

SONY

3-751-629-21 (1)

Trinitron® Color Video Monitor

PVM-3230

Operating Instructions page 2

Before operating the unit, please read this manual thoroughly and retain it for future reference.

Mode d'emploi page 32

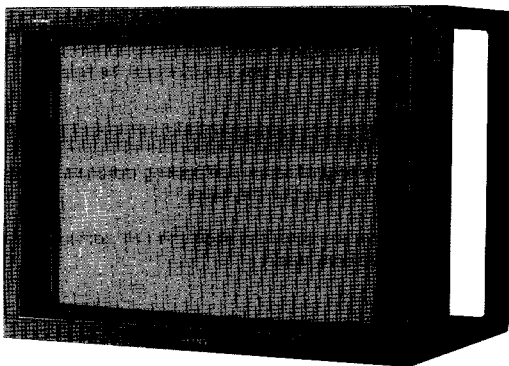
Avant la mise en service de cet appareil, prière de lire attentivement ce mode d'emploi que l'on conservera pour toute référence ultérieure.

Owner's Record

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

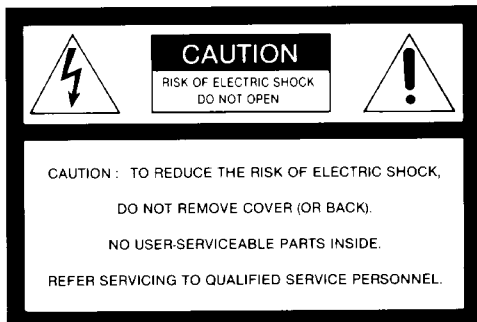
Model No. PVM-3230

Serial No. _____



WARNING

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



This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

For the customers in the USA

Warning — This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instructions manual, may cause interference to radio communications. It has been tested and found to comply with the limits for a Class A computing device pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference in which case the user at his own expense will be required to take whatever measures may be required to correct the interference.

Important — To insure that the complete system (including this peripheral) is capable of complying with the FCC requirements, it is recommended that the user make sure that the individual equipment of the complete system has a label with one of the following statements.

"This equipment has been tested with a Class A Computing Device and has been found to comply with Part 15 of FCC Rules."

-or-

"This equipment complies with the requirements in Part 15 of FCC Rules for a Class A Computing Device."
-or equivalent.

For the customers in Canada

This apparatus complies with the Class A limits for radio noise emissions set out in Radio Interference Regulations.

Precautions

Safety

- Operate the unit only on 120 V AC.
- Should any liquid or solid object fall into the cabinet, unplug the unit and have it checked by qualified personnel before operating it any further.
- Unplug the unit from the wall outlet if it is not going to be used for several days or more. To disconnect the cord, pull it out by the plug. Never pull the cord itself.

Installation

- To prevent internal heat build-up, do not block the ventilation openings.
- Do not install the unit in a hot or humid place or in a place subject to excessive dust or mechanical vibration.

Cleaning

Clean the unit with a slightly damp soft cloth. Use a mild household detergent. Never use strong solvents such as thinner or benzine as they may damage the finish of the cabinet.

Repacking

Retain the original carton and packing materials for safe transport of this unit in the future.

If you have any questions about this unit, contact your authorized Sony dealer.

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Features

High-resolution picture

The Fine Pitch Trinitron picture tube gives a high resolution (video input: 650 TV lines, S video input: 650 TV lines, RGB input: 2000 characters) picture.

- **New dynamic color circuit** for natural color reproduction.
- **Quadruple electromagnetic pole** for sharp focus in the corners as well as the center.
- **Delay line aperture control** for sharp and clear picture reproduction.
- **CCD comb filter** produces fine picture detail without color spill or color noise.
- **CRT beam current feedback circuit** for accurate color reproduction with stable white balance.
- **Wide band chroma circuit** for reduction of color spill and clear picture with high color resolution.
- **Digital noise reducer** for a clear picture without picture noise.

Analog RGB inputs

Analog RGB signals can be input through ANALOG RGB connectors.

Digital RGB inputs

Digital RGB signal can be input through DIGITAL RGB connectors, which allows connection of microcomputers. By connecting a microcomputer with an intensity output to DIGITAL RGB connectors, 16-color display is possible.

Touch panel control

The adjustment keys and indicators on the touch panel are illuminated only while making adjustments so as not to disturb picture viewing.

On-screen display

Picture and sound adjustment levels and settings of other controls are digitally displayed on the screen.

AV memory function

Picture and sound adjustment levels are retained in each input mode. Besides that, the adjustment levels can be stored on up to 4 programs which are effective in any input mode.

Powerful sound

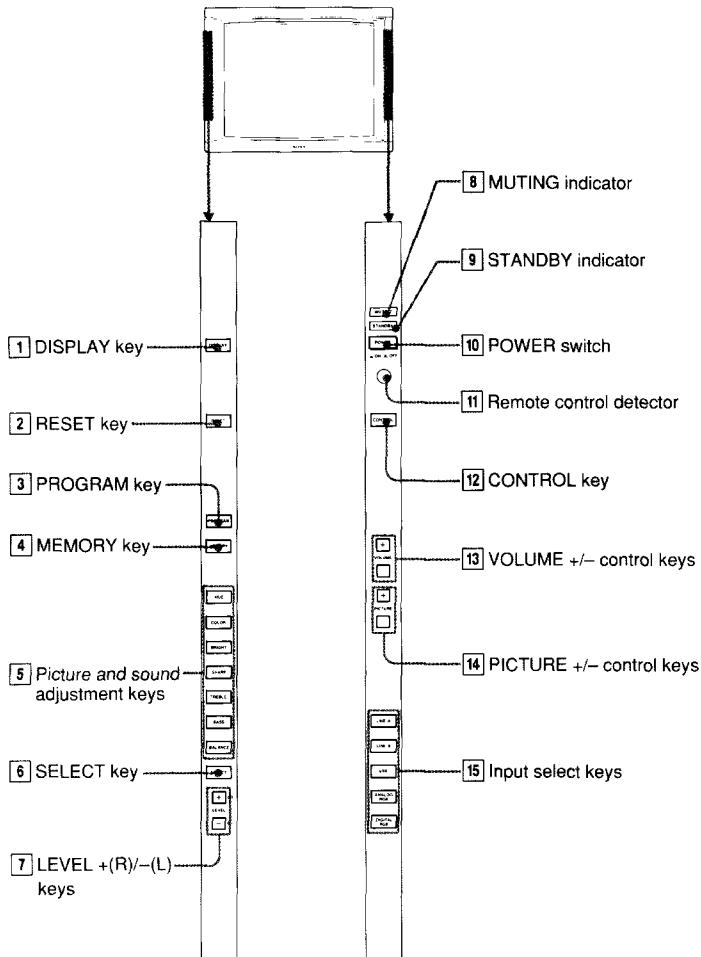
The powerful hi-fi sound (15 W + 15 W at 8 ohms) is obtained through the 2-way speakers (optional).

Other convenient features

- **S VIDEO IN jack** which is connected to the S video output jack on the VTR allows superior playback pictures.
- **CONTROL S** signal allows remote control of several monitors and a VTR through a single Remote Commander.
- **INPUT ID** allows rewriting the on-screen indication for each input mode.
- **Programmable Remote Commander** allows you to operate video equipment made by Sony and other manufacturers.

Location and Function of Controls

Front Panel



After the power is turned on, press the **CONTROL** key to illuminate the control keys or indicators.

The following control keys are effective only when **MANUAL CONTROL** switch on the rear panel is set to **ON**.

1 DISPLAY key

Press repeatedly to display on the screen the current level of each control.

Press once to display: PICTURE/HUE/COLOR/BRIGHT/SHARP/VOLUME/TREBLE/BASS/BALANCE

Press twice to display: SYNC/VNR/NOTCH/D.COL/INPUT ID

Press again to make the on-screen display disappear.

2 RESET key

Press to reset the level of HUE/COLOR/BRIGHT/SHARP/TREBLE/BASS/BALANCE to the standard setting. "STD" is displayed on the screen. RESET does not function on PICTURE and VOLUME levels.

3 PROGRAM key

Used for storing the adjusted picture and sound levels in a program memory (see page 18 for operation). Press to recall the stored program.

4 MEMORY key

Press to store the data in a program. (See page 18)

5 Picture and sound adjustment keys

Press to adjust the picture and sound level. To adjust each item, first press the desired key, then change the level with the LEVEL +(R)/-(L) keys.

HUE* key

Press to adjust the hue level.

LEVEL +(R): To make skin tones greenish

LEVEL -(L): To make skin tones purplish

COLOR* key

Press to adjust the color intensity level.

LEVEL +(R): To make color intensity vivid

LEVEL -(L): To make color intensity pale

BRIGHT* (brightness) key

Press to adjust the brightness level.

LEVEL +(R): To make the picture brighter

LEVEL -(L): To make the picture darker

SHARP* (sharpness) key

Press to adjust the sharpness level.

LEVEL +(R): To make the picture sharper

LEVEL -(L): To make the picture softer

TREBLE* key

Press to adjust the treble (high tone) level.

LEVEL +(R): To increase treble

LEVEL -(L): To decrease treble

BASS* key

Press to adjust the bass (low tone) level.

LEVEL +(R): To increase bass

LEVEL -(L): To decrease bass

BALANCE* key

Press to adjust the balance of the right and left speakers' output.

