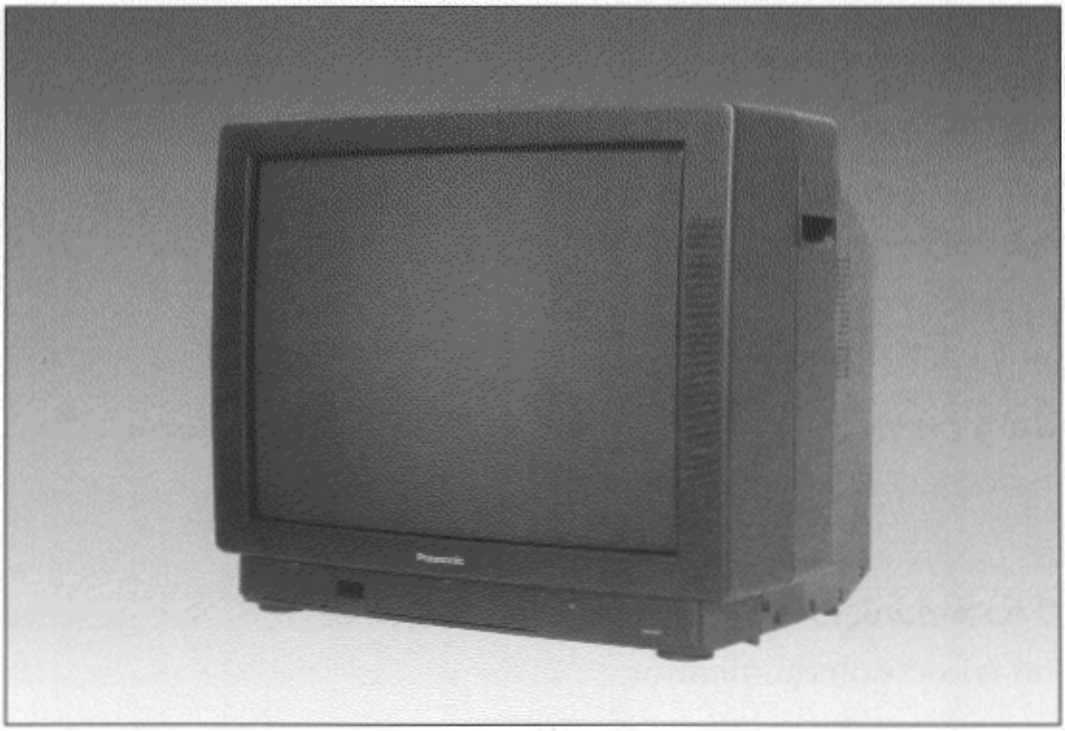
Operating Instructions

HD/Multi-scan Color Monitor

Model No. **DT-2750MS**



Panasonic®

Read these instructions completely before operating this unit.

Dear Panasonic Customer:

This instruction booklet provides all the necessary operating information that you might require. We hope it will help you to get the most performance out of your new product, and that you will be pleased with your Panasonic HD/Multi-scan Color Monitor.
The serial number of your product may be found on its back. You should note it in the space provided below and retain this booklet in case service is required.

Model number: **DT-2750MS** Serial number:

Contents

Features

1) Suitable for a wide range of applications:

- Component video, DTV, or DVD
- S-video, Composite video (NTSC, PAL, and SECAM)
- Data monitor supporting PC or Macintosh® VGA (640 x 480) up to UXGA (1600 x 1200) at 75 Hz flicker-free refresh

2) Super high quality CRT

- 0.6 fine stripe pitch (25% finer than most conventional CRTs)
- Superb display quality even in high resolution displays
- Glass with built-in microfilter for high contrast and brightness

3) Meet PC98 requirements

- DDC 1-2B for plug and play
- VESA DPMS Power management

4) Ergonomic and user-friendly design

- Temperature-controlled fan for minimal noise level
- Lowest power consumption through unique circuitry that allows for high voltage deflection

5) Compatible with most large or small systems configurations

- Convenient easy to use wireless remote control
- Bi-directional RS-232C communications enhance programmability
- Simplified wired communications supports stable parallel data transfer
- Monitor addressable function

6) Simple, user-friendly controls with on-screen display menu

7) Automatic input signal detector for quick setup

8) Powerful 5-watt front-firing stereo quality speakers for true multimedia applications

Note: • DTV: Digital TeleVision
DVD: Digital Video Disc

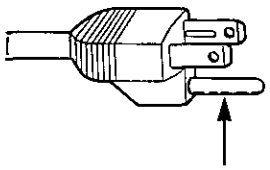
• VESA DPMS is the requirement regarding the power consumption management from VESA.
VESA DPMS is an abbreviation of the following:—
VESA: Video Electronics Standard Association
DPMS: Display Power Management Signaling

IMPORTANT SAFETY NOTICE

WARNING: To prevent damage which may result in fire or shock hazard, do not expose this appliance to rain or moisture.

Power Supply: This HD/Multi-scan Color Monitor is designed to operate on 120 volts, 50/60 Hz AC, house current only.

CAUTION: This equipment is equipped with a three-pin grounding-type power plug. Do not remove the grounding pin on the power plug.
This plug will only fit a grounding-type power outlet. This is a safety feature.
If you are unable to insert the plug into the outlet, contact an electrician.
Do not defeat the purpose of the grounding plug.



Do not remove

WARNING: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may causes harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

CAUTION: Any unauthorized changes or modifications to this equipment would void the users authority to operate.

Precautions with regard to safety

WARNING

Setting up

Set up the monitor in a place which is strong enough to support it.

- If the setting-up location is not strong enough, the monitor may fall down or tip over, and damage or injury may result.

Do not place anything on top of the monitor.

- If liquid gets spilled on the monitor or foreign objects get inside it, short-circuits can occur which may result in fire.
  If any foreign objects get inside the monitor, contact an Authorized Service Center.

Do not place the monitor on top of surfaces which are unstable.

- If the monitor is placed on top of a surface which is sloped or unstable, it may fall down or tip over, and injury or damage could result.

Using the monitor

Do not remove the rear cover or cabinet or make any modifications yourself.

- High voltages which could cause fire or electric shocks are present inside this monitor.
  Consult the place of purchase for any inspection, adjustment and servicing needs.

Do not insert any foreign objects into the monitor.

- Do not insert any metal objects or flammable objects into the monitor or drop them onto the monitor, as doing so can result in fire or electric shocks.

Clean the power cable regularly to prevent it from becoming covered in dust.

- If dust builds up on the power cable plug, the resulting humidity can damage the insulation, which could result in fire. Pull the power cable out from the wall outlet and wipe it with a dry cloth.
- If not using the monitor for an extended period of time, pull the power cable plug out from the wall outlet.

Do not damage the power cable or power cable plug.

- Do not damage, modify or bind the cable, place heavy objects on top of the cable, heat the cable or bring it close to hot objects, twist or pull the cable strongly. If the cable is not handled properly, the live wires may become exposed or a short-circuit may develop, and fire or electric shocks may result.
- If the power cable becomes damaged, contact an Authorized Service Center for repairs.

Do not pour liquid on the monitor or otherwise allow it to become wet.

- Fire and electric shocks may result.

Insert the power cable plug securely into the wall outlet.

- If the plug is not inserted correctly, overheating, fire or electric shocks could result.

If problems occur during use

If a problem occurs (such as no image or no sound) or if you notice smoke or a strange smell coming from the monitor, immediately turn off the power and disconnect the power cable from the wall outlet.

- A short-circuit could develop, and fire or electric shocks may result.
  Contact an Authorized Service Center for repairs.
- Check that no more smoke is coming out, and then contact an Authorized Service Center for repairs
- Do not attempt to repair the monitor yourself, as this can be dangerous.

If foreign objects or liquids get inside the monitor, or if the monitor is dropped or the cover is broken, turn off the power and disconnect the power cable from the wall outlet.

CAUTION

Setting-up

Do not set up the monitor in humid or dusty places or in places where the monitor may come into contact with smoke or steam.

- To do so may result in fire or electric shocks.

Do not use a power supply which is outside the specified voltage range (120 V AC).

- To do so may result in fire or electric shocks.

Do not cover the ventilation holes.

- If the ventilation holes are covered, the inside of the monitor could overheat, and fire may result. Leave a space of 10 cm or more between the monitor and the wall and maintain a distance of 10 cm or more between the monitor and any audio/visual equipment when setting up the monitor.
- Do not place the monitor facing straight up or straight down, and do not tilt it on its side or place it upside down or place it somewhere where there is poor ventilation.
- Do not place a tablecloth over the monitor, or place it on top of a rug or quilt.

When using the monitor

Do not place any heavy objects on top of the monitor.

- Doing so can cause the monitor to become unbalanced and fall, which could result in damage or injury.

Take steps to prevent the monitor from moving or turning after setting-up.

- If the monitor moves or tips over, injury may result.
- If placing the monitor on top of a table with casters, make sure that the casters are prevented from moving.

Do not sit on top of the monitor.

- Doing so may cause the monitor to tip over or break, and injury may result.

Always disconnect the power cable before moving the monitor.

- Moving the monitor with cables still attached can damage the cables, and fire or electric shocks may result.
- Always check that the power cable plug and cables are disconnected before moving the monitor.
- Two people are needed for unpacking and moving the monitor.

When disconnecting the power cable, hold the plug, not the cable.

- If the power cable itself is pulled, the cable will become damaged, and fire, short-circuits or serious electric shocks may result.

Do not handle the power cable plug with wet hands.

- Doing so may result in electric shocks.

Observe the following when handling the batteries.

- Make sure the polarities ⊕ and ⊖ are correct.
- Use only the batteries specified.
- Do not heat or disassemble the batteries or place them into water or fire.
- Remove the batteries if not using the remote control unit for long periods.
- Do not place the batteries in a container together with metallic objects such as necklaces.
- If batteries are not treated properly, they may leak, and fire, electric shocks or contamination may result.
- If the batteries start leaking, contact an Authorized Service Center.
- If battery fluid gets onto your body, wash well with copious amounts of running water.

Cleaning

Ask an Authorized Service Center to clean inside the monitor at least once a year.

- If dust is left to build up inside the monitor without being cleaned out, fire may result. It is a good idea to clean the inside of the monitor before the season for humid weather arrives. Please discuss with the Authorized Service Center regarding cleaning costs.

