that the monitor is correctly connected to the computer.
- If NO INPUT SIGNAL appears on the screen, try changing the input signal, and confirm that your computer's graphics board is completely seated in the correct bus slot.
- If you are replacing an old monitor with this model and OUT OF SCAN RANGE appears on the screen, reconnect the old monitor. Then adjust the computer's graphics board so that the horizontal frequency is between 30 - 92 kHz, the vertical frequency is between 40 - 85 Hz, and the resolution is 1280 x 1024 or lower.

For more information about the on-screen messages, see "Trouble symptoms and remedies" on page 18.

For customers using Windows 95/98

To maximize the potential of your monitor, install the new model information file from the supplied Windows Monitor Information Disk/Utility Disk onto your PC. This monitor complies with the "VESA DDC" Plug & Play standard. If your PC/graphics board complies with DDC, select "Plug & Play Monitor (VESA DDC)" or this monitor's model name as the monitor type in the "Control Panel" of Windows 95/98. If your PC/graphics board has difficulty communicating with this monitor, load the Windows Monitor Information Disk/Utility Disk and select this monitor's model name as the monitor type.

For customers using Windows NT4.0

Monitor setup in Windows NT4.0 is different from Windows 95/98 and does not involve the selection of monitor type. Refer to the Windows NT4.0 instruction manual for further details on adjusting the resolution, refresh rate, and number of colors.

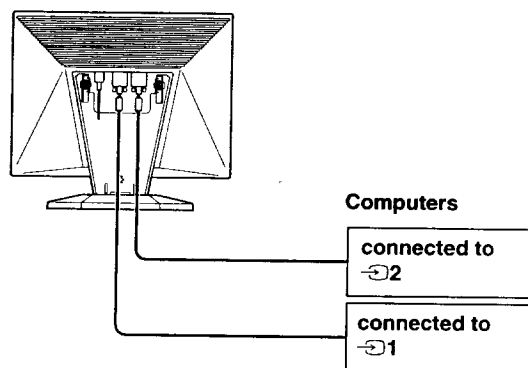
Adjusting the monitor's resolution and color number

Adjust the monitor's resolution and color number by referring to your computer's instruction manual. The color number may vary according to your computer or graphics board. The color palette setting and the actual number of colors are as follows:

- High color (16 bit) → 65,536 colors.
 - True Color (24 bit) → about 16.77 million colors
- In true color mode (24 bit), speed may be slower.

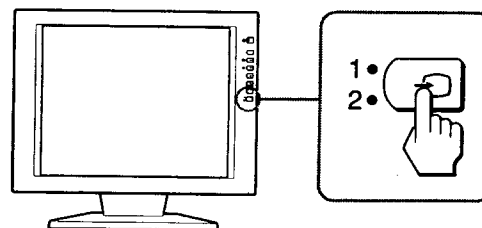
Selecting the Input Signal

You can connect two computers to this monitor using the HD 15 connectors. To switch between the two computers, use the ↺ button.



Press the ↺ button.

The input signal and corresponding input indicator change each time you press this button.



Note

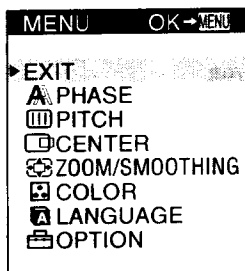
If you restart the computer you want to view, or that computer is in power saving mode, the monitor may automatically switch to the other connector's signal. If this happens, manually select the desired signal using the ↺ button.

Before adjusting

Connect the monitor and the computer, and turn them on.
Wait for at least 30 minutes before making adjustments for the best result.

Introducing the On-Screen Display System

Most adjustments are made using the MENU OSD. To change the on-screen display language, see "Selecting the On-Screen Display Language."



EXIT

Closes the MENU OSD.

PHASE

Displays the PHASE OSD. Adjust the phase when the characters or pictures appear fuzzy throughout the entire screen. Adjust the phase after adjusting the pitch.

PITCH

Displays the PITCH OSD. Adjust the pitch when the characters or pictures are not clear at some parts of the screen.

CENTER

Displays the CENTER OSD for adjusting the centering of the picture.

ZOOM/SMOOTHING

Displays the ZOOM/SMOOTHING OSD for adjusting the picture's sharpness according to the input signal's aspect ratio or resolution.

COLOR

Displays the COLOR OSD for adjusting the color temperature.

LANGUAGE

Displays the LANGUAGE OSD for selecting the on-screen display language.

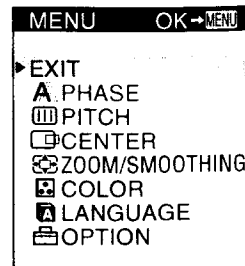
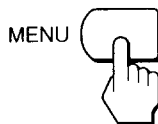
OPTION

Displays the OPTION OSD. You can adjust settings such as the backlight, OSD position, power saving delay time and control lock.

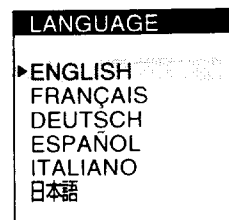
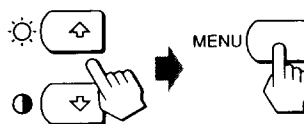
Selecting the On-Screen Display Language

You can select the OSD language from English, French, German, Spanish, Italian, and Japanese.