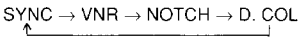
LEVEL +(R): To emphasize the right speaker's volume

LEVEL -(L): To emphasize the left speaker's volume

6 SELECT key

Press this button repeatedly until the on-screen display of the item you want to adjust appears.

The display will change as follows:



Press LEVEL +(R)/-(L) keys to adjust the selected item.

SYNC

Normally, set to **INT**. The monitor operates on the sync signal provided with the input signal. For ANALOG RGB signals, if a sync signal is provided on the G-signal, the monitor operates on this signal.

Set to **EXT** when operating the monitor on an external sync signal fed through the EXT SYNC connector on the rear panel.

VNR (Video noise reducer)

Normally set to **OFF**. For noise reduction, set the level to **LOW** or **HIGH**.

NOTCH (Notch filter)

Normally set to **OFF**. If dots or stripes appear while watching a picture from a composite video source, set to **ON**.

This control is not effective on the S video input signals.

D.COL (New dynamic color)

Normally set to **ON**, which makes it possible to obtain natural skin tone and "blueish white". To add a touch of red to the white part of the picture, set to **OFF**. SELECT key is also used for INPUT ID function (see page 20).

7 LEVEL +(R)/-(L) keys

Used to adjust the level of each control.

8 MUTING indicator

Illuminates while the sound is muted.

Muting is controlled only by a Remote Commander.

9 STANDBY indicator

Illuminates when the power is turned off by the Remote Commander.

10 POWER switch

Press this switch to turn the monitor on (≡ ON).

Press again to turn it off (⏏ OFF).

11 Remote control detector

The beam from the Remote Commander is received here.

12 CONTROL key

Press this key to illuminate the keys and indicators on the front panel. Press again to extinguish them.

13 VOLUME* +/- control keys

Press the + key to raise the volume or the - key to lower it.

14 PICTURE* +/- control keys

Press the + key to increase picture contrast or - to decrease it.

15 Input select keys

Press to select the program to be monitored.

LINE A : for a signal from the LINE A connectors.

LINE B : for a signal from the LINE B connectors.

VTR : for a signal from the 8-pin VTR connector.

ANALOG RGB : for a signal from the ANALOG RGB connectors.

DIGITAL RGB : for a signal from the DIGITAL RGB connectors.

* The picture and sound adjustment levels are digitally displayed on the screen. Each adjustment has a range as follows:

- HUE/COLOR/BRIGHT/SHARP/TREBLE: MIN, -30, -29, ..., STD, ..., +30, +31, MAX
- BALANCE: L MAX, L30, L29, ..., STD, ..., R30, R31, R MAX
- PICTURE/VOLUME: MIN, 1, 2, ..., 61, 62, MAX

Note

When the input signal is ANALOG RGB, DIGITAL RGB, or S video, the following controls do not function.

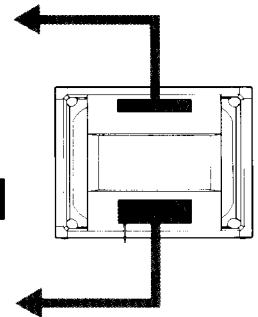
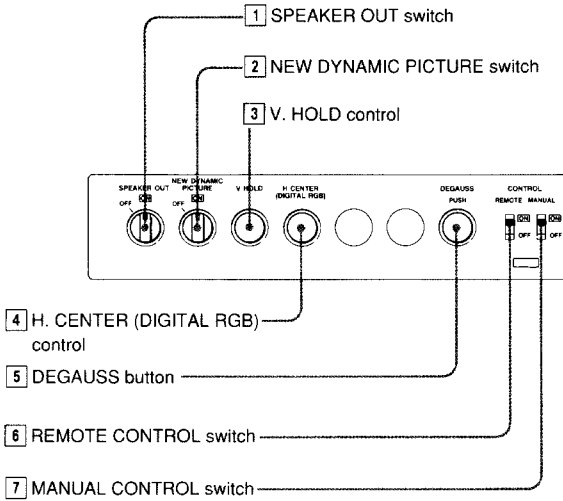
ANALOG RGB: HUE, COLOR, SHARP, VNR, NOTCH, and D.COL

DIGITAL RGB: HUE, COLOR, SHARP, SYNC, VNR,

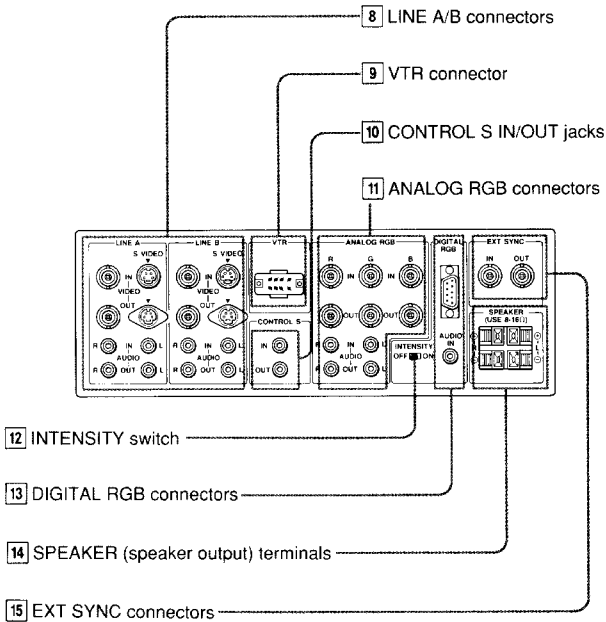
NOTCH, and D.COL

S video: NOTCH

Rear Panel



Connectors



1 SPEAKER OUT switch

Normally set to ON. If this switch is set to OFF, the sound is not output from the speaker output.

2 NEW DYNAMIC PICTURE switch

Normally set to ON for enhanced picture contrast. Set to OFF for less picture contrast and natural reproduction of the detail in dark area. This function is not effective on the RGB input signals.

3 V. HOLD (vertical hold) control

When the picture rolls vertically, correct it with this control.

4 H. CENTER (DIGITAL RGB) (horizontal centering) control

When the picture of DIGITAL RGB input is distorted horizontally, correct it with this control.

5 DEGAUSS button

Push this button to demagnetize the screen. Wait for about 10 minutes before activating this button again.

6 REMOTE CONTROL switch

Set this switch to ON to control the monitor with a Remote Commander. If this switch is set to OFF, remote control detector does not function. However, when control S connection is made, remote control through other monitor or video equipment is possible.

7 MANUAL CONTROL switch

Normally set to ON. To prevent manual control of the control keys on the front panel, set to OFF. In this case, all indications on the front panel and displays on the screen are extinguished. However, remote control is possible (except the SELECT, DISPLAY, and MEMORY buttons) if the REMOTE CONTROL switch is set to ON.

8 LINE A/B connectors

S VIDEO IN (4-pin)

Connect to the S video output of a video equipment.

S VIDEO OUT (4-pin)*

Loop-through output of the S VIDEO OUT connector. Connect to the S video input of a video equipment or another monitor.

VIDEO IN (BNC type)

Connect to the video output of video equipment.

For a loop-through connection, connect to the video output of another monitor.

VIDEO OUT (BNC type)*

Loop-through output of the VIDEO IN connector. Connect to the video input of a video equipment or another monitor.

Note

The VIDEO IN connector is disconnected automatically when a cable is connected to the S VIDEO connector.

AUDIO L/R IN (phono jack)

Connect to the audio outputs of a video equipment.

AUDIO L/R OUT (phono jack)

Loop-through outputs of the AUDIO L/R IN jacks. Connect to the audio inputs of a video equipment or another monitor.

9 VTR input connector (8-pin)

Connect to a VTR with an 8-pin connector.

10 CONTROL S IN/OUT jacks (minijack)

Connect to the CONTROL S jacks of a VTR or several monitors.

It is then possible to control the system with a single Remote Commander.

11 ANALOG RGB connectors

R/G/B IN (BNC type)

Connect to the RGB outputs of a video equipment.

R/G/B OUT (BNC type)*

Loop-through outputs of the R/G/B/ IN connectors. Connect to the RGB inputs of another monitor.

AUDIO L/R IN (phono jack)

Connect the audio outputs of the equipment connected to the R/G/B IN connectors here.

AUDIO L/R OUT (phono jack)

Loop-through output of the AUDIO L/R IN (ANALOG RGB) jacks.

12 INTENSITY switch

Normally set to OFF. When a microcomputer provided with intensity output is connected to the DIGITAL RGB connector, set to ON for 16-color display.

13 DIGITAL RGB connectors

DIGITAL RGB connector (9-pin)

Connect with a microcomputer having a digital (TTL level) RGB video output.

AUDIO IN jack (monaural)(phono jack)

Connect to the audio output of an audio source to listen to the sound from the connected audio source while viewing the picture from the DIGITAL RGB connector.

14 SPEAKER (speaker output) terminals

Connect to speakers with 8 to 16 ohms impedance.