Disconnect the power plug from the wall outlet as a safety precaution before carrying out any cleaning.

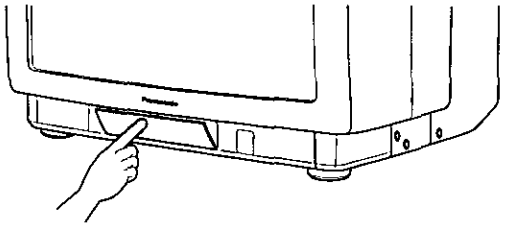
- Electric shocks may result if this is not done.

Location and function of each part

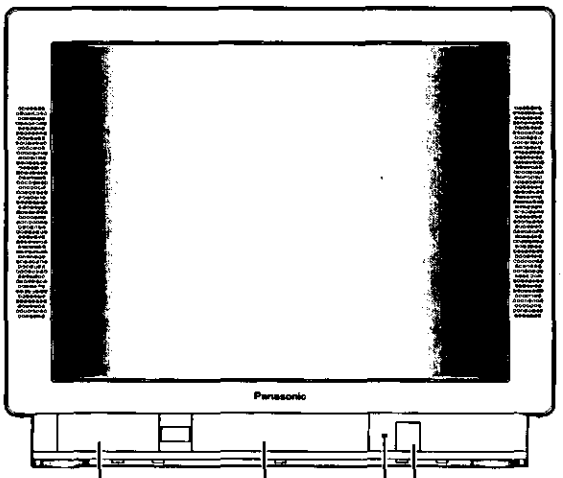
Monitor

<FRONT>

Opening the control panel cover or the connector panel cover.

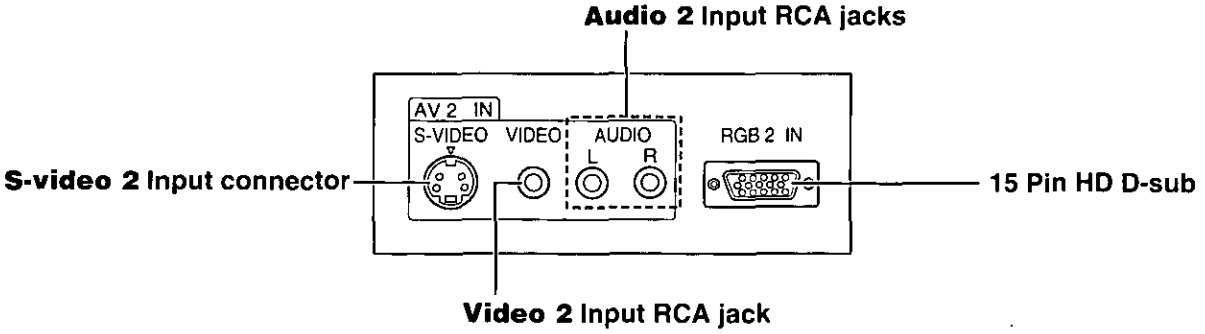


Push the place marked "PUSH" and then release it.
The cover will then open.



①Front connector panel
②Main power switch
③Power indicator
④Front control panel

① Front connector panel



15 Pin HD D-sub:
This connector is for the 15 Pin HD D-sub end of the signal cable for IBM or compatible computers for mass production.

Video 2 Input RCA jack:
This jack is for composite video signal cable (not supplied) when used with a video equipment.

S-video 2 Input connector:
This terminal is for S-video signal cable (not supplied) when used with a video equipment adopting S-video.

Audio 2 Input RCA jacks:
These jacks are audio inputs from a video equipment (signal cable not supplied).

② Main power switch

The main power switch is located on the lower right-side of the front bezel.
To turn on the monitor, push the main power switch so that the power indicator is lit green.
To turn off the monitor, push the main power switch again so that the power indicator is off.
By pressing the POWER key on the remote control unit, the monitor is turned off and the power indicator is lit red, however the monitor is not turned off completely. It is in stand-by mode, receptive to turn-on commands that may be sent via remote control.

③ Power indicator

The power indicator shows the monitor status (such as ON/OFF) normally.
Also, it indicates the power management status based on VESA DPMS as follows:—

	H. Sync	V. Sync	Power indicator
Active	Yes	Yes	Green
Stand-by	No	Yes	Flashing (Interval 1 sec.)
Suspend	Yes	No	Flashing (Interval 1 sec.)
Active off	No	No	Flashing (Interval 3 sec.)

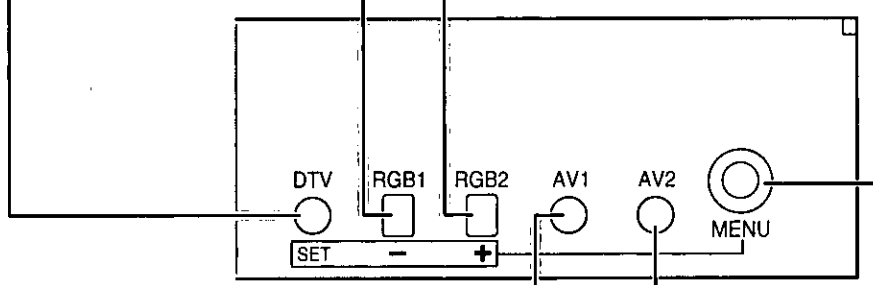
④ Front control panel

This control panel can be used to make adjustments and input selections.

DTV/SET button
This button is used to select DTV (Component Video) input signal or to set the control function or the control level.*

RGB1 / – button
This button is used to select RGB1 input signal or to decrease the control function or the control level.*

RGB2 / + button
This button is used to select RGB2 input signal or to increase the control function or the control level.*



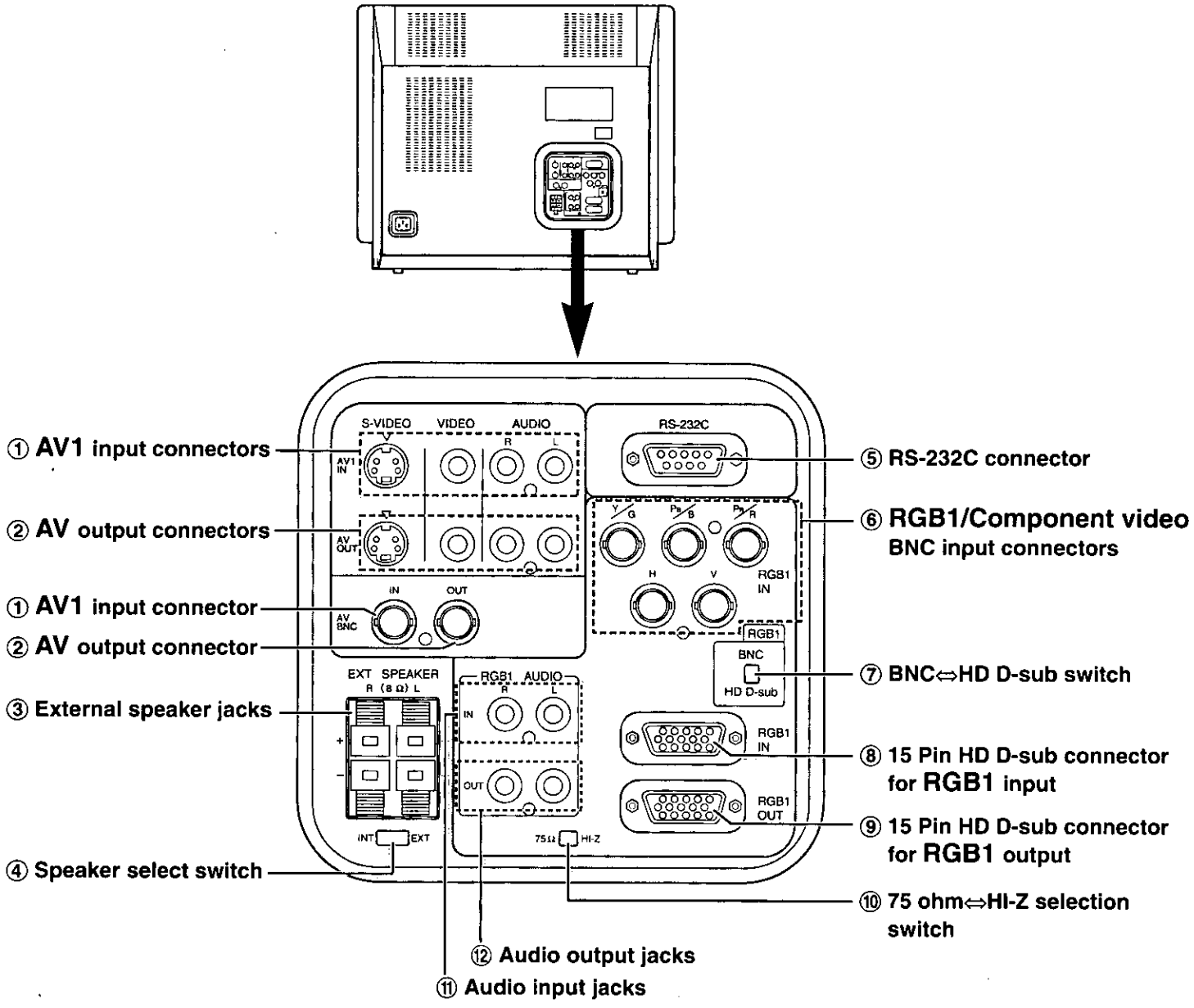
MENU button
Control menu such as brightness is separated to 2 groups. One is the picture quality group (mainly contrast). The other is the geometric control group. This button is used to select the control menu group.

AV2 button
This button is used to select AV2 input signal.

AV1 button
This button is used to select AV1 input signal.

* These buttons have a dual function;—
SET, –, + function works when the menu is visible on screen.

<REAR>



① **AV1 input connectors**

These terminals are AV1 input terminals.
S-video terminal is for S-video signal.
RCA jack named "VIDEO" is for composite video.
RCA jack named "R" is for audio R input.
RCA jack named "L" is for audio L input.
BNC jack named "AV1 IN" is for composite video.

Note: RCA jack named "VIDEO" is connected to BNC jack named "AV1 IN" directly. Do not input the composite signals both to RCA jack named "VIDEO" and BNC jack named "AV IN".