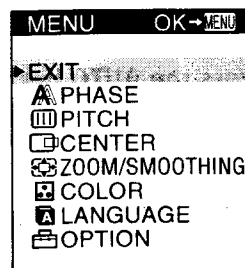
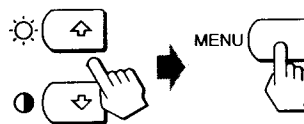
- 1 Press the MENU button.
The MENU OSD appears.



- 2 Press the \uparrow/\downarrow buttons to select LANGUAGE, and press the MENU button.
The LANGUAGE OSD appears.



- 3 Press the \uparrow/\downarrow buttons to select the desired language, and press the MENU button.
The MENU OSD of the selected language appears.



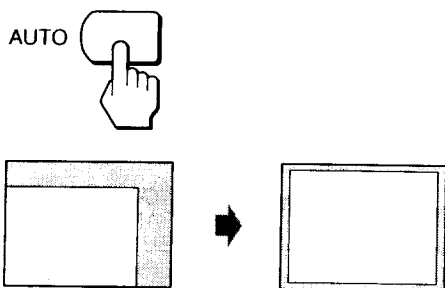
The OSD automatically disappears after about 30 seconds. To close the OSD, press the MENU button again.

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Automatically Adjusting the Picture

If the picture is flickering or fuzzy, press the AUTO button. The monitor is automatically adjusted to match the signal from the connected computer. Further fine adjustments may be needed with some computers. In this case, manually adjust the monitor.

- 1 Turn on the monitor.
- 2 Turn on the computer.
- 3 Press the AUTO button. The monitor adjusts the pitch to match the input signal so that the picture appears sharp, and fits the picture to the center of the screen.



Notes

- This function is intended for use with a computer running Windows or similar graphic user interface software that provides a full-screen picture. It may not work properly if the background color is dark or if the input picture does not fill the screen to the edges (such as an MS-DOS prompt).
- The screen may go blank for a few seconds while performing the auto-sizing function. This is not a malfunction.

If the picture is flickering or fuzzy even after you press the AUTO button

Adjust the Pitch and Phase by referring to "Eliminating Flickering or Blurring Manually."

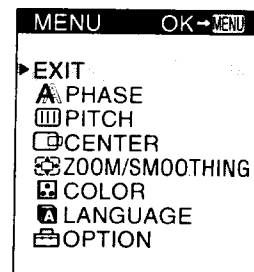
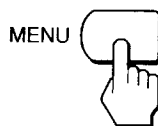
If the picture is not in the center of the screen even after you press the AUTO button

Adjust using the CENTER OSD by referring to "Adjusting the Picture Position."

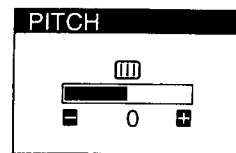
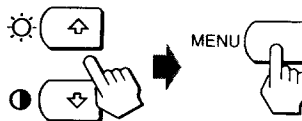
Eliminating Flickering or Blurring Manually

If a part of the screen is flickering or blurring, press the AUTO button. If this operation does not work, adjust the Pitch and Phase as follows. Once the pitch and phase are adjusted, they will be stored in memory for the current input signal.

- 1 Set the resolution to 1280 × 1024 on the computer. If the resolution of the graphics board is lower than 1280 × 1024, set ZOOM to REAL (page 12).
- 2 Load the Utility Disk. Use the appropriate disk for your computer.
For Windows 95/98
 Windows Monitor Information Disk/Utility Disk
For Macintosh
 Macintosh Utility Disk
- 3 Start the Utility Disk and display the test pattern.
For Windows 95/98
 Click [Utility Disk] → [Windows] → [Utility.exe].
For Macintosh
 Click [Utility Disk] → [SONY-Utility].
- 4 Press the MENU button. The MENU OSD appears.

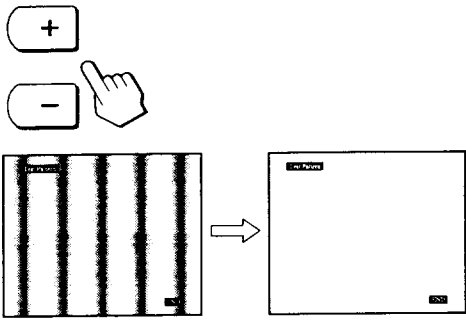


- 5 Press the ↑/↓ buttons to select PITCH, and press the MENU button again. The PITCH OSD appears.



- 6** Press the +/- buttons until the screen color becomes uniform.

Adjust so that the vertical stripes disappear.



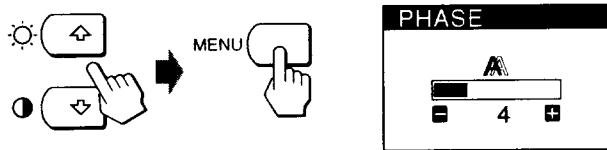
- 7** Press the MENU button.

The MENU OSD appears.

If horizontal stripes are observed over the entire screen, adjust the Phase in the next step.