15 EXT SYNC connectors (BNC type)

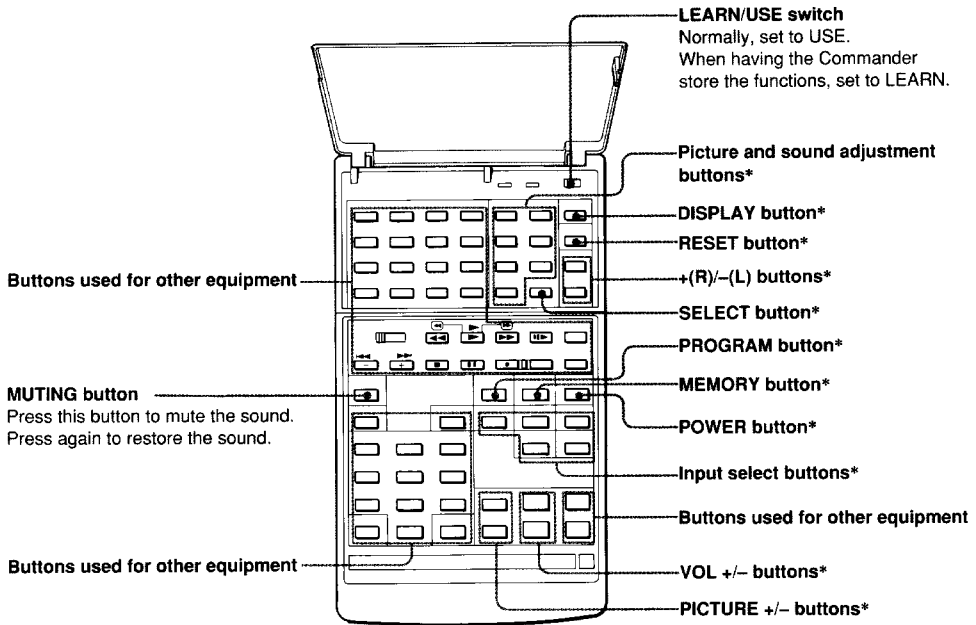
IN: Connect to the output of a sync generator.

To monitor the sync signal fed through this connector, set SYNC to EXT (see page 5).

OUT*: Loop-through output of the EXT SYNC IN connector. Connect to the SYNC input of a VTR or a video camera.

* When nothing is connected to this connector, the input signal is terminated automatically.

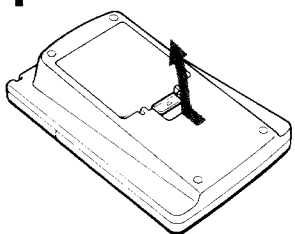
Programmable Remote Commander RM-785



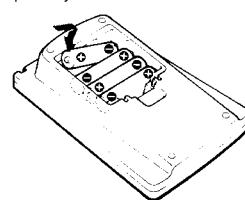
* The functions of these buttons are the same as those on the front panel (see page 4, 5.)

Battery Installation

1 Push to open the lid.



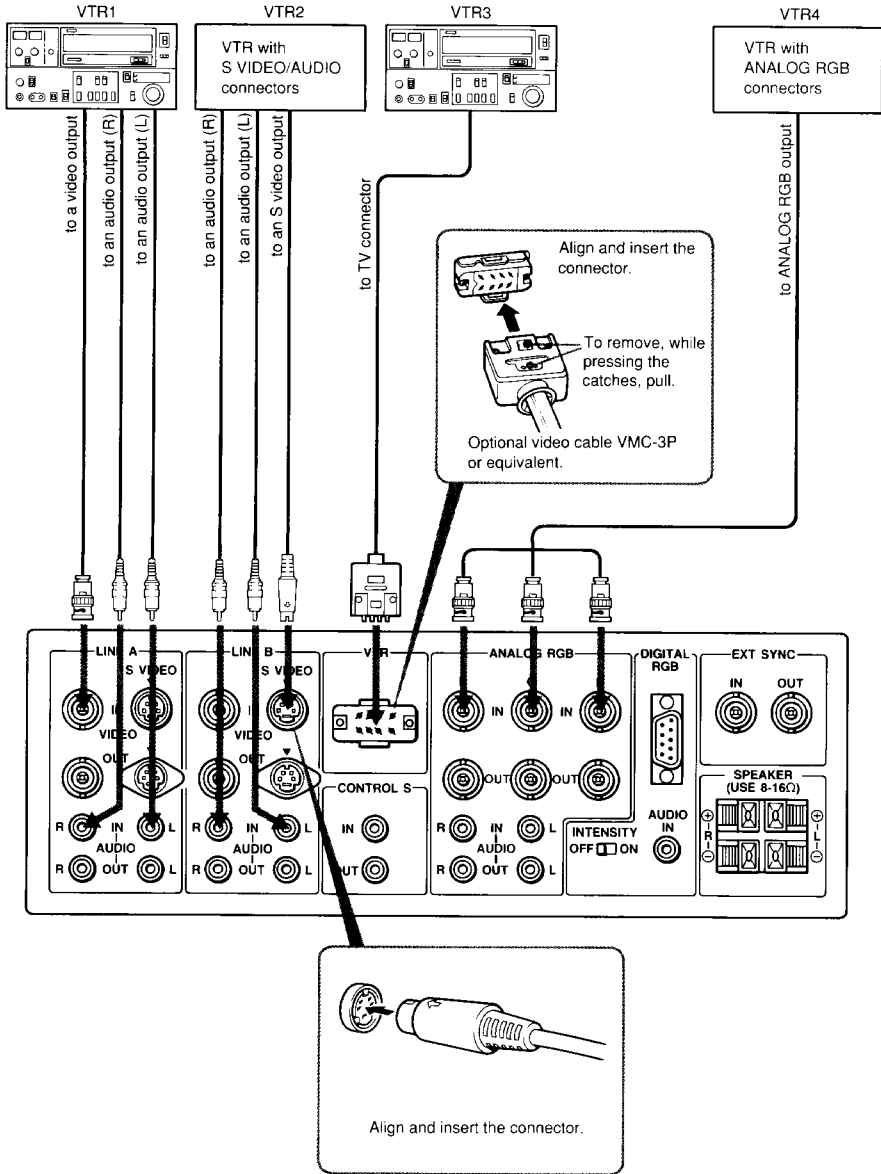
2 Install four size AA (R6) batteries with the correct polarity.



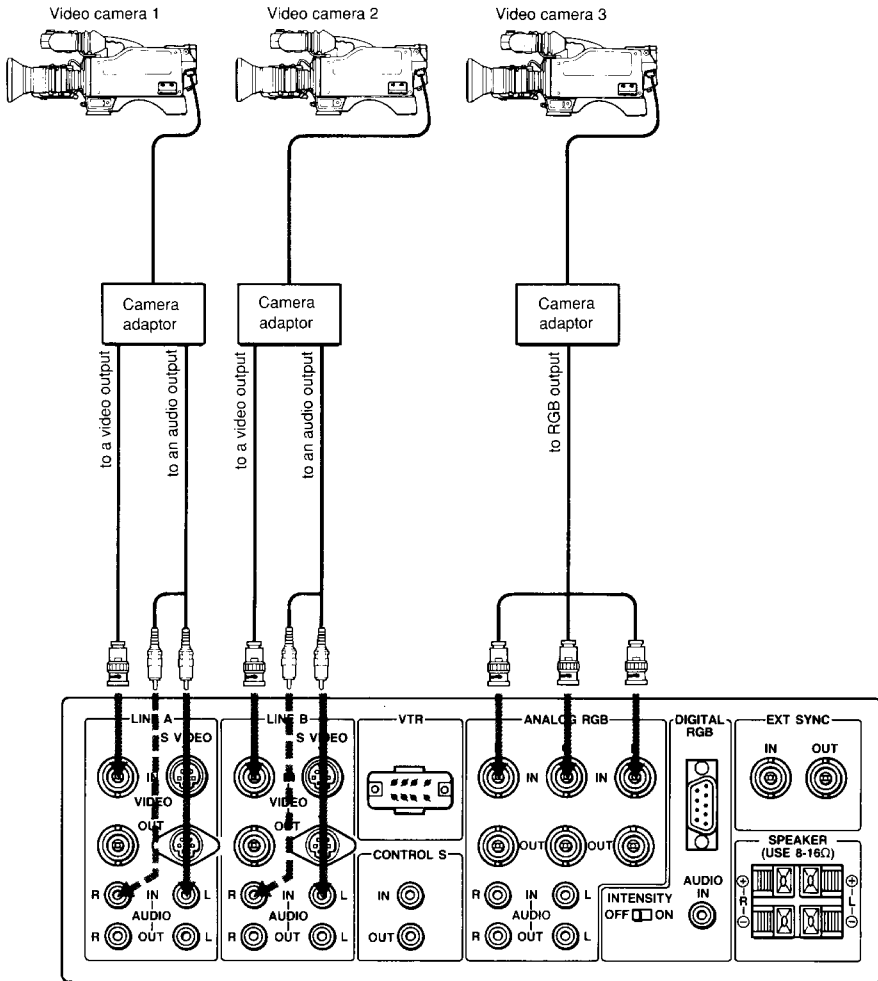
- In normal operation, batteries will last up to half a year. If the unit does not operate properly, the batteries might be exhausted. Replace all of them with new ones.
- To avoid damage from possible battery leakage, remove the batteries when the Commander will not be used for a long time.