② **AV output connectors**

These terminals are AV output terminals.
S-video terminal is for S-video signal.
RCA jack named "VIDEO" is for composite video.
RCA jack named "R" is for audio R.
RCA jack named "L" is for audio L.
BNC jack named "AV OUT" is for composite video.

Note: RCA jack named "VIDEO" is connected to BNC jack named "AV OUT" directly. Do not connect both connectors at the same time.

③ **External speaker jacks**
These jacks are for external speakers having an impedance of 8 ohms.
To use the external speakers, place the speaker select switch to the right position (EXT).

④ **Speaker select switch**
This switch is used to select either the internal speakers or the external speakers.
To select the internal speakers, place the switch to the left position marked "INT".
To select the external speakers, place the switch to the right position marked "EXT".

⑤ **RS-232C connector**
This connector is used to control the monitor either with RS-232C communication or the simplified wired remote control.

⑥ **RGB1/Component video BNC input connectors**
These connectors are used for either RGB1 input signals such as R, G, B, H and V from the computer or the component video such as Y, P_B, and P_R from the component video equipment like the digital TV receiver and DVD player.
To use these connectors as RGB1 or component video input, place the BNC⇔HD D-sub switch to the upper position marked "BNC".

⑦ **BNC⇔HD D-sub switch**
This switch is used to select the input signal of RGB1 mode from the BNC connectors or HD D-sub connector.
To select the signal from the BNC terminals, place this switch to the upper marked "BNC".
To select the signal from the HD D-sub connector, place this switch to the lower position marked "HD D-sub".

⑧ **15 Pin HD D-sub connector for RGB1 input**
This connector is used for RGB1 input signals from the computers.

⑨ **15 Pin HD D-sub connector for RGB1 output**
This connector is used for RGB1 output signals from the monitor.

Note: 15 Pin HD D-sub connector for RGB1 output is connected to the HD D-sub connector for RGB1 input directly.
When two 15 Pin HD D-sub cables are connected at the same time, place 75 ohm⇔HI-Z selection switch to the right marked "HI-Z".

⑩ **75 ohm⇔HI-Z selection switch**
This switch is used when more than 2 monitors are connected at RGB1 input mode.
Normal position is to the left, marked "75 ohm".
When you connect a second monitor using the original cable, set this switch to "HI-Z" and the second monitor's switch to the "75 ohm" position (to the right marked "75 Ω").

Caution: When you connect only one monitor, do not set this switch to the "HI-Z" position. Display image will be too bright.

⑪ **Audio input jacks**
These jacks are used for RGB1 audio inputs or component video audio inputs.

⑫ **Audio output jacks**
These jacks are used for RGB1 audio outputs or component video audio outputs.

Connections for RGB equipment (D-sub input)

1. Turn off the power switches of the personal computer and/or your monitor if they are now on.

2. Connect the HD D-sub signal cable* to the personal computer and the monitor as shown in the following figures (RGB1 input on the rear or RGB2 input on the front).

3. Connect the audio RCA signal cable (not supplied) to the personal computer if necessary.

4. If it has not been installed, first connect one end of the power cable to the monitor and then the other end to the AC outlet**.

5. Turn on the power switches of the monitor and the personal computer.

If the input is RGB1,

6. Set the BNC⇔HD D-sub switch to the "HD D-sub" position, and press **RGB1** button on the front control panel (see page 8).

7. This completes the single monitor installation using the HD D-sub connectors and supplied HD D-sub signal cable.
   The 75 ohm⇔HI-Z selection switch should be set to the left, marked "75 Ω".

Caution: * Use only the supplied HD D-sub cable.
** If the AC outlet is of the two prong type, please consult with a licensed electrician.

To add a second monitor via bridge-connection

Check that you have set the BNC⇔HD D-sub switch to the "HD D-sub" position, and press **RGB1** button on the front control panel (see page 8).

8. Connect a signal cable from the RGB1 output connector of the first monitor to the RGB1 input connector of the second monitor.

9. Set the 75 ohm⇔HI-Z selection switch of the first monitor to the right marked "HI-Z".
   Also, set the 75 ohm⇔HI-Z selection switch of the second monitor to the left, marked "75 Ω".

10. This completes the extra monitor installation using the HD D-sub connectors and supplied HD D-sub signal cable.

If the input is RGB2,

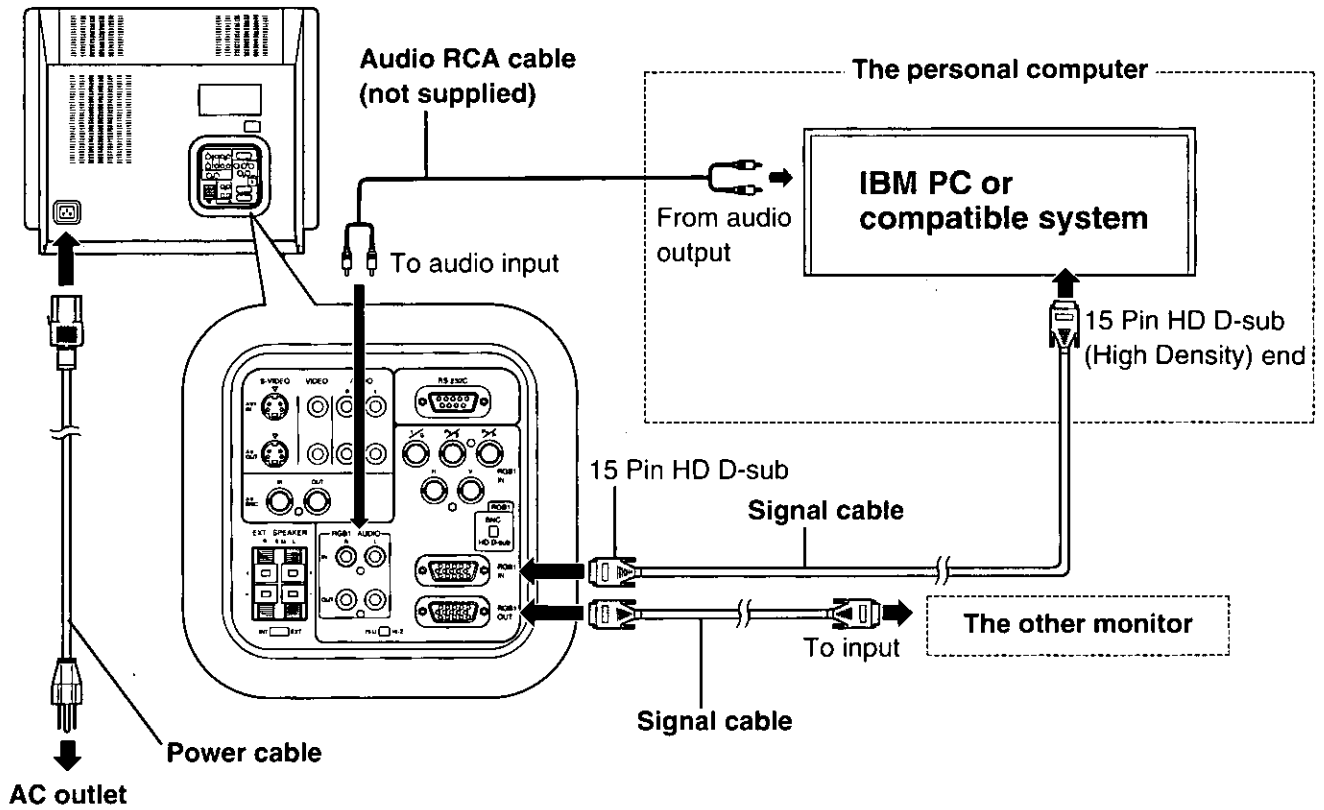
6. Press **RGB2** button on the front control panel (see page 8).

7. This completes the single monitor installation using the HD D-sub connectors and supplied HD D-sub signal cable.

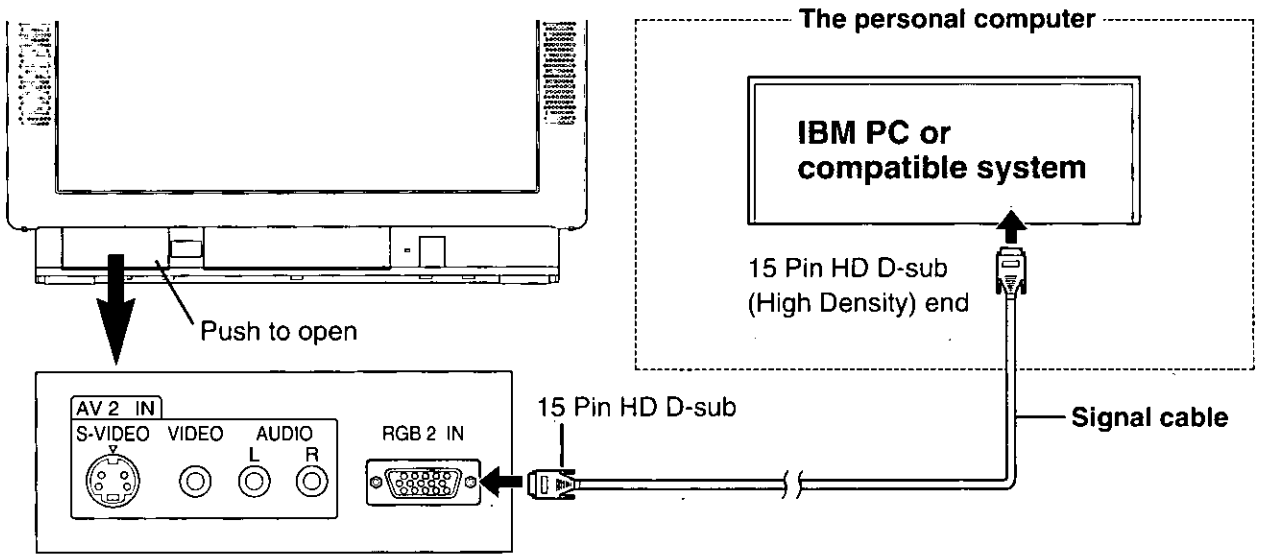
Caution: * Do not connect a 15 Pin HD D-sub signal cable to the HD D-sub signal input marked "RGB 2" for bridge-connection. Use only the terminals on rear panel marked "RGB 1".
** If the AC outlet is of the two prong type, please consult with a licensed electrician.