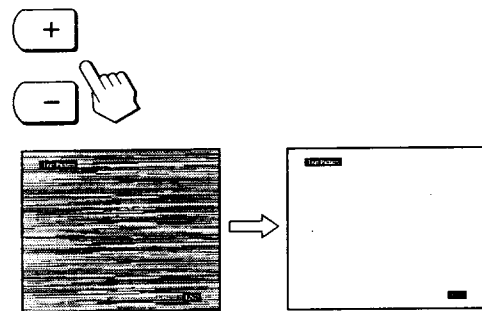
- 8** Press the ↑/↓ buttons to select PHASE, and press the MENU button again.

The PHASE OSD appears.



- 9** Press the +/- buttons until the screen color becomes uniform.

Adjust until the horizontal stripes are at a minimum.



- 10** When you have finished, click [END] on the screen to turn off the test pattern.

The OSD automatically disappears after about 30 seconds. To close the OSD, press the MENU button twice.

Adjusting the Picture Position

If the picture is not in the center of the screen, press the AUTO button. If this operation does not work, adjust the centering as follows.

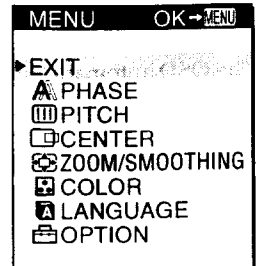
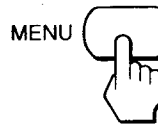
Once the centering is adjusted, it will be stored in memory for the current input signal.

- 1** Start the Utility Disk and display the test pattern.

Do steps 2 and 3 of "Eliminating Flickering or Blurring Manually."

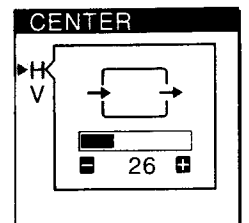
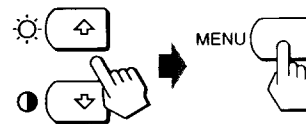
- 2** Press the MENU button.

The MENU OSD appears.



- 3** Press the ↑/↓ buttons to select CENTER, and press the MENU button again.

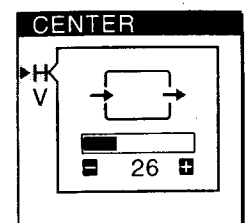
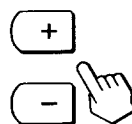
The CENTER OSD appears.



- 4** Move the picture up, down, left, or right until the frame at the perimeter of the test pattern disappears.

For horizontal adjustment, select H using the ↑/↓ buttons and adjust the position using the +/- buttons.

+ ... to move the picture right
- ... to move the picture left

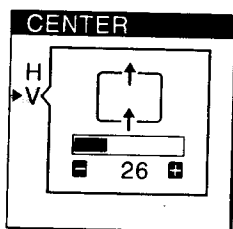
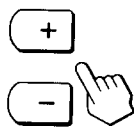


Continued

Customizing Your Monitor

For vertical adjustment, select V using the \uparrow/\downarrow buttons and adjust the position using the +/- buttons.

+ ... to move the picture up
- ... to move the picture down



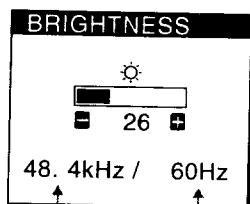
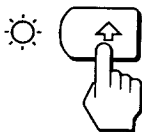
- 5 When you have finished, click **END** on the screen to turn off the test pattern.

The OSD automatically disappears after about 30 seconds. To close the OSD, press the MENU button twice.

Adjusting the Picture Brightness

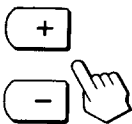
Once the brightness is adjusted, it will be stored in memory for all input signals received.

- 1 Press the \odot (brightness) \uparrow button. The BRIGHTNESS OSD appears.



Horizontal Frequency* Vertical Frequency*

- 2 Press the +/- buttons.



+ ... for more brightness
- ... for less brightness

The OSD automatically disappears after about 3 seconds.

* The horizontal and vertical frequencies for the received input signal appear in the BRIGHTNESS OSD.

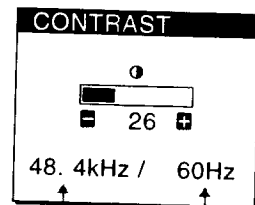
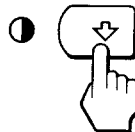
If the screen is too bright when using the monitor in a dark room

Decrease the BACKLIGHT (page 15).

Adjusting the Contrast

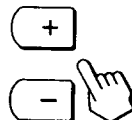
Once the contrast is adjusted, it will be stored in memory for all input signals received.

- 1 Press the \odot (contrast) \downarrow button. The CONTRAST OSD appears.



Horizontal Frequency* Vertical Frequency*

- 2 Press the +/- buttons.



+ ... for more contrast
- ... for less contrast

The OSD automatically disappears after about 3 seconds.

* The horizontal and vertical frequencies for the received input signal appear in the CONTRAST OSD.

Changing the Picture Size According to the Signal

The monitor is set at the factory to display the picture on the screen in full, irrespective of the picture's mode or resolution. You can also view the picture at its actual aspect ratio or resolution. Note that 1280 x 1024 resolution signals fill the entire screen and ZOOM is not possible. Once the zoom is set, it will be stored in memory for the current input signal.