System Connections

Connecting a VTR

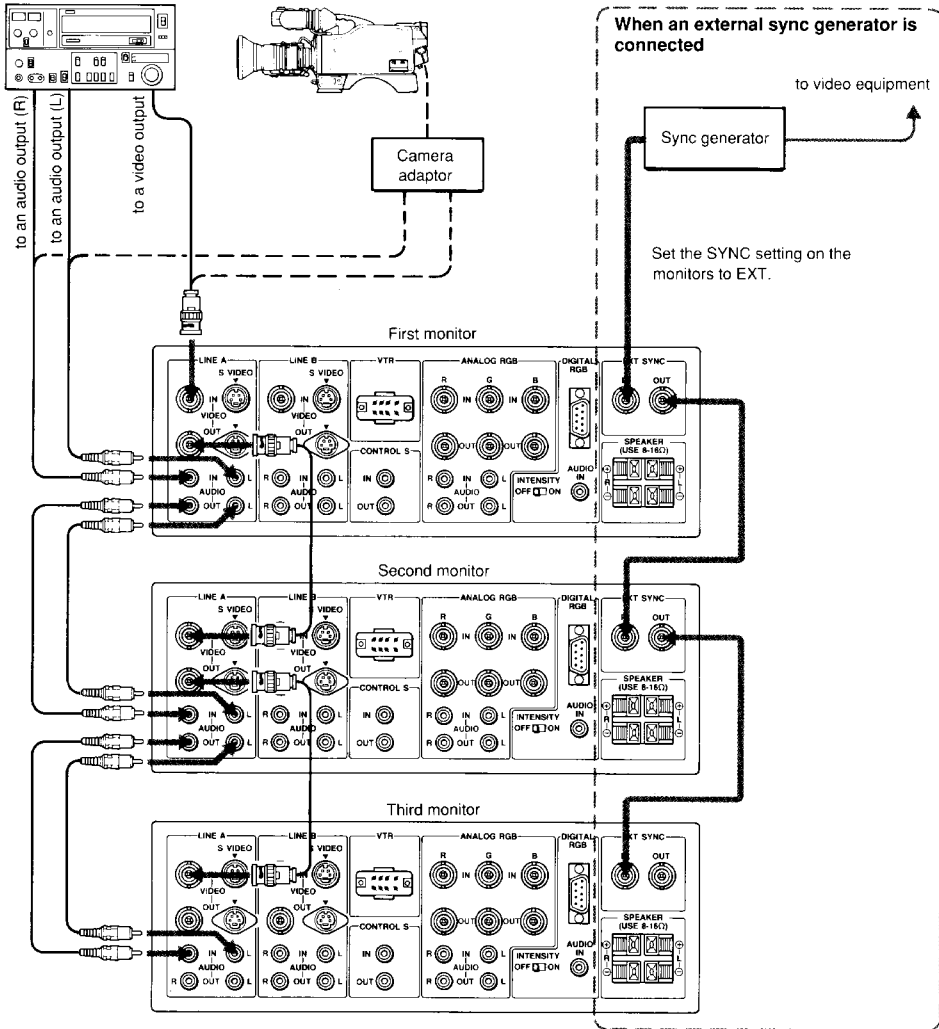


Connecting a Video Camera



Connecting Several Monitors

A loop-through connection is convenient for monitoring the same signal on other monitors. Up to 5 monitors can be connected. It is recommended to use a signal distributor when several monitors are connected.



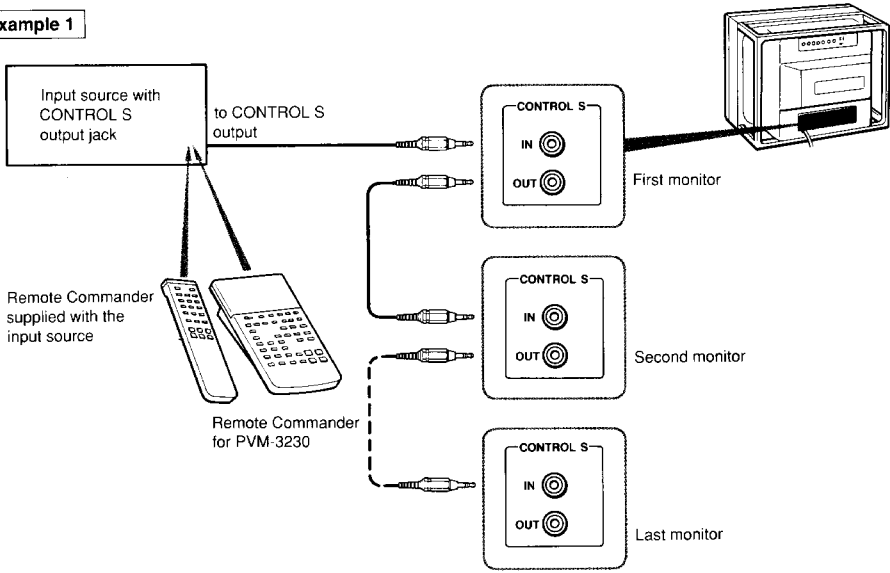
Note on the VIDEO and S VIDEO OUT connector

Be sure to plug in the connector fully into the VIDEO/S VIDEO OUT connector or the input signal may be terminated automatically.

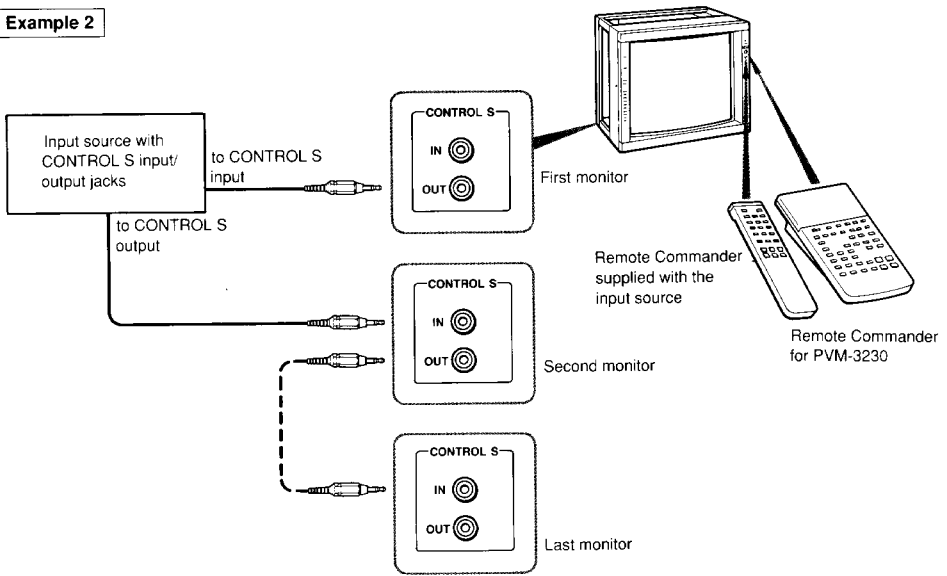
Control S Connection

The following connections allow remote control of several monitors and a VTR through a single monitor or a video equipment.

Example 1

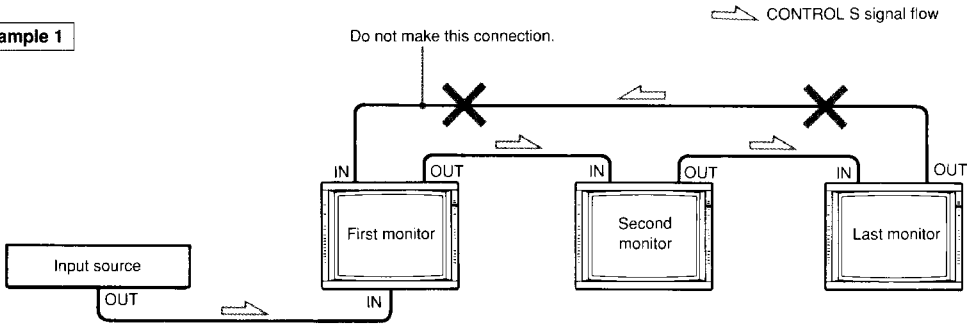


Example 2

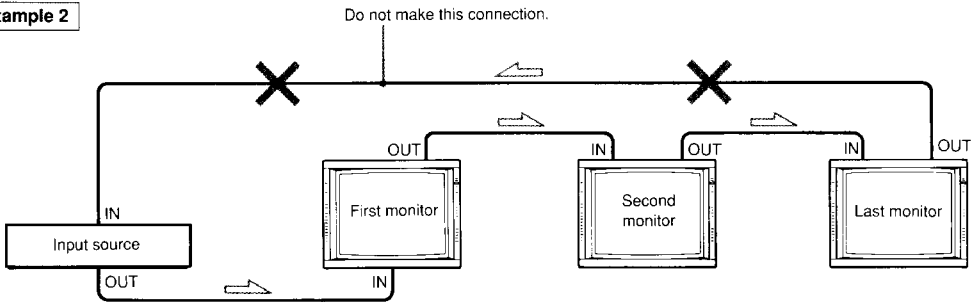


Note
Do not make the following connections.