Note: You can also connect MAC computer with MAC adaptor. (See page 39.)

Rear panel



Front panel



Connections for RGB equipment (BNC input)

1. Turn off the power switches of the video equipment and/or your monitor if they are now on.

2. Connect the BNC cables for RGB and the RCA cables for audio to the video equipment and the monitor as shown in the following figures.

   Note: These cables are not supplied with the monitor.

3. If it has not been installed, first connect one end of the power cable to the monitor and then the other end to the AC outlet*.

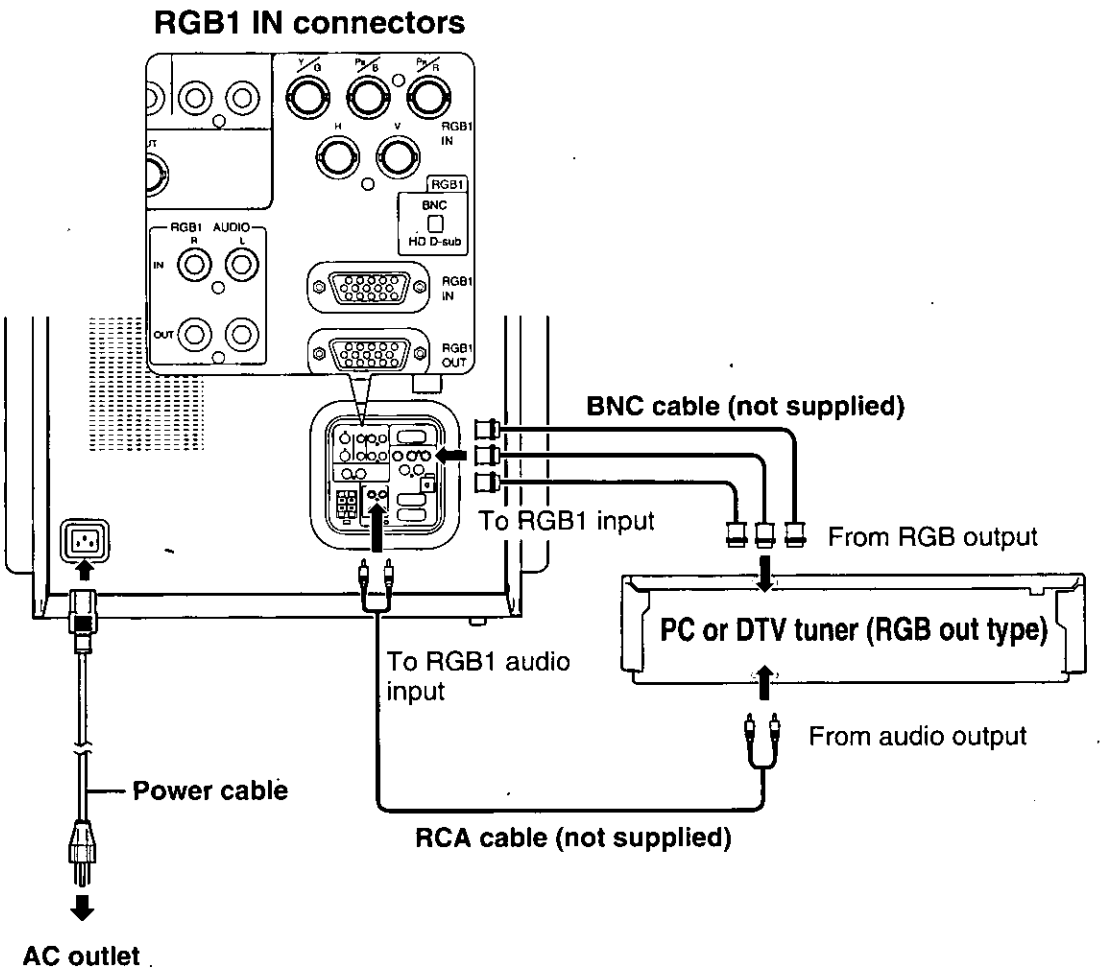
4. Set the BNC⇔HD D-sub switch to the "BNC" position.

5. Turn on the power switches of the monitor and the RGB equipment.

6. Select "RGB1" by pressing front button **RGB1** or pressing the **RGB1** key on the remote control unit (see page 21).

   Caution: *If the AC outlet is of the two prong type, please consult with a licensed electrician.

Rear panel


RGB1 IN connectors
RGB1 IN
RGB1
BNC
HD D-sub
RGB1 AUDIO
R
L
IN
OUT
RGB1 IN
RGB1 OUT
BNC cable (not supplied)
To RGB1 input
From RGB output
PC or DTV tuner (RGB out type)
To RGB1 audio input
From audio output
Power cable
RCA cable (not supplied)
AC outlet

Connections for video equipment

1. Turn off the power switches of the video equipment and/or your monitor if they are now on.
2. Connect the RCA cables (these cables are not supplied with the monitor) to the video equipment and the monitor as shown in the following figures.
3. If it has not been installed, first connect one end of the power cable to the monitor and then the other end to the AC outlet*.
4. Turn on the power switches of the monitor and the video equipment.
5. Select "AV1" or "AV2" by pressing front button **AV1** or **AV2** or pressing the **AV1** or **AV2** key on the remote control unit (see page 21).

   Note: When selecting "AV1", either the RCA jack or BNC connectors is available for video.

For OUTPUT:

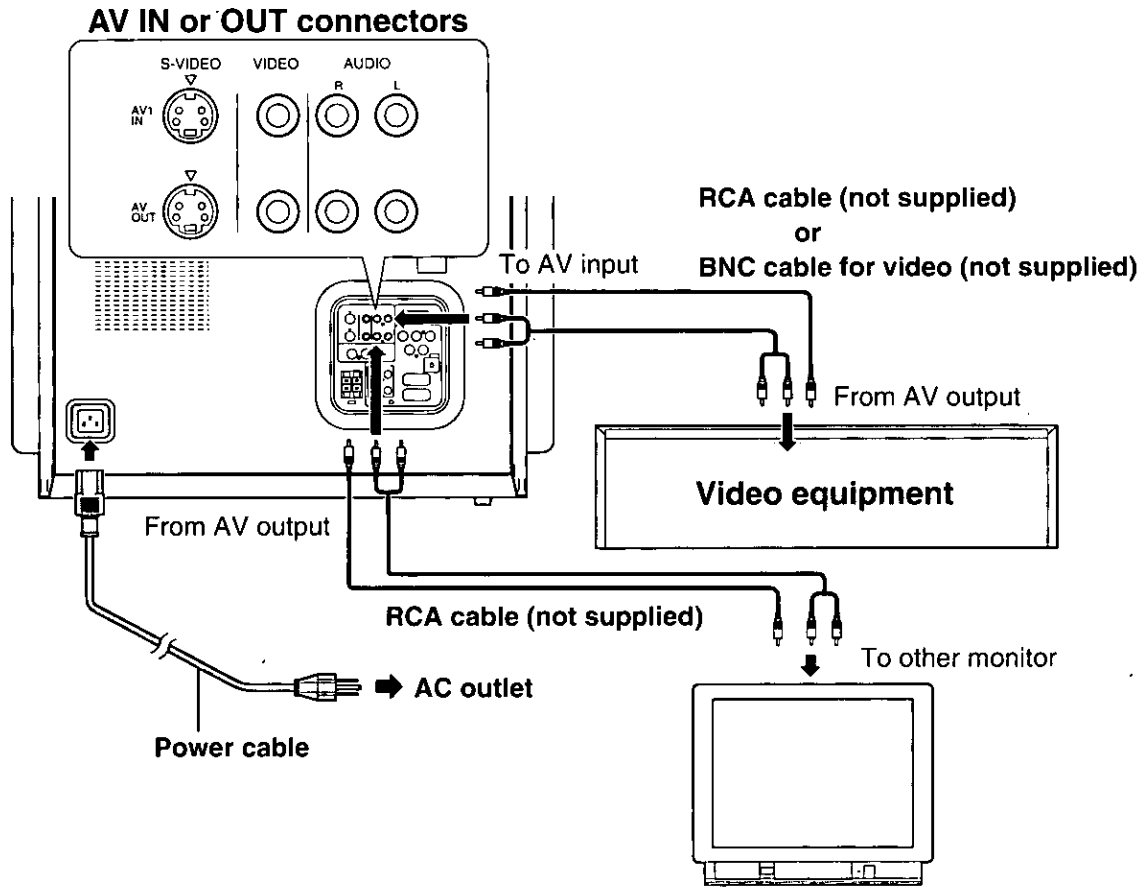
The signal which is selected by the **AV1** or **AV2** button/key and displayed on the screen is available on the output connectors.

6. This completes the installation of your monitor.

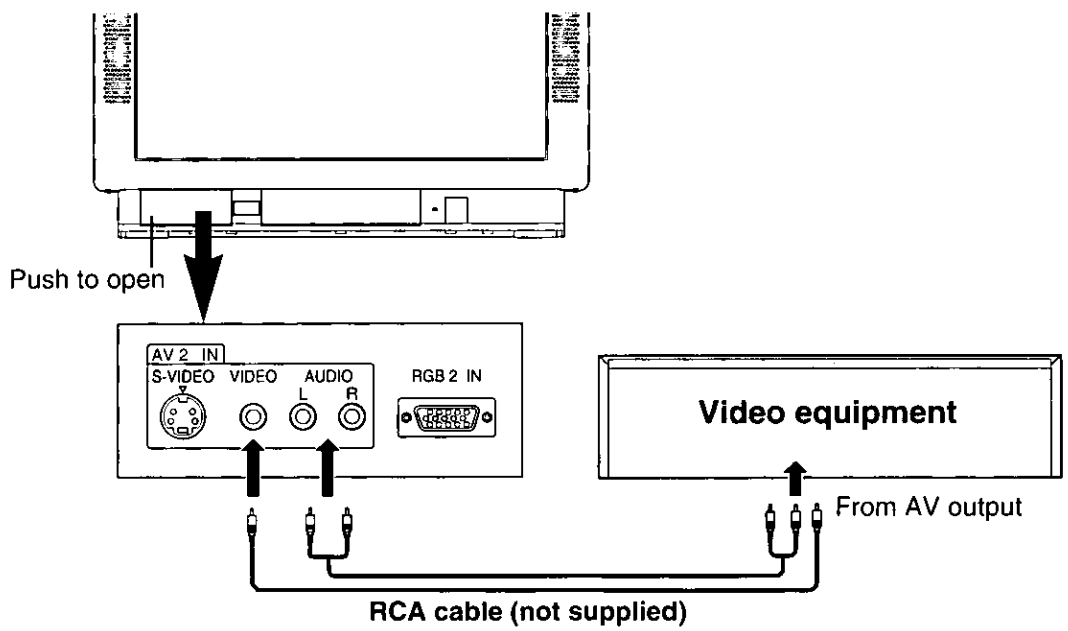
Caution: *If the AC outlet is of the two prong type, please consult with a licensed electrician.