FULL 1

The input signal is displayed on the screen in full, irrespective of the picture's mode or resolution.

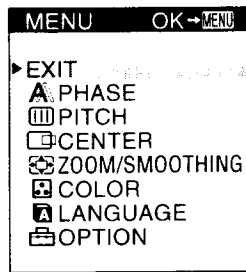
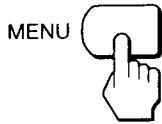
FULL 2

The input signal is displayed on the screen at its actual aspect ratio. Therefore, black bands may appear at the top and bottom of the picture depending on the signal.

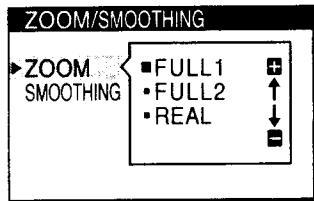
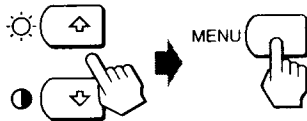
REAL

The input signal is displayed on the screen at its actual resolution. (Sub-SXGA signals are displayed at the center of the screen surrounded by black frame.)

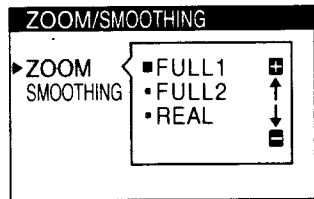
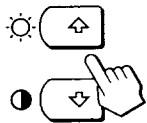
- 1 Press the MENU button.
The MENU OSD appears.



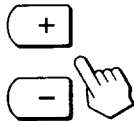
- 2 Press the ↑/↓ buttons to select ZOOM/SMOOTHING, and press the MENU button again.
The ZOOM/SMOOTHING OSD appears.



- 3 Press the ↑/↓ buttons to select ZOOM.



- 4 Press the +/- buttons to select the desired mode.



The OSD automatically disappears after about 30 seconds. To close the OSD, press the MENU button twice.

To display the picture on the screen in full

Select "FULL 1" in step 4.

If the picture displayed at FULL 1 or FULL2 mode is not smooth

Use the picture smoothing function. The smoothing effect becomes stronger in the order of TEXT → STANDARD → GRAPHICS. Note that 1280 × 1024 resolution signals are shown only in REAL mode and SMOOTHING is not possible.

Once the smoothing is set, it will be stored in memory for the current input signal.

STANDARD

Standard smoothing effect (factory preset smoothing effect).

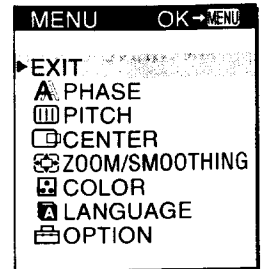
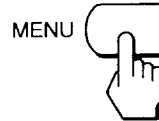
TEXT

To make the characters appear clear. (This mode is suited for text-based applications.)

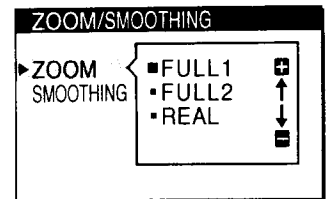
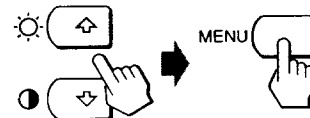
GRAPHICS

To make the pictures appear clean. (This mode is suited for CD-ROM software such as photo images or illustrations.)

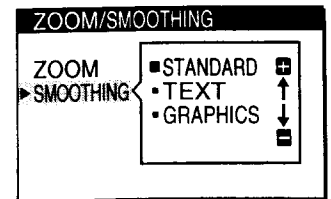
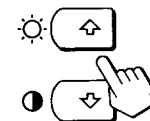
- 1 Press the MENU button.
The MENU OSD appears.



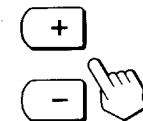
- 2 Press the ↑/↓ buttons to select ZOOM/SMOOTHING, and press the MENU button again.
The ZOOM/SMOOTHING OSD appears.



- 3 Press the ↑/↓ buttons to select SMOOTHING.



- 4 Press the +/- buttons to select the desired mode.

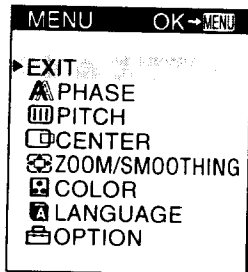
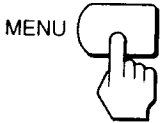


The OSD automatically disappears after about 30 seconds. To close the OSD, press the MENU button twice.

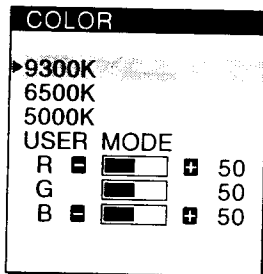
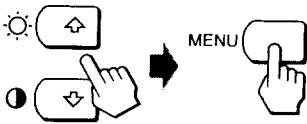
Changing or Adjusting the Color Temperature

The color temperature is set to 9300K at the factory. You can change the color temperature to 6500K or 5000K. Use this function to adjust the color temperature so that it matches the actual colors of a printed picture. Once the color temperature is adjusted, it will be stored in memory for all input signals received.