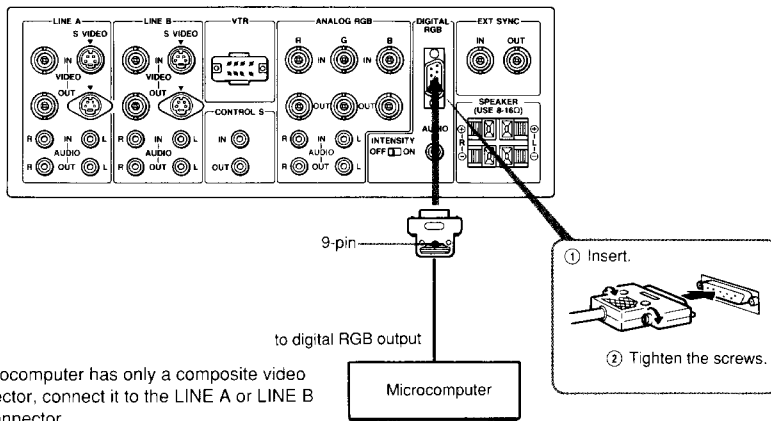
Example 1



Example 2

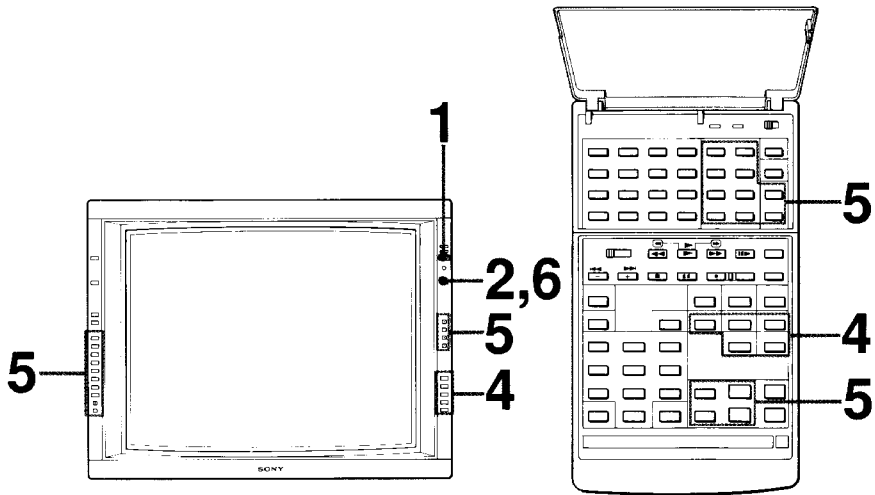


Connecting a Microcomputer



Note
When a microcomputer has only a composite video output connector, connect it to the LINE A or LINE B VIDEO IN connector.

Displaying the Picture



- 1 Press the POWER switch to turn the power on.**
One of the input select key illuminates.
- 2 Press the CONTROL key*.**
The illuminated input select key blinks and all the other control keys on the front panel illuminate.
(If the control keys do not illuminate, set the MANUAL CONTROL switch on the rear to ON.)
- 3 Turn on the video equipment.**
- 4 Press the desired input select key/button.**
The pressed key blinks and the picture from the selected input is displayed on the screen and the sound is heard through the speakers.
- 5 Adjust the picture and sound**
See page 4 and 5 for operation.
- 6 Press the CONTROL key to extinguish the control keys so that only the selected input select key illuminates*.**

* Not necessary when operating with the Remote Commander.

To turn the power off

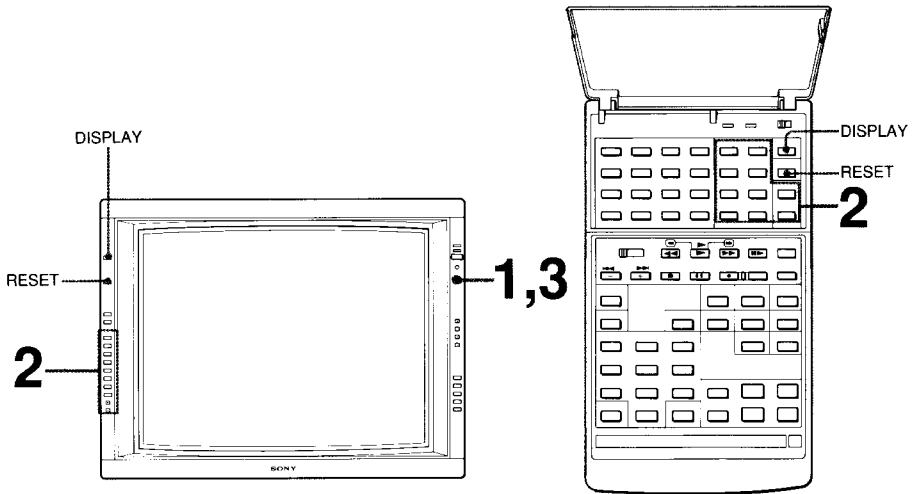
Press the POWER button on the Remote Commander to turn off the unit for short periods of time. The STANDBY indicator illuminates.

Turn the power off completely by pressing the POWER switch on the unit if is not going to be used for a long time.

Note

The color may be unstable for a few seconds after the power is turned on. This is caused by the CRT beam current feedback circuit, and is not a malfunction of the monitor.

Adjusting the Picture and Sound



Operation

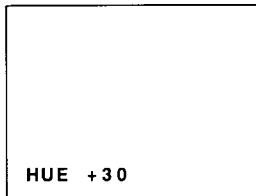
1 Press the CONTROL key.

2 Press the desired item key/button, and then adjust with +(R)/-(L) keys/buttons when adjusting the following items: HUE, COLOR, BRIGHT, SHARP, TREBLE, BASS, BALANCE

Press SELECT key/button repeatedly until the desired item appears, then adjust with LEVEL+(R)/-(L) keys/buttons when adjusting the following items:
 SYNC, VNR, NOTCH, D. COL

The on-screen display appears when a key/button for adjustment is pressed.

e.g. When HUE key/button is pressed, the following on-screen display appears.



The on-screen display will disappear in a few seconds. The item appears again when LEVEL +(R)/-(L) keys/buttons are pressed.*

3 Press the CONTROL key.

* Press the item button first, and then adjust with LEVEL +(R)/-(L) buttons on the Remote Commander when the MANUAL CONTROL switch is set to OFF.

Displaying all adjustment items on the screen

Press the DISPLAY key/button.

The adjustment items and their level appear on the screen.

Press once to display: PICTURE/HUE/COLOR/
BRIGHT/SHARP/
VOLUME/TREBLE/BASS/
BALANCE

| | | | |
|-----|-----|-----|-----|
| PIC | 30 | VOL | 14 |
| HUE | STD | TRE | STD |
| COL | +28 | BAS | +30 |
| BRT | -22 | BAL | STD |
| SHP | STD | | |

Press twice to display: SYNC/VNR/NOTCH/
D.COL/INPUT ID

| | |
|-------|-----|
| SYNC | INT |
| VNR | OFF |
| NOTCH | ON |
| D.COL | OFF |
| INPUT | ID |

Press again to make the on-screen display disappear.

Restoring the factory preset adjustment levels

Press RESET key/button.

The factory preset levels appear on the screen.
(RESET does not function on PICTURE and
VOLUME controls.)

| | | | | |
|-------|-----|-----|-----|--|
| RESET | | | | |
| PIC | 30 | VOL | 14 | |
| HUE | STD | TRE | STD | |
| COL | STD | BAS | STD | |
| BRT | STD | BAL | STD | |
| SHP | STD | | | |

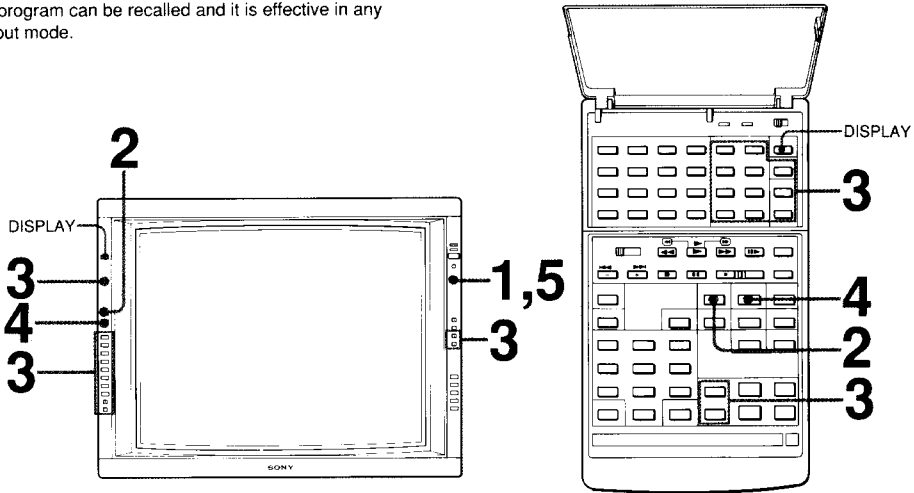
Storing the Adjusted Picture and Sound Levels

Storing in each input mode

The picture and sound levels will be stored for each input mode (LINE A, LINE B, VTR, ANALOG RGB, or DIGITAL RGB) they were adjusted on.
The adjustment levels will be retained until they are adjusted again.

Storing in a program

Besides storing in each input mode, the adjusted picture and sound levels can be stored in up to 4 programs.
A program can be recalled and it is effective in any input mode.

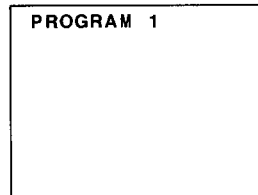


1 Press the **CONTROL** key to illuminate the control keys on the front panel.

2 Press the **PROGRAM** key/button repeatedly until the **PROGRAM** number in which to store the picture and sound levels appears.
Program number will change as follows:
PROGRAM 1 → PROGRAM 2 → PROGRAM 3 → PROGRAM 4

Note

When there is no indication on the screen, "PROGRAM 1" always appears first whenever the **PROGRAM** key/button is pressed.



3 Adjust the picture and the sound levels.

For operation, see page 4 and 5.

The following are the items which can be stored in a program.

| | |
|---------|-------|
| PICTURE | SYNC |
| HUE | VNR |
| COLOR | NOTCH |
| BRIGHT | D.COL |
| SHARP | |
| TREBLE | |
| BASS | |
| BALANCE | |

To check the current level of each control, press DISPLAY key/button.