Note: RCA jack named "VIDEO" is connected to BNC jack named "AV OUT" directly. Do not connect both connectors at the same time.

Rear panel



Front panel



Connections for S-video equipment

1. Turn off the power switches of the video equipment and/or your monitor if they are now on.
2. Connect the S-video cables (these cables are not supplied with the monitor) and audio RCA cables to the video equipment and the monitor as shown in the following figures.
3. If it has not been installed, first connect one end of the power cable to the monitor and then the other end to the AC outlet*.
4. Turn on the power switches of the monitor and the video equipment.
5. Select "AV1" or "AV2" by pressing front button **AV1** or **AV2** or pressing the **AV1** or **AV2** key on the remote control unit (see page 21).

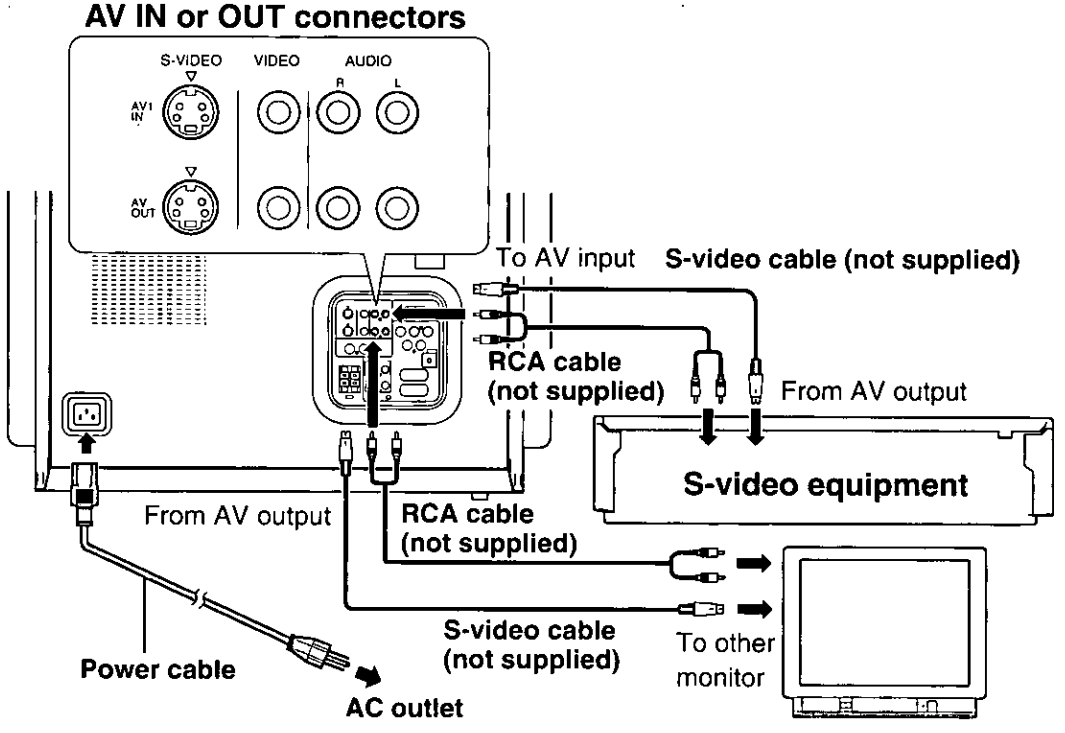
For OUTPUT:

The signal which is selected by the **AV1** or **AV2** button/key and displayed on the screen can be available on the output connectors.

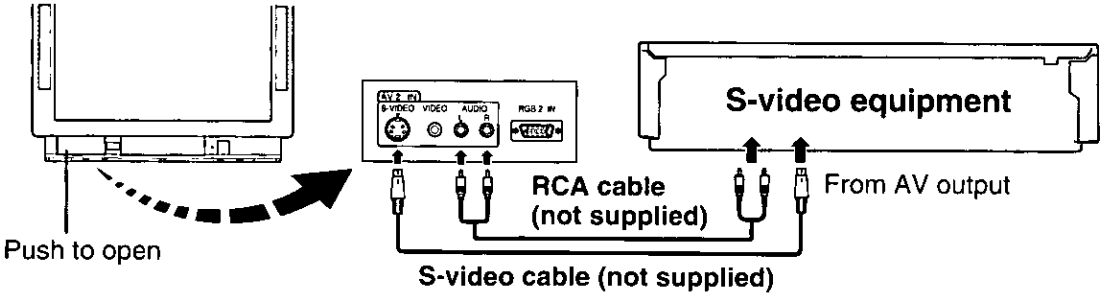
6. This completes the installation of your monitor.

Caution: *If the AC outlet is of the two prong type, please consult with a licensed electrician.

Rear panel



Front panel



Connections for component video equipment

1. Turn off the power switches of the video equipment and/or your monitor if they are now on.

2. Connect the BNC cables for YP_BP_R and the RCA cables for audio to the video equipment and the monitor as shown in the following figures.

   Note: These cables are not supplied with the monitor.

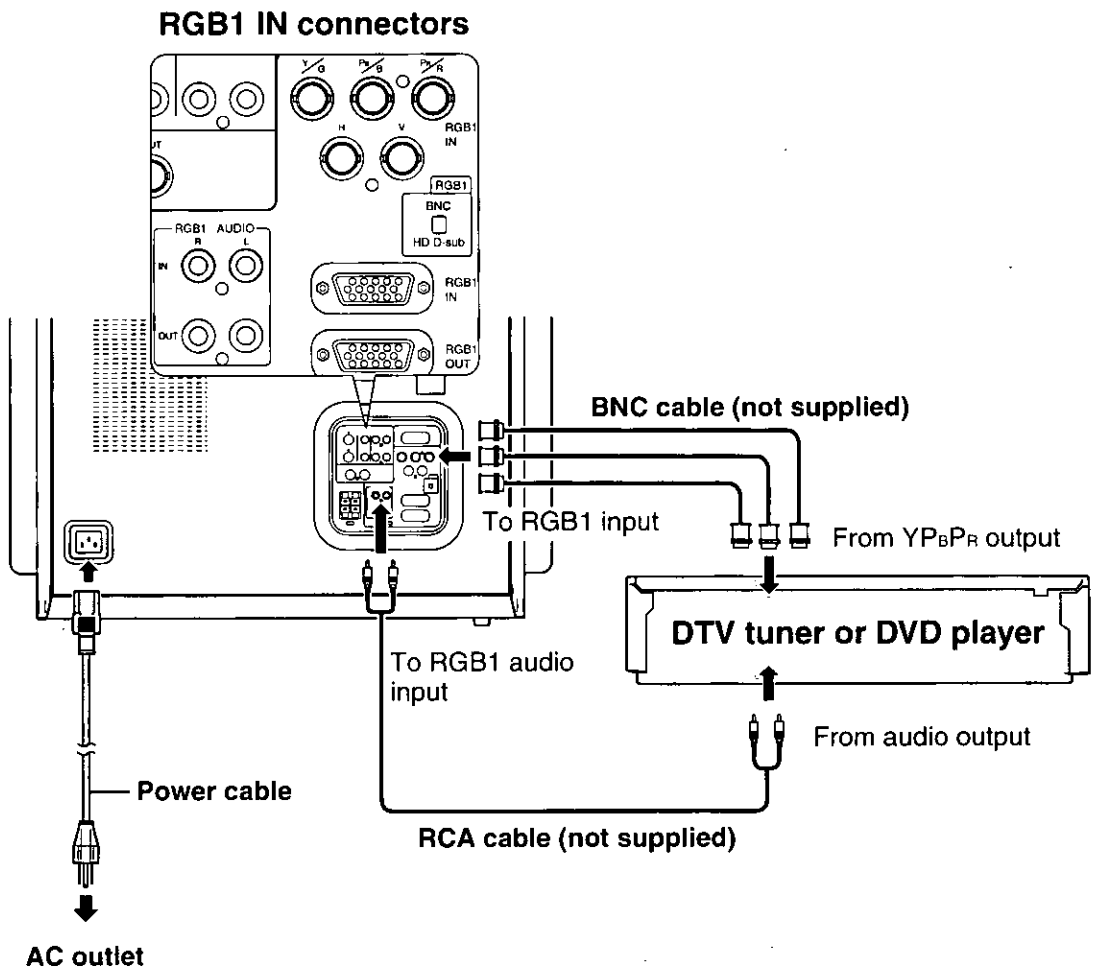
3. If it has not been installed, first connect one end of the power cable to the monitor and then the other end to the AC outlet*.

4. Turn on the power switches of the monitor and the video equipment.

5. Select "DTV" by pressing front button **DTV** or pressing the **DTV** key on the remote control unit (see page 21).

   Caution: *If the AC outlet is of the two prong type, please consult with a licensed electrician.