- 1 Press the **MENU** button.
The MENU OSD appears.



- 2 Press the \uparrow/\downarrow buttons to select **COLOR**, and press the **MENU** button again.
The COLOR OSD appears.



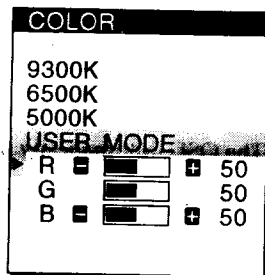
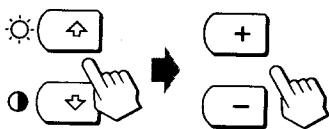
- 3 Press the \uparrow/\downarrow buttons to select the color temperature.

If you need to make further adjustments to the selected color temperature, go to step 4.

If you don't, press the MENU button. The MENU OSD appears.

- 4 Press the \uparrow/\downarrow buttons to select **R (red)** or **B (blue)**, and press the **+/-** buttons to get the desired color.

The color changes as the R or B components increase or decrease with respect to G (green).

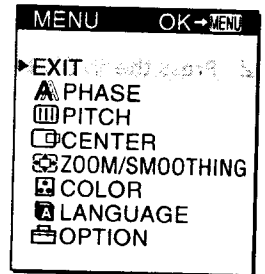
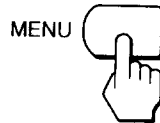


The OSD automatically disappears after about 30 seconds. To close the OSD, press the MENU button twice.

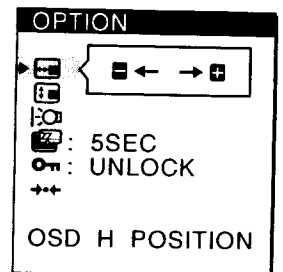
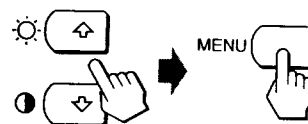
Changing the On-Screen Display Position

You can change the OSD position (for example, when you want to adjust the picture behind the OSD).

- 1 Press the **MENU** button.
The MENU OSD appears.



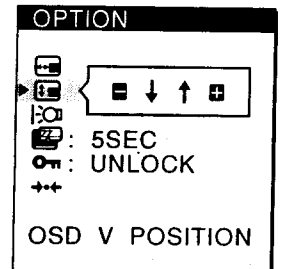
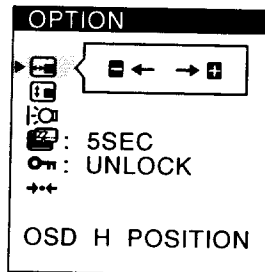
- 2 Press the \uparrow/\downarrow buttons to select **OPTION**, and press the **MENU** button again.
The OPTION OSD appears.



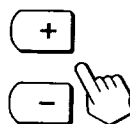
- 3 Press the \uparrow/\downarrow buttons to select \leftarrow (OSD H POSITION) or \updownarrow (OSD V POSITION).

To adjust the horizontal position

To adjust the vertical position



- 4 Press the **+/-** buttons to move the OSD to the desired position.



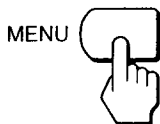
The OPTION OSD automatically disappears after about 30 seconds.

To close the OSD, press the MENU button twice.

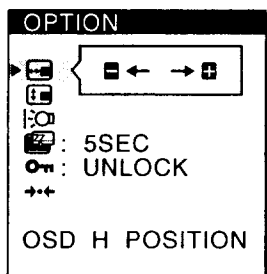
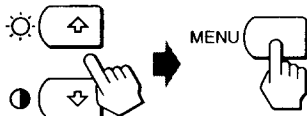
Adjusting the Backlight

If the screen is too bright when you are using the monitor in a dark room, adjust the backlight.

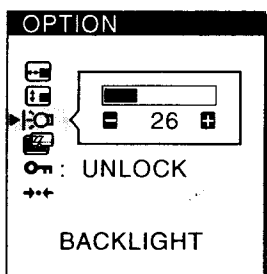
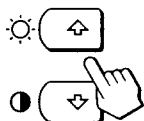
- 1 Press the **MENU** button.
The MENU OSD appears.



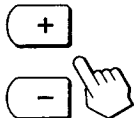
- 2 Press the **↑/↓** buttons to select **OPTION**, and press the **MENU** button again.
The OPTION OSD appears.



- 3 Press the **↑/↓** buttons to select **BACKLIGHT**.



- 4 Press the **+/-** buttons to adjust the light level.



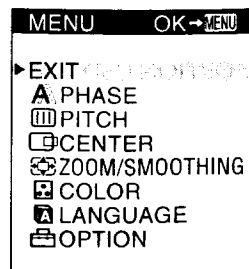
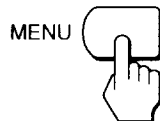
The OPTION OSD automatically disappears after about 30 seconds.

To close the OSD, press the MENU button twice.