4 Press the MEMORY key/button.

PROGRAM indication turns red. After a few seconds, the indication will turn back to white, which confirms that storing was successfully completed.

5 Press the CONTROL key.

To change the programmed adjustment levels

Press the PROGRAM key/button to choose the program number to be changed. Readjust the picture and sound levels. Be sure to press MEMORY after the adjustment is done.

To restore the original picture and sound levels

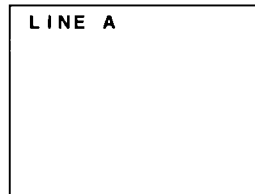
Press the selected input select key/button again. The levels are also restored when the power is turned off completely and then on with the POWER switch on the unit.

To check the programmed adjustment levels

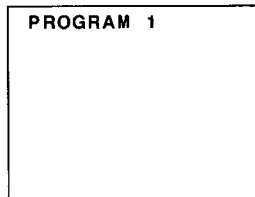
Press the PROGRAM key/button to select the desired program number, then press the DISPLAY key/button.

Using the stored program

1 Display the desired input source by pressing one of the input select keys/buttons.



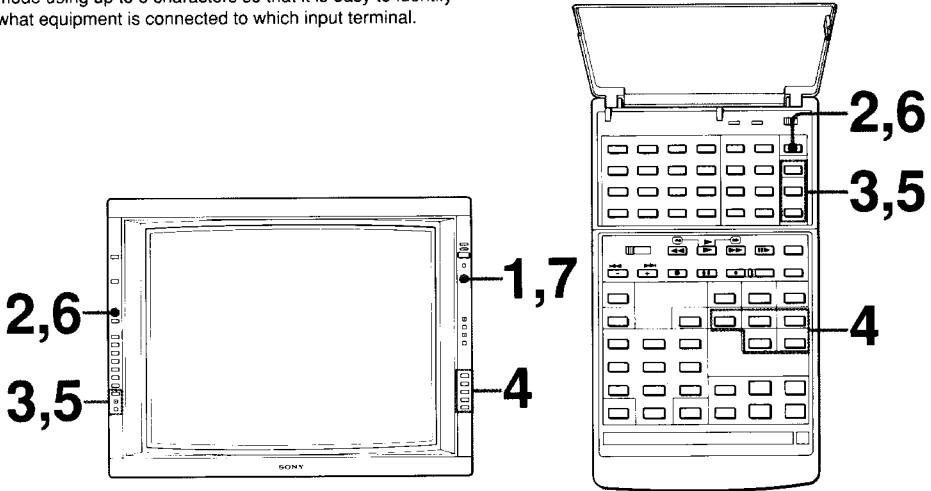
2 Select the desired program number by pressing the PROGRAM key/button.



The programmed adjustment is done.

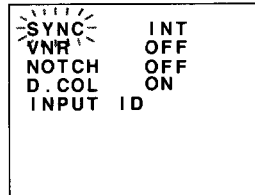
Rewriting the Indication for Each Input Mode-INPUT ID Function

You can rewrite the on-screen indication for each input mode using up to 8 characters so that it is easy to identify what equipment is connected to which input terminal.

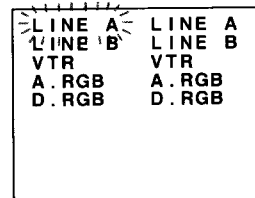


1 Press the CONTROL key to illuminate the control keys on the front panel.

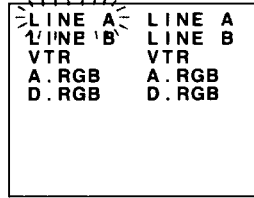
2 Press the DISPLAY button/key twice.
One of the items blinks.



3 Press the SELECT button/key repeatedly until "INPUT ID" blinks, and press the LEVEL +(R) button/key.

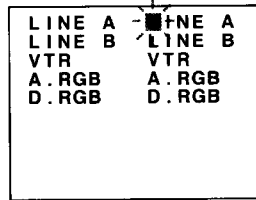


- 4** Select the input mode you want to rewrite by pressing one of the input select keys/buttons.
The selected input mode blinks.



- 5** Press the SELECT key/button, then the LEVEL +(R)/-(L) keys/buttons to select the first letter or number.
The letters and numbers change as follows when the LEVEL +(R) is pressed:

A-Z → 0-9 → blank → - (hyphen) → .(period)



Press LEVEL -(L) for reverse direction.

After the desired letter or number is selected, press SELECT key/button to go on to the next position.
Up to 8 characters can be stored.

- 6** Press the DISPLAY key/button so that the on-screen display goes out.

- 7** Press the CONTROL key to extinguish the control keys.

Using the Programmable Remote Commander

— Operating Other Equipment with Supplied Remote Commander

The supplied RM-785 Remote Commander allows you to operate other Sony video equipment having an infrared remote control detector. Furthermore, it can "read" and "store" the functions of another remote commander having an infrared beam transmitter, not only those made by Sony but also those of other manufacturers as well. Thanks to this "learning" function, you can operate your audio and video equipment using only one Remote Commander.

Parts Used for Learning Function

Programmable area

Within this area, any button except the one which is located on the right side of the ● button can "read" and "store" the function of another remote commander. When storing a function on the ● button, press it by itself. To use it, press it together with the button on the right.

VTR 1/2/3/MDP selector

By setting this selector, you can choose to operate up to 4 different units.

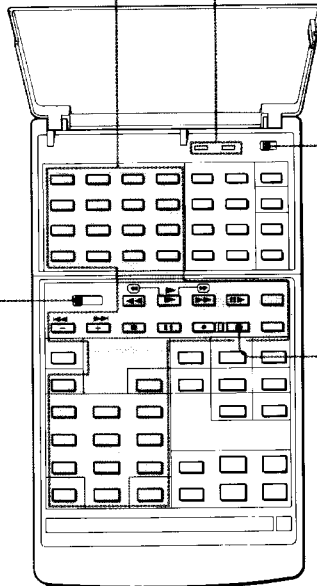
READY/LEARN lamp

READY lamp: lights up when the LEARN-USE selector is set to LEARN.
LEARN lamp: lights up when learning is finished.

LEARN-USE selector

Normally, set to USE.
When having the Commander store the functions, set to LEARN.

This button alone cannot store the function of another remote commander. However, to use the ● button after a new function has been stored on it, you must also press this button.

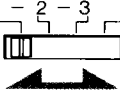


Operating Sony Video Equipment

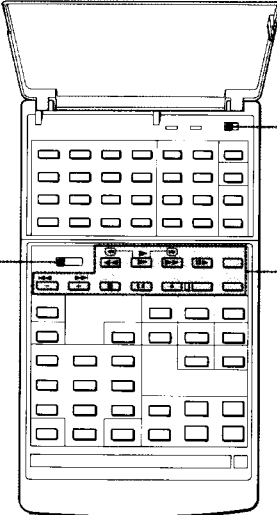
The supplied Remote Commander allows you to operate Sony video cassette recorders (including Beta, 8 mm, VHS), and video disc player (including multi disc player).
For operating video equipment manufactured by Sony, "learning" is unnecessary.

2 Set the VTR 1/2/3/MDP selector according to the desired video equipment.

VIDEO 1 - 2 - 3 MDP

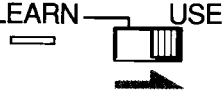


| | |
|-------------------|-------|
| Beta, ED Beta VCR | VTR 1 |
| 8 mm VCR | VTR 2 |
| VHS VCR | VTR 3 |
| Video disc player | MDP |



1 Set to USE.

LEARN — USE



3 Use the buttons in this area to operate video equipment.

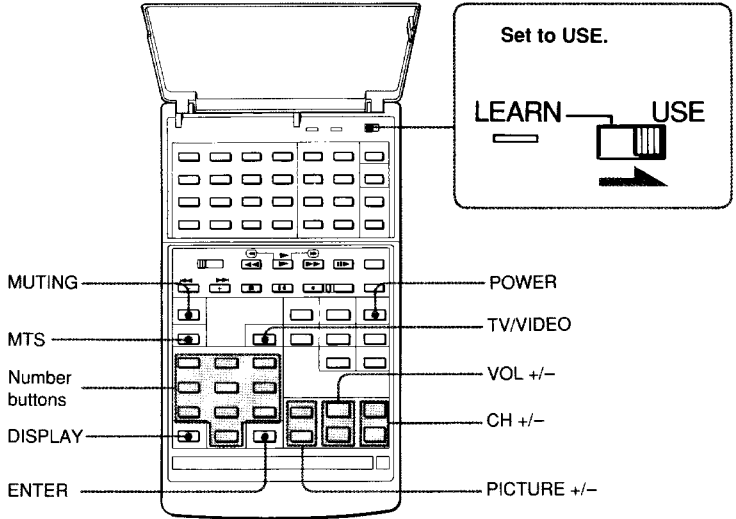
| Operating a Video Cassette Recorder | | Operating a Video Disc Player | |
|--|--|--|--|
| To start recording | Press ●. | To start playback | Press ►. |
| To start playback | Press ►. | To stop playback | Press ■. |
| To stop playback | Press ■. | To freeze a picture | Press ■. |
| To advance the tape rapidly | Press ►►. | To resume normal playback, press again. | Press ■. |
| To rewind the tape | Press ◀◀. | * This function is effective only for CAV (standard-play disc). With CLV (extended-play disc), the unit will go into the standby mode if ■ is pressed. | |
| To freeze a picture | Press ■. | To resume normal playback, press again. | |
| To view the picture at a fast speed to find a particular scene | Keep pressing ►► or ◀◀ during playback. To resume normal playback, release the button. | To view the picture at a fast speed to find a particular scene | Keep pressing ►► or ◀◀ during playback. To resume normal playback, release the button. |
| To view freeze pictures successively at specific intervals | Press ■► during playback. | To view freeze pictures successively at specific intervals | Press ■► during playback. |

Notes

- If your video equipment is furnished with a VTR selector, set the selector to the same position with the VTR 1/2/3/MDP selector on the RM-785.
- If the equipment does not have a certain function, the corresponding button on the RM-785 is not effective.