Rear panel

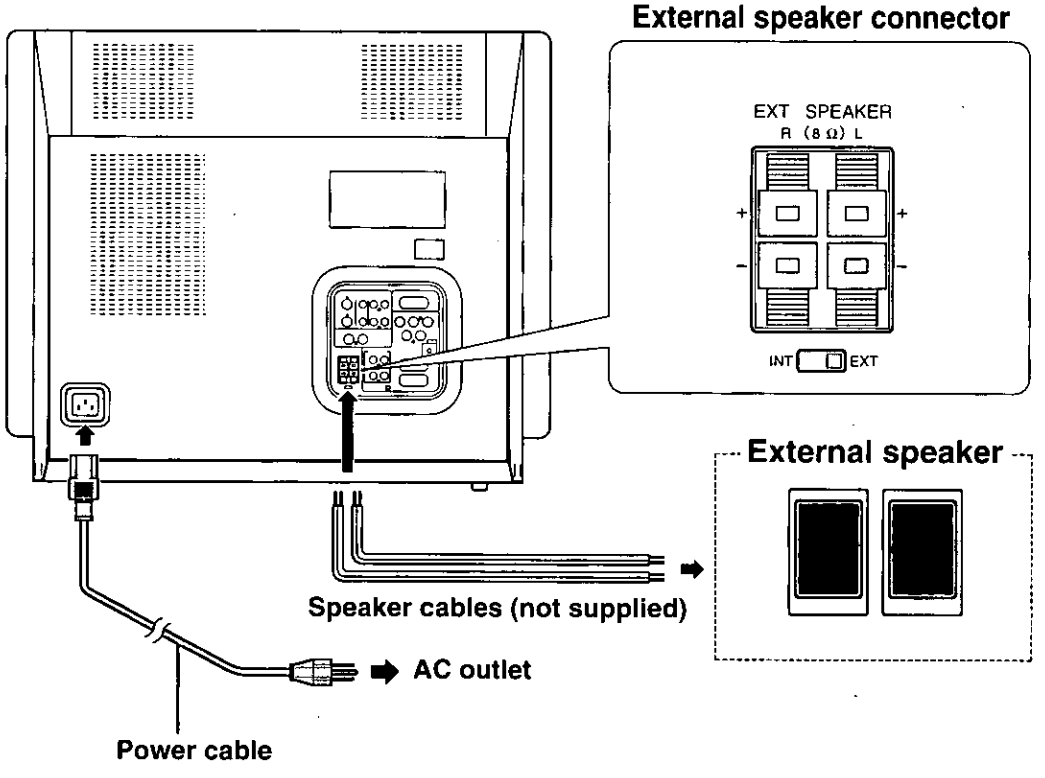


Connections for external speakers

1. Turn off the power switches of the external speakers and/or your monitor if they are now on.
2. Connect the speaker cables to the external speakers and the monitor as shown in the following figures.
3. Set the speaker select switch to the right marked "EXT".
4. If it has not been installed, first connect one end of the power cable to the monitor and then the other end to the AC outlet*.
5. Turn on the power switch of the monitor.
6. Select the input signal.
7. This completes the installation of your monitor.

Caution: *If the AC outlet is of the two prong type, please consult with a licensed electrician.

Rear panel



Before using the remote control unit

Inserting the batteries

Use the accessory AA-size batteries, making sure that they are inserted with the correct polarities.

1. Remove the cover.

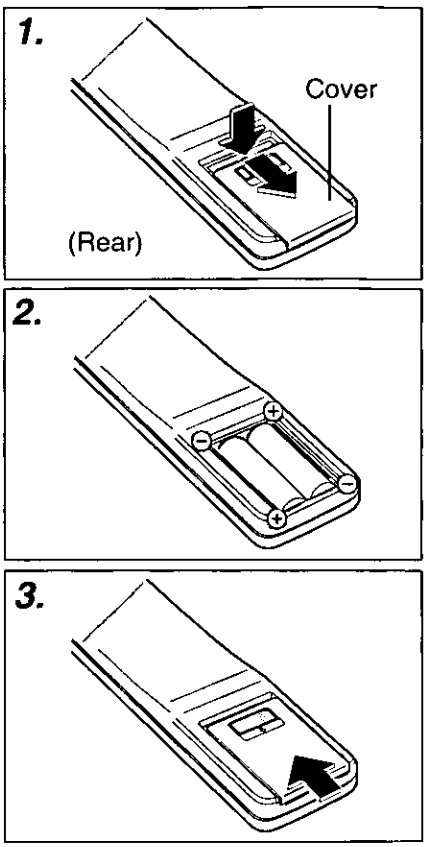
After sliding open the cover, press down firmly on the section marked PUSH on the rear of the remote control unit and slide the cover further to remove it.

2. Insert the batteries.

Insert the batteries into the battery receptacle at the back of the remote control unit, while making sure that the battery polarities are correct.

3. Replace the cover.

Slide the remote control cover onto the remote control unit starting from the edge of the the remote control unit.



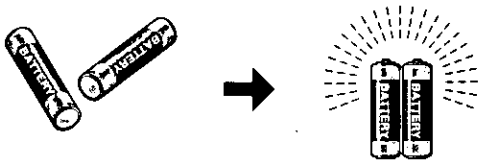
Note:

- Do not drop the remote control unit.
- Do not bring the remote control unit into contact with any liquids.
- Do not use rechargeable (Ni-Cd) batteries.

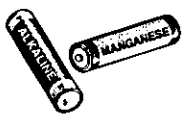
Notes on using the batteries

The following should be observed in order to prevent damage to or leaking of the batteries.

Old batteries **New batteries**

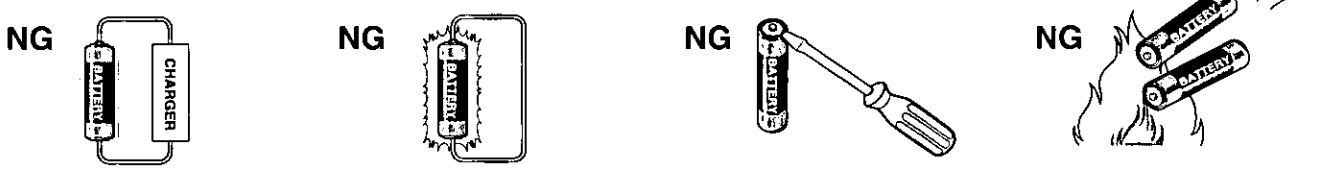


Replace both batteries at the same time. Furthermore, do not burn spent batteries or put them in with combustible garbage.



Do not mix old and new batteries or batteries of different types (such as alkali and manganese batteries).

DO NOT do any of the following:



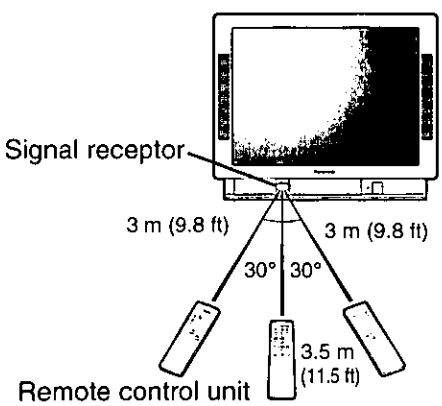
Do not recharge. **Do not short-circuit.** **Do not open.** **Do not heat or burn.**

Using the remote control unit

The remote control unit can be used by pointing it toward the remote control unit signal receptor and pressing the keys.

Note:

- The operating range for the remote control unit is within 3.5 meters from directly in front of the remote control unit signal receptor, and within 3 meters from an angle of ±30° from the left and right of the receptor.
- The remote control unit will not operate if an error is made with the remote control unit ID settings. Refer to page 31 for details on setting and specifying IDs.



Wireless remote control

Power ON/OFF, input direct selection, OSD control, direct contrast control, direct brightness control, direct volume control, direct audio mute can be executed with the wireless remote control.
Fig. 1 shows the appearance of the wireless remote control, and table 1 on the next page describes the function of the control.