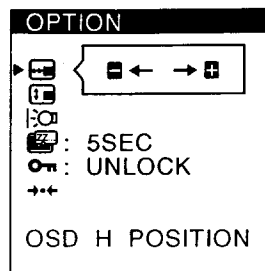
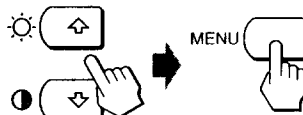
Setting the Power Saving Delay Time

You can set the delay time before the monitor enters the power saving mode. See page 17 for more information on this monitor's power saving capabilities.

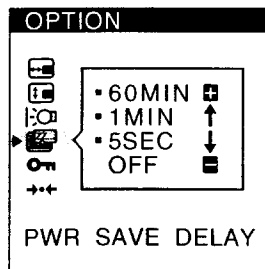
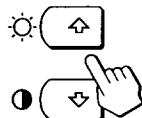
- 1 Press the **MENU** button.
The MENU OSD appears.



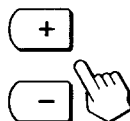
- 2 Press the **↑/↓** buttons to select **OPTION**, and press the **MENU** button again.
The OPTION OSD appears.



- 3 Press the **↑/↓** buttons to select **PWR SAVE DELAY**.



- 4 Press the **+/-** buttons to select the desired time.




When PWR SAVE DELAY is set to OFF, the monitor does not go into power saving mode.

The OPTION OSD automatically disappears after about 30 seconds.

To close the OSD, press the MENU button twice.


GB

Locking the Controls

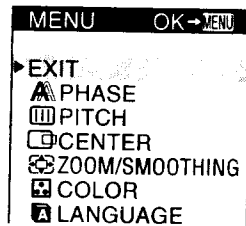
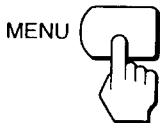
The control lock function disables all of the controls except the  (power) switch, MENU and some other buttons on the front panel.


Once you select "LOCK," you can select only the following items in the MENU OSD:

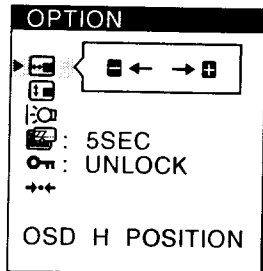
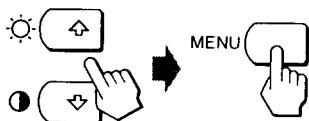
- EXIT
- CONTROL LOCK and FACTORY PRESET in the OPTION OSD

If you press any locked button, the  mark appears on the screen.

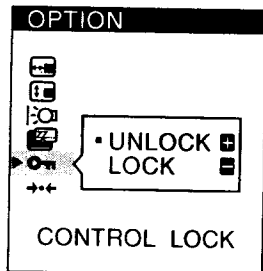
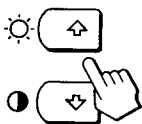
- 1 Press the MENU button.
The MENU OSD appears.



- 2 Press the  buttons to select OPTION, and press the MENU button again.
The OPTION OSD appears.



- 3 Press the  buttons to select  (CONTROL LOCK).



- 4 Press the - button to select LOCK.



The OPTION OSD automatically disappears after about 30 seconds.

To close the OSD, press the MENU button twice.

To cancel the control lock

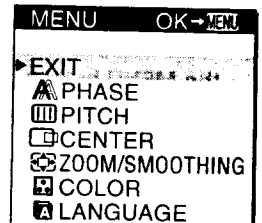
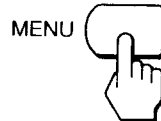
Press the + button in step 4 to select UNLOCK.


Resetting the Adjustments

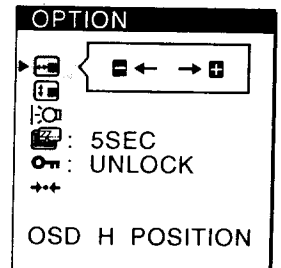
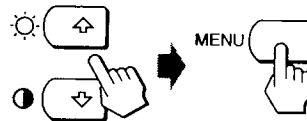
You can reset all of the adjustments and settings to the factory settings.

The color temperature is reset to 9300K, the zoom setting is reset to FULL 1 mode, and the power saving delay time is reset to 5 seconds. The control lock is cancelled. All other adjustments return to the default settings. The on-screen language, however, does not change.

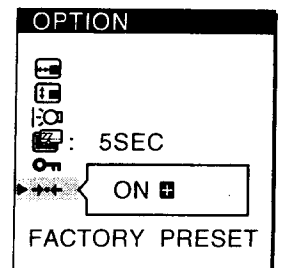
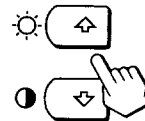
- 1 Press the MENU button.
The MENU OSD appears.



- 2 Press the  buttons to select OPTION, and press the MENU button again.
The OPTION OSD appears.



- 3 Press the  buttons to select  (FACTORY PRESET).



- 4 Press the + button.



The OPTION OSD automatically disappears after about 30 seconds.

To close the OSD, press the MENU button twice.

Preset and User Modes

This monitor has factory preset modes for the most popular industry standards for true “plug and play” compatibility. (See Appendix for a list of the factory preset modes.) When a new input signal is entered, the monitor selects the appropriate factory preset mode and momentarily adjusts the phase calibration to provide a high quality picture to the center of the screen. The calibration is stored in memory and is immediately recalled whenever the same input signal is received. For input signals that do not match one of the factory preset modes, the digital Multiscan technology of this monitor performs all of the adjustments necessary to ensure that a clear picture appears on the screen for any timing in the monitor’s frequency range. However, it may be necessary to fine tune the vertical/horizontal centering. Simply press the AUTO button or adjust the monitor according to the adjustment instructions. The adjustments are stored automatically as a user mode and recalled whenever the corresponding input signal is received.