Operating Sony TV or Color TV Tuner

The supplied Remote Commander allows you to operate a Sony TV or color TV tuner. For operating a TV or color TV tuner manufactured by Sony, "learning" is unnecessary.



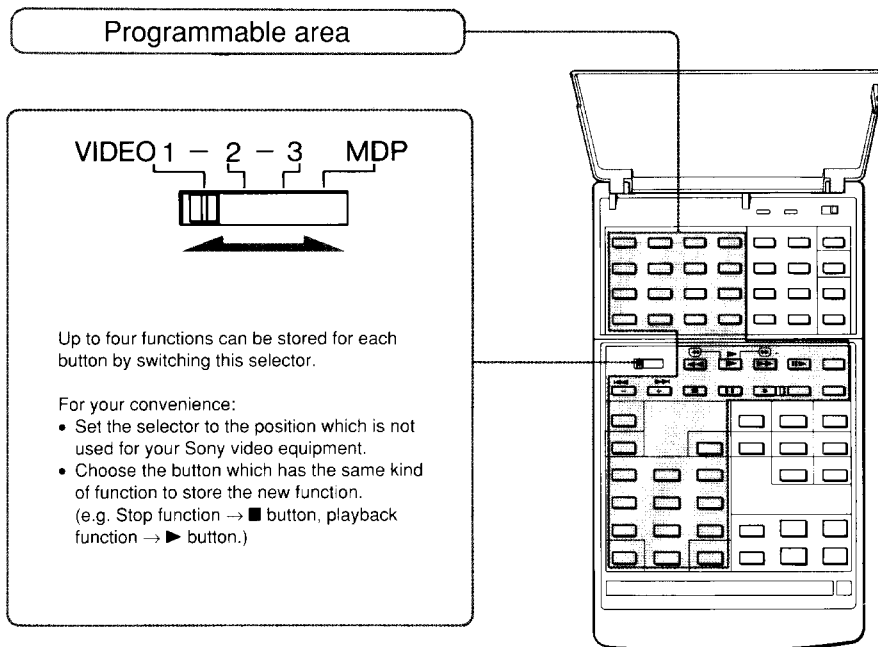
Operating a TV

| | |
|--|---|
| To turn on the TV | Press POWER. |
| To select the channel | Press the number buttons and then ENTER, or press CH +/- buttons. |
| To adjust the volume | Press VOL +/-. |
| To adjust the picture contrast | Press PICTURE +/-. |
| To mute the sound | Press MUTING. |
| To change to the video picture | Press TV/VIDEO. |
| To receive a Multichannel TV Sound program | Press MTS to select MAIN, SAP (Second Audio Program), or both. |
| To display the channel number | Press DISPLAY. |

Operating Audio Video Equipment of Other Manufactures, or Sony Audio Equipment

Within the programmable area, any button can store the function of the remote commander supplied with other manufacturer's equipment or Sony audio equipment.

A button can store a function having no relation to its name on the RM-785.

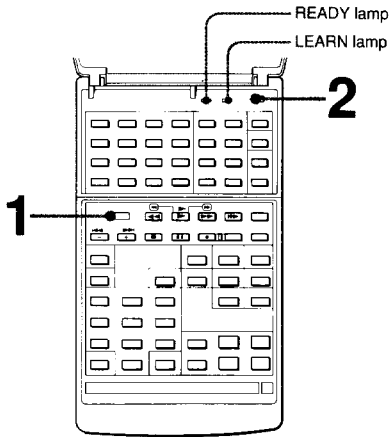


Caution

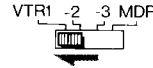
When new function is stored, the original function to operate Sony video equipment is cleared from the button. After you clear the stored function (see page 28), the button functions for Sony equipment again.

How to Use the Learning Function

Example: Operating the video cassette recorder of manufacturer A, when the selector is set to VTR 1.



1 Set the VTR 1/2/3/MDP selector to VTR 1.



2 Set the LEARN-USE selector to LEARN.

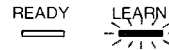
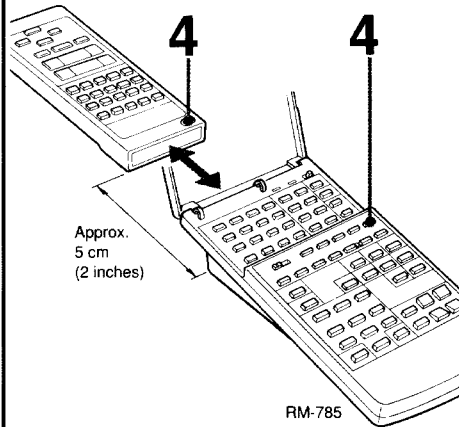


3 Position the RM-785 and the other commander head to head.

Choose a button of the RM-785 to which a function is to be stored. As an example, let's have the RM-785 store the power on/off function of manufacturer A's commander.

4 While keeping the POWER button pressed, press the POWER button of the manufacturer A's commander.

5 When the READY lamp goes out and the LEARN lamp lights up, release both buttons.



Now, A's power on/off function has been stored on the POWER button of the RM-785. Repeat steps 4 and 5 to continue learning other functions.

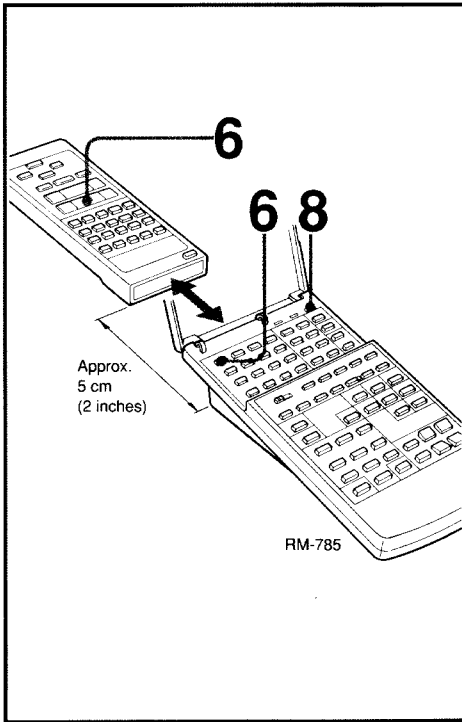
Continued on next page

For accurate learning

- Be sure that these commanders are positioned head to head exactly aligned, and approx. 5 cm (2 inches) apart.
- Do not move the commanders during the learning process.

Note

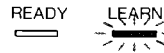
Both READY and LEARN lamps light up if the function has not been stored. Try again from step 3.



Next, let's Button 1 on this commander store the "play" function of manufacturer A's commander.

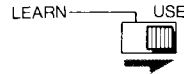
6 While keeping Button 1 on this commander pressed, press the play button of the manufacturer A's commander.

7 When the READY lamp goes out and the LEARN lamp lights up, release both buttons.



Now, A's play function button has been stored on Button 1 of the RM-785.

8 After learning is finished, set the LEARN-USE selector to USE.



Notes

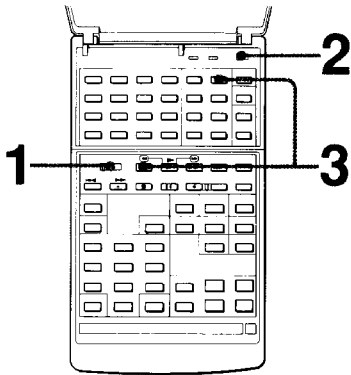
- When operating equipment with stored functions, the VTR 1/2/3/MDP selector should be set to the same position as it was when the functions were stored. The LEARN-USE selector should be set to USE.
- The functions of other equipment can be stored by repeating these steps for each of the positions of the VTR 1/2/3/MDP selector. Use the supplied index sheets by placing them on buttons and writing the names of stored functions for further reference.
- The batteries will last about half a year with normal operation. Replace the batteries before they wear out.
- Replace the batteries within approximately 30 minutes. If not, the stored functions may be erased from the buttons.
- Do not use the learning function for equipment other than audio and video ones.
- Be sure to confirm that the functions have been stored as a few of the functions of other manufacturer's commanders are not storable on RM-785.
- When you have stored a new function on a button, the previous function is cleared automatically.

The learning function will not work in the following cases:

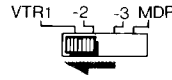
- There is a fluorescent lamp or equipment with infrared rays which emit noise.
→ Move the commanders away from them.
- The batteries are exhausted.
→ Replace all the batteries with new ones.
- There is an obstacle between the commanders, or the commanders are not positioned head to head and exactly aligned.
→ Position the commanders properly.

Clearing Stored Functions – Clearing Stored Functions under Each Position on VTR 1/2/3/MDP Selector

Example: Clearing functions stored on VTR 1 position



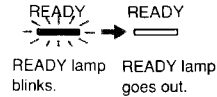
1 Set the VTR 1/2/3/MDP selector to VTR 1.