Fig. 1 Wireless remote control unit

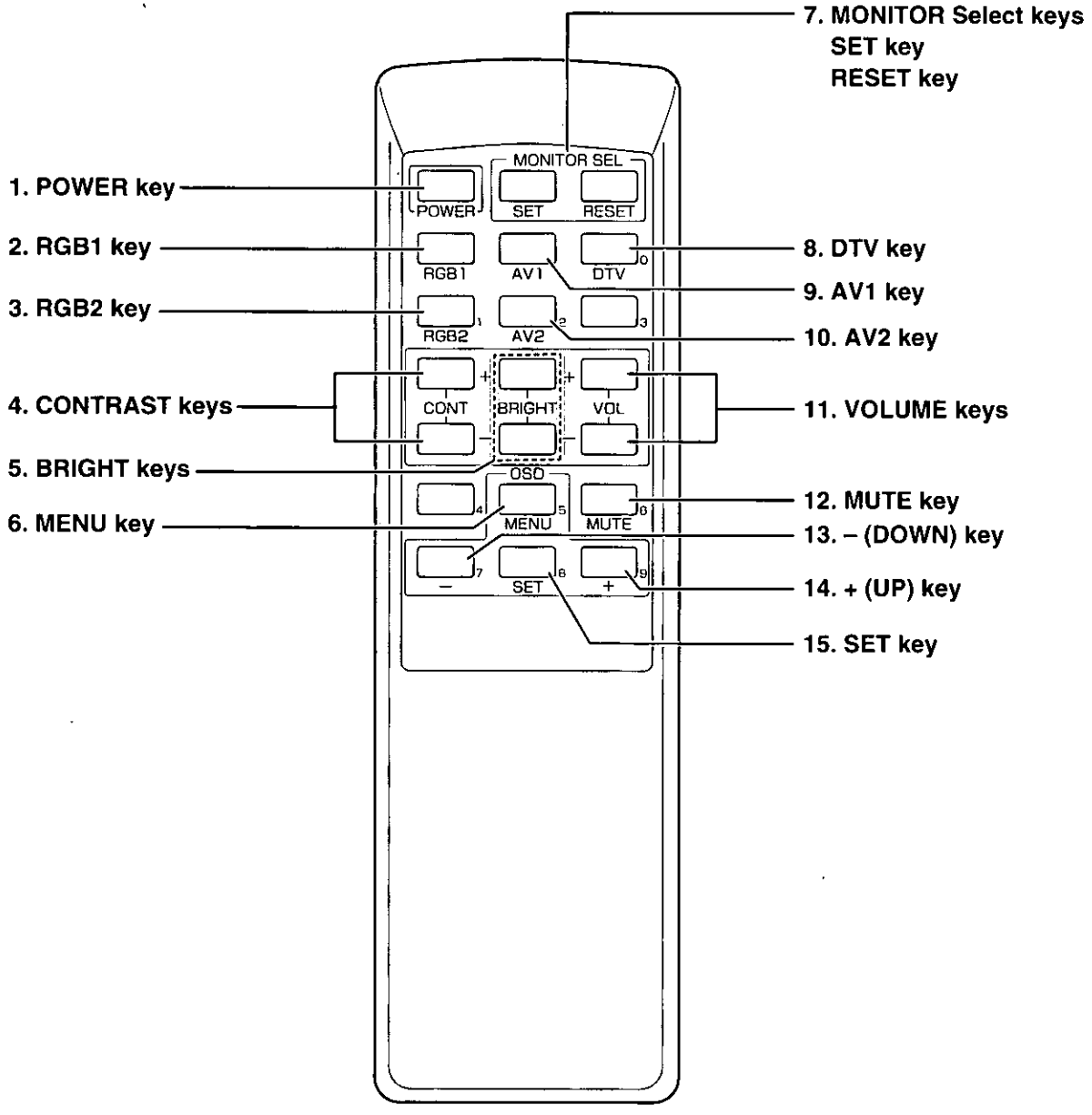


Table 1

No.	Key	Function	Note
1	POWER	Power ON/OFF	
2	RGB1	Select RGB1 input	Same as the front key operation.
3	RGB2	Select RGB2 input	Same as the front key operation.
4	CONT (+)	Increase the image contrast (white level)	
	CONT (–)	Decrease the image contrast (white level)	
5	BRIGHT (+)	Lighten the image brightness (black level)	
	BRIGHT (–)	Darken the image brightness (black level)	
6	MENU	Change OSD (On Screen Display) menu	Same as the front key operation.
7	MONITOR SEL SET	Select the monitor No. (0–9) ID	See Note 2.
	MONITOR SEL RESET	Reset the monitor selection	See Note 2.
8	DTV	Select component video (YP_BP_R from DTV tuner/DVD player)	Same as the front key operation.
9	AV1	Select AV1 input	Same as the front key operation.
10	AV2	Select AV2 input	Same as the front key operation.
11	VOL (+)	Increase the audio volume	
	VOL (–)	Decrease the audio volume	
12	MUTE	Audio mute ON/OFF	
13	– (DOWN)	Shift the control "Menu" cursor to the left to decrease the control data	Same as the front key operation.
14	+ (UP)	Shift the control "Menu" cursor to the right to increase the control data	Same as the front key operation.
15	SET	Select the control menu or set the control data	Same as the front key operation.

Note 1: The OSD will appear as in Fig 2-1 when, for example, the volume is controlled by the remote control unit. For a function that is simply "ON" or "OFF", such as "MUTE", it will appear as in Fig 2-2.

Fig. 2-1 VOLUME UP/DOWN

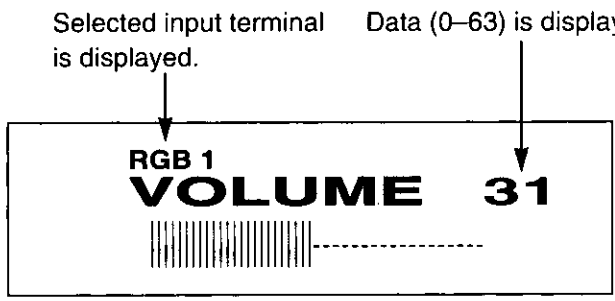
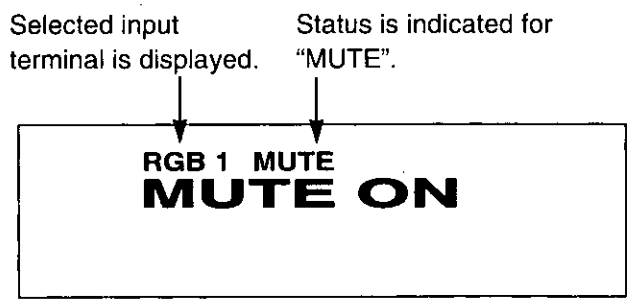


Fig. 2-2 MUTE ON/OFF

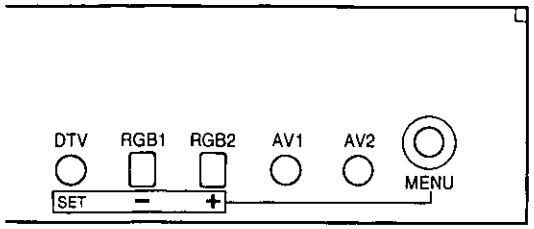


Note 2: How to select the monitor ID

After addressing the monitor ID with monitor ID code selection (see page 31), you can control an individual DT-2750MS out of a few units via the wireless remote control.

1. To decide an individual DT-2750MS, press **MONITOR SEL SET** key and the number key (0, 1, 2, ..,9) which is shown at the right-down side of the key. After that, you can control an individual DT-2750MS via the wireless remote control.
2. To exit an individual control, press **MONITOR SEL RESET** key or wait for 30 seconds after the last key operation.

User control with the front buttons

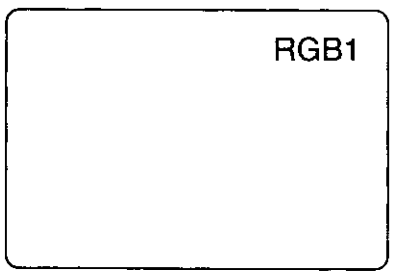


Inside of front control panel

With the help of the OSD (On Screen Display), source select, picture quality, and audio can be easily adjusted with just 6 buttons, located inside the front control panel.

1. Direct input signal selection

After the monitor is turned on, the "On Screen Display" is not visible (no menu). However, selection of a signal source can be made directly by pressing an input selection button, such as "RGB1", "AV1", or "DTV". When an input selection button is pressed, the selected input source message appears on the screen as follows:



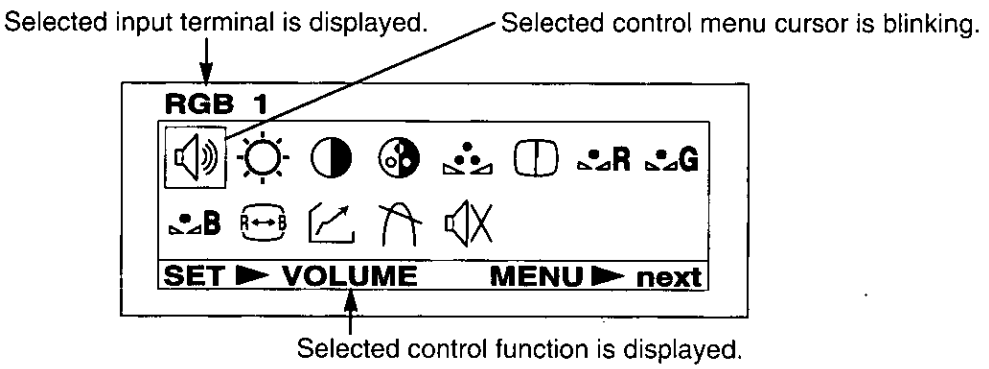
RGB1 □	Press **RGB1** button. Then the signal from RGB1 terminal (rear) appears on the screen and the "RGB1" message is shown on the screen.
RGB2 □	Press **RGB2** button. Then the signal from RGB2 terminals (front) appears on the screen and the "RGB2" message is shown on the screen.
AV1 ○	Press **AV1** button. Then the signal from AV1 input terminals (rear) appears on the screen and the "AV1" message is shown on the screen.
AV2 ○	Press **AV2** button. Then the signal from AV2 input terminals (front) appears on the screen and the "AV2" message is shown on the screen.
DTV ○ (Component video)	Press **DTV** button. Then the signal from component video input terminals (YP_BP_R, rear) appears on the screen and the "DTV" message is shown on the screen.

2. Picture and audio quality controls

When the monitor is turned on and the "on screen control" menu disappears, picture and audio quality controls are invalid.
To adjust the picture and audio control functions, the **MENU** button must be pressed first.
User controls are separated into 2 groups. One is the luminance, chrominance, and audio control group (Menu mode 1). The other is the geometric control group (Menu mode 2).

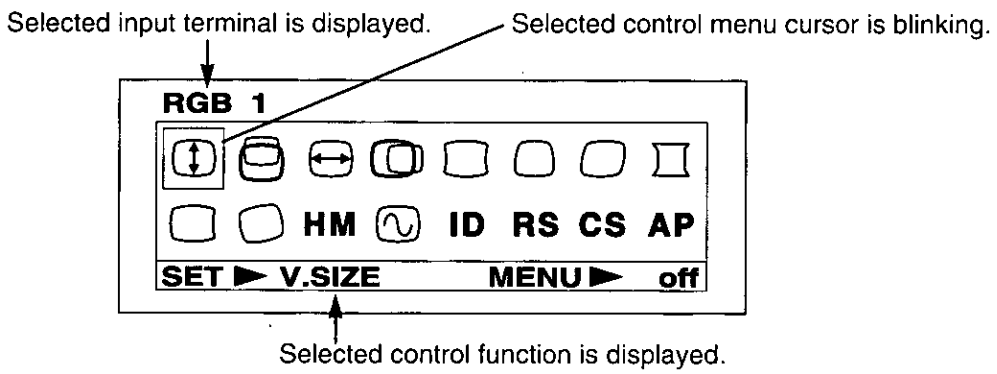
General operation

1. Press **MENU** button. Then "Menu mode 1" is shown on the CRT screen as follows:



In Menu mode 1, audio volume, brightness, contrast, color, tint, sharpness, white balance R/G/B output level, color temperature selection, memory recall, degauss and audio mute can be controlled.

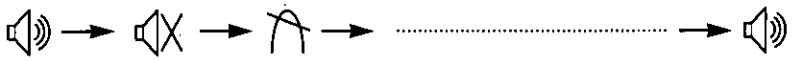
Press **MENU** button again. Then "Menu mode 2" is shown on the CRT screen as follows:



In Menu mode 2, vertical size/position, horizontal size/position, side pincushion, trapezoid, parallelogram, corner side-pincushion, side-pincushion balance, raster rotation, H. moire, input signal status display, monitor ID code selection, RS-232C speed selection, clamp pulse width selection, and aspect ratio selection can be controlled.
Press **MENU** button again, then "Menu mode 2" disappears.
To select the control which you want to adjust, select Menu mode 1 or Menu mode 2 by pressing **MENU** button first.