Power Saving Function

This monitor meets the power-saving guidelines set by VESA and ENERGY STAR, as well as the more stringent NUTEK. If the monitor is connected to a computer or video graphics board that is VESA DPMS (Display Power Management Signaling) compliant, the monitor will automatically reduce power consumption in three stages as shown below. You can set the delay time before the monitor enters the power saving mode using the OSD. Set the time according to “Setting the Power Saving Delay Time” on page 15.

	Power consumption mode	Power consumption	Indicator
1	Normal operation	≤ 48 W	Green
2	Standby (1st mode)	≤ 15 W	Green and orange alternate
3	Suspend (2nd mode) (sleep)*	≤ 15 W	Green and orange alternate
4	Active-off (3rd mode)** ≤ 1 W (deep sleep)*		Orange
5	Power-off	≤ 1 W	Off
6	Main power-off	0 W	Off

* “Sleep” and “deep sleep” are power saving modes defined by the Environmental Protection Agency.

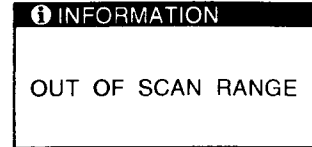
** When your computer enters the power saving mode, the input signal is cut and NO INPUT SIGNAL appears on the screen. After the time set in “Changing the Power Saving Delay Time” (page 15) has elapsed, the monitor enters the power saving mode.

Troubleshooting

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

On-screen messages

If there is something wrong with the input signal, one of the following messages appears on the screen. To solve the problem, see “Trouble symptoms and remedies” on page 18.



“OUT OF SCAN RANGE” indicates that the input signal is not supported by the monitor’s specifications.





“NO INPUT SIGNAL” indicates that no signal is input to the monitor.

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Trouble symptoms and remedies

If the problem is caused by the connected computer or other equipment, please refer to the connected equipment's instruction manual.

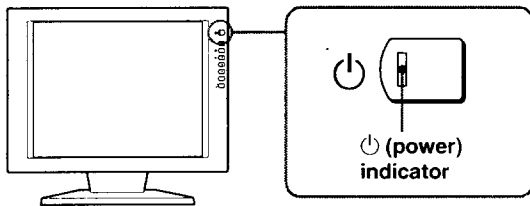
Use the self-diagnosis function (page 19) if the following recommendations do not resolve the problem.

Symptom	Check these items
No picture	
If the  indicator is not lit	<ul style="list-style-type: none"> • Check that the power cord is properly connected. • Check that the  (power) switch is in the "on" position.
If the "NO INPUT SIGNAL" message appears on the screen, or if the  indicator is either orange or alternating between green and orange	<ul style="list-style-type: none"> • Check that the video signal cable is properly connected and all plugs are firmly seated in their sockets. • Check that the input select setting is correct. • Check that the HD15 video input connector's pins are not bent or pushed in. ■ Problems caused by the connected computer or other equipment <ul style="list-style-type: none"> • The computer is in power saving mode. Try pressing any key on the computer keyboard. • Check that the computer's power is "on." • Check that your graphics board is completely seated in the proper bus slot.
If the "OUT OF SCAN RANGE" message appears on the screen	<ul style="list-style-type: none"> ■ Problems caused by the connected computer or other equipment <ul style="list-style-type: none"> • Check that the video frequency range is within that specified for the monitor. If you replaced an old monitor with this monitor, reconnect the old monitor and adjust the frequency range to the following. Horizontal: 30 – 92 kHz, Vertical: 48 – 85 Hz
If no message is displayed and the  indicator is green or flashing orange	<ul style="list-style-type: none"> • Use the self-diagnosis function (page 19).
If using Windows 95/98	<ul style="list-style-type: none"> • If you replaced an old monitor with this monitor, reconnect the old monitor and do the following. Install the Windows Monitor Information Disk/Utility Disk and select "CPD-L181" from among the Sony monitors in the Windows 95/98 monitor selection screen.
If using a Macintosh system	<ul style="list-style-type: none"> • Check that the Macintosh adapter and the video signal cable are properly connected (page 6).
Picture flickers, bounces, oscillates, or is scrambled.	<ul style="list-style-type: none"> • Press the AUTO button. If this does not work, adjust the pitch and phase (page 10). • Isolate and eliminate any potential sources of electric or magnetic fields such as other monitors, laser printers, electric fans, fluorescent lighting, or televisions. • Move the monitor away from power lines or place a magnetic shield near the monitor. • Try plugging the monitor into a different AC outlet, preferably on a different circuit. • Try turning the monitor 90° to the left or right. ■ Problems caused by the connected computer or other equipment <ul style="list-style-type: none"> • Check your graphics board manual for the proper monitor setting. • Confirm that the graphics mode (VESA, Macintosh 21" Color, etc.) and the frequency of the input signal are supported by this monitor (Appendix). Even if the frequency is within the proper range, some graphics boards may have a sync pulse that is too narrow for the monitor to sync correctly. • Adjust the computer's refresh rate (vertical frequency) to obtain the best possible picture.
Picture is fuzzy.	<ul style="list-style-type: none"> • Press the AUTO button. If this does not work, adjust the pitch and phase (page 10). • Adjust the contrast and brightness (page 12).
Picture is dark.	<ul style="list-style-type: none"> • Adjust the backlight (page 15) • Adjust the brightness (page 12). • It takes several seconds for the monitor to warm up after the power is turned on. The picture will appear momentarily.