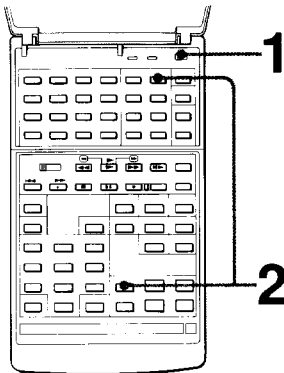
2 Set the LEARN-USE selector to LEARN.



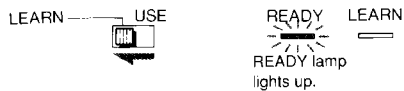
3 While keeping the TREBLE button pressed, press the PICTURE + button.



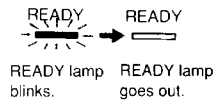
Clearing All the Stored Functions



1 Set the LEARN-USE selector to LEARN.



2 While keeping the TREBLE button pressed, press the PICTURE + button.

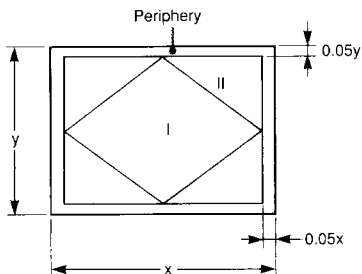


Note

After clearing stored functions, the buttons function for Sony video equipment again.

Specifications

| | |
|-------------------------|---|
| Color system | NTSC system |
| Picture tube | 32-inch Trinitron tube Approx. 80 cm picture measured diagonally, 110-degree deflection, AG pitch 0.9 mm |
| Resolution | VIDEO inputs: 650 TV lines S VIDEO inputs: 650 TV lines RGB inputs: 640 × 200 dots (2000 characters) |
| Color temperature | 9300 K |
| Horizontal linearity | Less than ±8% |
| Vertical linearity | Less than ±7% |
| Line pull range | Horizontal: ±500 Hz Vertical: -8 Hz |
| Overscan of the picture | Less than +7% |
| Input return loss | More than 35 dB up to 4 MHz |
| Zooming | Within 5% |
| Convergence | Zone I: within 1.3 mm Zone II: within 1.7 mm Periphery: within 2.2 mm |



Inputs

| | |
|----------------------|---|
| Video input: | LINE A/B: BNC connector composite video, 1 Vp-p ±6 dB, sync negative automatic 75-ohm termination VTR: 8-pin connector 1 Vp-p ±6 dB, sync negative, 75-ohm terminated |
| S video input: | LINE A/B: 4-pin MINI DIN connector Y (luminance signal): 1 Vp-p ±6 dB, sync negative C (chrominance signal): 0.286 Vp-p +6dB (burst signal) automatic 75-ohm termination |
| RGB input: | ANALOG RGB: BNC connector R,B 0.7 Vp-p ±6 dB G/Sync on G 0.7 Vp-p 1 Vp-p, sync negative automatic 75-ohm termination DIGITAL RGB: TTL D-sub 9-pin |
| Audio input: | LINE A/B: phono jack, -5 dBs, high impedance (stereo) VTR: 8-pin connector, -5 dBs, high impedance (monaural) ANALOG RGB: phono jack, -5 dBs, high impedance (stereo) DIGITAL RGB: phono jack, -5 dBs, high impedance (monaural) |
| External sync input: | BNC connector 4.0 Vp-p ±6 dB, negative automatic 75-ohm termination |
| CONTROL S input: | minijack, 5 Vp-p |

Outputs

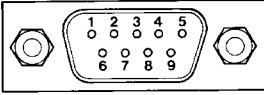
| | |
|-----------------------|---|
| Video output: | LINE A/B: BNC connector, loop-through |
| S Video output: | LINE A/B: 4-pin MINI DIN connector, loop-through |
| RGB output: | ANALOG RGB: BNC connector, loop-through |
| Audio output: | LINE A/B: phono jack, loop-through ANALOG RGB: phono jack, loop-through |
| External sync output: | BNC connector, loop-through |
| CONTROL S output: | minijack |
| Speaker output: | 8 - 16 ohms (15 W + 15 W) |
| Power requirements | 120 V AC, 50/60 Hz |
| Power consumption | 220 W max. |
| Dimensions | Approx. 814 × 629 × 595 mm (w/h/d) (32 ⁷ / ₈ × 24 ⁵ / ₈ × 23 ³ / ₈ inches) |
| Weight | Approx. 84kg (185 lb 3 oz) |
| Supplied accessories | Programmable Remote Commander RM-785 (1) Size AA batteries (4) |
| Optional accessories | SSX-6A speaker system APM-X5A speaker system |

Design and specifications are subject to change without notice.

Specifications

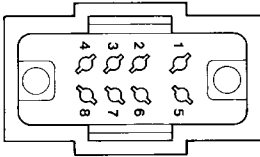
Pin assignment

DIGITAL RGB connector (9-pin)



| Pin No. | Signal | Signal level |
|---------|--------------------|---|
| 1 | GND (ground) | GND |
| 2 | GND for the signal | GND |
| 3 | Red input | Positive polarity (TTL level) |
| 4 | Green input | ↑ |
| 5 | Blue input | ↑ |
| 6 | Intensity | ↑ |
| 7 | NC (no connection) | — |
| 8 | H-SYNC | Positive or negative polarity (TTL level) |
| 9 | V-SYNC | Same polarity as H-SYNC (TTL level) |

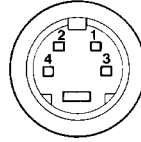
VTR connector (8-pin)



| Pin No. | Signal | Description |
|---------|-------------|---|
| 1 | Audio input | -5 dBs. high input impedance (more than 47 kilohms) |
| 2 | Video input | Composite 1 Vp-p, sync negative, 75 ohms |
| 3 | NC | — |
| 4 | NC | — |
| 5 | GND | GND |
| 6 | GND | GND |
| 7 | NC | — |
| 8 | NC | — |

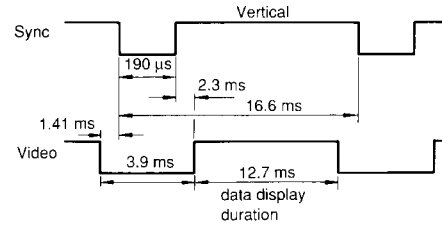
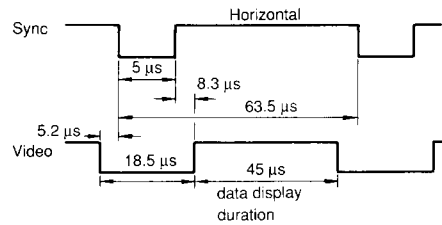
S VIDEO

(Y/C separate) IN connector (4-pin)



| Pin No. | Signal | Description |
|---------|--------------------------|--------------------------------|
| 1 | Y-input | 1 Vp-p, sync negative, 75 ohms |
| 2 | CHROMA sub-carrier-input | 0.286 Vp-p, burst 75 ohms |
| 3 | GND for Y-input | GND |
| 4 | GND for CHROMA-input | GND |

Timing chart



Troubleshooting

If these symptoms occur when you begin operation, follow the suggestions below.

| Symptoms | Corrections |
|--|--|
| No controllable keys although the POWER switch is turned on. | <ul style="list-style-type: none">• Press the CONTROL key. |
| No indication appears although the CONTROL key is pressed. | <ul style="list-style-type: none">• Set the MANUAL CONTROL switch on the rear panel to ON. |
| Remote control is not possible. | <ul style="list-style-type: none">• Set the REMOTE CONTROL switch on the rear panel to ON. |

If the problem still cannot be solved, contact your authorized Sony dealer.

Avertissement

Afin d'éviter tout risque d'incendie ou d'électrocution, ne pas exposer cet appareil à la pluie ou à l'humidité.

Afin d'écarter tout risque d'électrocution, garder le coffret fermé. Ne confier l'entretien de l'appareil qu'à un personnel qualifié.

Pour les utilisateurs au Canada

Cet appareil est conforme aux normes Classe A pour bruits radioélectriques, spécifiés dans le Règlement sur le brouillage radioélectrique.

Précautions

Sécurité

- Ne brancher l'appareil que sur secteur de 120 V.
- Si un solide ou un liquide venait à tomber dans l'appareil, débrancher le cordon d'alimentation secteur et le faire vérifier par un réparateur qualifié avant de le remettre sous tension.
- Si l'appareil ne doit pas être utilisé pendant longtemps, le déconnecter de la prise secteur. A cette fin, débrancher le cordon d'alimentation en le tirant par la fiche. Ne jamais tirer sur le cordon proprement dit.

Installation

- Pour éviter une surchauffe à l'intérieur de l'appareil, ne pas boucher les orifices de ventilation.
- Ne pas installer l'appareil dans un endroit chaud ou humide, ou dans un endroit très poussiéreux ou soumis à des vibrations mécaniques.

Nettoyage

Nettoyer l'appareil avec un chiffon doux et humide. Utiliser un détergent ménager doux. Ne jamais utiliser de solvants tels que des diluants ou de la benzine car ils peuvent abîmer la finition du coffret.

Remballage

Ne pas jeter le carton d'emballage. Il offre une protection maximale lors du transport de l'appareil.

Pour toute question au sujet de cet appareil, veuillez contacter votre distributeur Sony autorisé.