Symptom	Check these items
Picture appears to be ghosting.	<ul style="list-style-type: none"> Eliminate the use of video cable extensions and/or video switch boxes. Check that all plugs are firmly seated in their sockets.
Picture is not centered or sized properly.	<ul style="list-style-type: none"> Press the AUTO button (page 10). Adjust the size (page 12) or centering (page 11). Note that some video modes do not fill the screen to the edges.
Wavy or elliptical (moire) pattern is visible.	<ul style="list-style-type: none"> Adjust the pitch and phase (page 10).
Color is not uniform.	<ul style="list-style-type: none"> Press the AUTO button. If this does not work, adjust the pitch and phase (page 10).
White does not look white.	<ul style="list-style-type: none"> Adjust the color temperature (page 14).
Monitor buttons do not operate.	<ul style="list-style-type: none"> If the control lock is set to LOCK, set it to UNLOCK (page 16).

Self-diagnosis function

This monitor is equipped with a self-diagnosis function. If there is a problem with your monitor or computer(s), the screen will go blank and the ⏻ (power) indicator will either light up green or flash orange. If the ⏻ (power) indicator is lit in orange, the computer is in power saving mode. Try pressing any key on the keyboard.



If the ⏻ (power) indicator is green

- 1 Disconnect the video signal cable(s).
- 2 Before the monitor goes to power saving mode, press the + button and keep it pressed for 2 seconds.



If all four color bars appear (white, red, green, blue), the monitor is working properly. Reconnect the video signal cable(s) and check the condition of your computer(s).

If the color bars do not appear, there is a potential monitor failure. Inform your authorized Sony dealer of the monitor's condition.

If the ⏻ (power) indicator is flashing orange

Press the ⏻ (power) button to turn the monitor off and on.

If the ⏻ (power) indicator lights up green, the monitor is working properly.

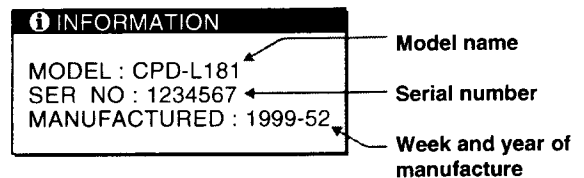
If the ⏻ (power) indicator is still flashing, there is a potential monitor failure. Count the number of seconds between orange flashes of the ⏻ (power) indicator and inform your authorized Sony dealer of the monitor's condition. Be sure to note the model name and serial number of your monitor. Also note the make and model of your computer and graphics board.

Displaying the INFORMATION OSD

You can confirm the name, the serial number and the year of manufacture of this monitor.

Press and hold the MENU button for 5 seconds. The INFORMATION OSD appears.

Example



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Specifications

LCD panel	Panel type: a-Si TFT Active Matrix Picture size: 18.1 inches (46 cm)
Input signal format	RGB operating frequency* fh: 30 – 92 kHz fv: 48 – 85 Hz
Pixel efficiency	99.99 %
Resolution	H: max. 1280 dots V: max. 1024 lines
Power requirements	AC 100 – 240 V, 50 – 60 Hz, 1.0 – 0.6 A
Power consumption	Max. 48 W
Dimensions (w/h/d)	Including the stand: Approx. 468 × 422 × 207.5 mm (18 ^{1/2} × 16 ^{5/8} × 8 ^{1/4} in.) Monitor only: Approx. 468 × 354.5 × 90 mm (18 ^{1/2} × 14 × 3 ^{5/8} in.)
Mass	Approx. 9 kg (19 lb 14 oz) including the stand
Plug & Play	DDC/DDC2B/DDC2Bi
Supplied accessories	See page 6.

* Recommended horizontal and vertical timing conditions

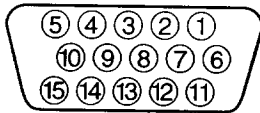
Horizontal sync width duty should be more than 4.8% of total horizontal time or 0.8 µsec., whichever is larger.

Horizontal blanking width should be more than 2.5 µsec.

Vertical blanking width should be more than 450 µsec.

Design and specifications are subject to change without notice.

⇄1/⇄2 pin assignment



Pin No.	Signal	Pin No.	Signal
1	Red	8	Blue Ground
2	Green (Composite Sync on Green)	9	DDC + 5V*
		10	Ground
		11	ID (Ground)
3	Blue	12	Bi-Directional Data (SDA)*
4	ID (Ground)		
5	DDC Ground*	13	H. Sync
6	Red Ground	14	V. Sync
7	Green Ground	15	Data Clock (SCL)*

* Display Data Channel (DDC) Standard of VESA