2. Press – button or + button to select the control mode. When + button is pressed, the selected control mode changes to the right direction as follows:

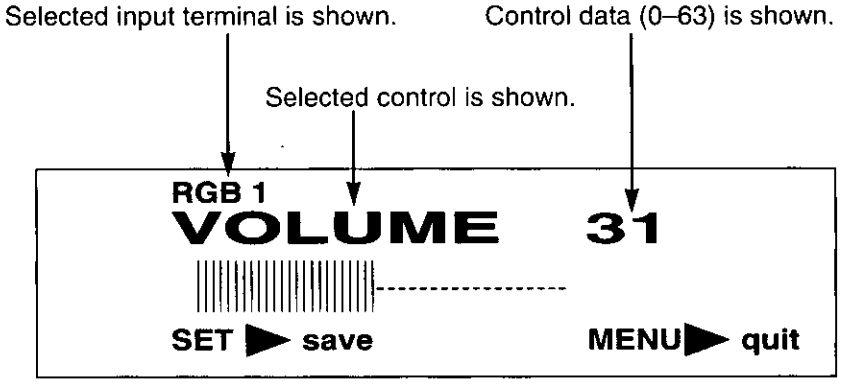
When – button is pressed, the selected control mode changes to the left direction as follows:



The icon of the selected control blinks. Also, the control name is shown on the bottom-left of the "on screen display" menu.

Note: Unavailable icons will be skipped.

3. To activate the selected control, press **SET** button.
The control level indicator menu appears on the bottom side of the CRT screen as follows:



4. To increase the control level, press + button "▷".
To decrease the control level, press – button "◁".
Then the control data and the control level icon changes.

5. If you are satisfied with the resulting control level, press **SET** button.
Then the control level is stored in the memory inside of the monitor and the control level indicator menu on the CRT screen disappears and Menu mode 1 or Menu mode 2 screen appears on the CRT screen.

Note: To cancel the control level, press **MENU** button. Then the control level returns to the previous level and Menu mode 2 screen appears on the CRT screen.

6. If the adjustment is finished, press **MENU** button once or twice until the menu mode screen disappears.
If the **MENU** button is not pressed for 60 seconds after the last operation, control mode menu screen disappears automatically.
If you want to adjust the other, go back to steps 2 through 5.

Detail operation

Item	Mode	How to adjust
Volume 	Mode 1	*1.* Press **MENU** button a few times to select Mode 1. *2.* Press + or – button a few times to select "VOLUME" control. *3.* Press **SET** button. *4.* Press + or – button a few times to get the desired level. "+": set the volume level higher. "–": set the volume level lower. *5.* Press **SET** button to store the adjusted level in the memory.
Brightness 	Mode 1	*1.* Press **MENU** button a few times to select Mode 1. *2.* Press + or – button a few times to select "BRIGHT" control. *3.* Press **SET** button. *4.* Press + or – button a few times to get the desired level. "+": set the image brightness (black level) lighter. "–": set the image brightness (black level) darker. *5.* Press **SET** button to store the adjusted level in the memory.
Contrast 	Mode 1	*1.* Press **MENU** button a few times to select Mode 1. *2.* Press + or – button a few times to select "CONTRAST" control. *3.* Press **SET** button. *4.* Press + or – button a few times to get the desired level. "+": set the image contrast (white level) lighter. "–": set the image contrast (white level) darker. *5.* Press **SET** button to store the adjusted level in the memory.
Color 	Mode 1	*1.* Press **MENU** button a few times to select Mode 1. *2.* Press + or – button a few times to select "COLOR" control. *3.* Press **SET** button. *4.* Press + or – button a few times to get the desired level. "+": set the color density deeper. "–": set the color density lighter. *5.* Press **SET** button to store the adjusted level in the memory. **Note:** Color control is valid on AV and DTV (component video) input.
Tint 	Mode 1	*1.* Press **MENU** button a few times to select Mode 1. *2.* Press + or – button a few times to select "TINT" control. *3.* Press **SET** button. *4.* Press + or – button a few times to get the desired level. "+": set the tint greenish. "–": set the tint reddish. *5.* Press **SET** button to store the adjusted level in the memory. **Note:** Tint control is valid on AV and DTV (component video) input.
Sharpness 	Mode 1	*1.* Press **MENU** button a few times to select Mode 1. *2.* Press + or – button a few times to select "SHARPNESS" control. *3.* Press **SET** button. *4.* Press + or – button a few times to get the desired level. "+": enhance the details of the image. "–": decrease the enhancement in the case of an image which is already enhanced. *5.* Press **SET** button to store the adjusted level in the memory. **Note:** Sharpness control is valid on AV and DTV (component video) input.

Detail operation

Item	Mode	How to adjust
White Balance R High Light R↔B then R	Mode 1	*1.* Press **MENU** button a few times to select Mode 1. *2.* Press + or – button a few times to select "C. TEMP" control. *3.* Press **SET** button. Then the sub-menu appears on the CRT screen. *4.* Press + or – button a few times to select "user H" control. *5.* Press **SET** button. Then the main-menu appears again. *6.* Press + or – button a few times to select "WHT BAL R" control. *7.* Press **SET** button. Then the sub-menu appears on the CRT screen. *8.* Press + or – button a few times to get the desired level. "+": set the red high light intensity higher. (set the picture white balance reddish) "–": set the red high light intensity lower. (set the picture white balance towards cyan) *9.* Press **SET** button to store the correction in the memory. **Note:** If "C. TEMP" control is kept in "user H" mode, item 2 through 5 can be skipped.
White Balance G High Light R↔B then G	Mode 1	*1.* Press **MENU** button a few times to select Mode 1. *2.* Press + or – button a few times to select "C. TEMP" control. *3.* Press **SET** button. Then the sub-menu appears on the CRT screen. *4.* Press + or – button a few times to select "user H" control. *5.* Press **SET** button. Then the main-menu appears again. *6.* Press + or – button a few times to select "WHT BAL G" control. *7.* Press **SET** button. Then the sub-menu appears on the CRT screen. *8.* Press + or – button a few times to get the desired level. "+": set the green high light intensity higher. (set the picture white balance greenish) "–": set the green high light intensity lower. (set the picture white balance towards magenta) *9.* Press **SET** button to store the correction in the memory. **Note:** If "C. TEMP" control is kept in "user H" mode, item 2 through 5 can be skipped.
White Balance B High Light R↔B then B	Mode 1	*1.* Press **MENU** button a few times to select Mode 1. *2.* Press + or – button a few times to select "C. TEMP" control. *3.* Press **SET** button. Then the sub-menu appears on the CRT screen. *4.* Press + or – button a few times to select "user H" control. *5.* Press **SET** button. Then the main-menu appears again. *6.* Press + or – button a few times to select "WHT BAL B" control. *7.* Press **SET** button. Then the sub-menu appears on the CRT screen. *8.* Press + or – button a few times to get the desired level. "+": set the blue high light intensity higher. (set the picture white balance bluish) "–": set the blue high light intensity lower. (set the picture white balance towards yellow) *9.* Press **SET** button to store the correction in the memory. **Note:** If "C. TEMP" control is kept in "user H" mode, item 2 through 5 can be skipped.

Item	Mode	How to adjust
White Balance R Low Light R↔B then R	Mode 1	*1.* Press **MENU** button a few times to select Mode 1. *2.* Press + or – button a few times to select "C. TEMP" control. *3.* Press **SET** button. Then the sub-menu appears on the CRT screen. *4.* Press + or – button a few times to select "user L" control. *5.* Press **SET** button. Then the main-menu appears again. *6.* Press + or – button a few times to select "WHT BAL R" control. *7.* Press **SET** button. Then the sub-menu appears on the CRT screen. *8.* Press + or – button a few times to get the desired level. "+": set the red low light intensity higher. (set the picture white balance reddish) "–": set the red low light intensity lower. (set the picture white balance towards cyan) *9.* Press **SET** button to store the correction in the memory. **Note:** If "C. TEMP" control is kept in "user L" mode, item 2 through 5 can be skipped.
White Balance G Low Light R↔B then G	Mode 1	*1.* Press **MENU** button a few times to select Mode 1. *2.* Press + or – button a few times to select "C. TEMP" control. *3.* Press **SET** button. Then the sub-menu appears on the CRT screen. *4.* Press + or – button a few times to select "user L" control. *5.* Press **SET** button. Then the main-menu appears again. *6.* Press + or – button a few times to select "WHT BAL G" control. *7.* Press **SET** button. Then the sub-menu appears on the CRT screen. *8.* Press + or – button a few times to get the desired level. "+": set the green low light intensity higher. (set the picture white balance greenish) "–": set the green low light intensity lower. (set the picture white balance towards magenta) *9.* Press **SET** button to store the correction in the memory. **Note:** If "C. TEMP" control is kept in "user L" mode, item 2 through 5 can be skipped.
White Balance B Low Light R↔B then B	Mode 1	*1.* Press **MENU** button a few times to select Mode 1. *2.* Press + or – button a few times to select "C. TEMP" control. *3.* Press **SET** button. Then the sub-menu appears on the CRT screen. *4.* Press + or – button a few times to select "user L" control. *5.* Press **SET** button. Then the main-menu appears again. *6.* Press + or – button a few times to select "WHT BAL B" control. *7.* Press **SET** button. Then the sub-menu appears on the CRT screen. *8.* Press + or – button a few times to get the desired level. "+": set the blue low light intensity higher. (set the picture white balance bluish) "–": set the blue low light intensity lower. (set the picture white balance towards yellow) *9.* Press **SET** button to store the correction in the memory. **Note:** If "C. TEMP" control is kept in "user L" mode, item 2 through 5 can be skipped.

Detail operation

Item	Mode	How to adjust
Color Temperature Select 	Mode 1	Three color temperatures can be selected. Two are fixed at 6500K and 9300K. The third is adjustable by the user. When "user L" or "user H" is selected, the gain controls can be adjusted as described above to achieve an alternative color temperature. *1.* Press **MENU** button a few times to select Mode 1. *2.* Press + or – button a few times to select "C. TEMP" control. *3.* Press **SET** button. Then the sub-menu appears on the CRT screen *4.* The cursor is located on the selected mode. Press + or – button a few times to get the desired mode. *5.* Press **SET** button to store the selected mode in the memory.
Memory Recall 	Mode 1	The DT-2750MS has factory preset memory of the control data for 24 kinds of signals. Memory recall allows you to use the factory preset data instead of the user adjustment data. When you recall the control data, you can recall the data for either all 20 signals or the currently displayed signal. *1.* Press **MENU** button a few times to select Mode 1. *2.* Press + or – button a few times to select "RECALL" control. *3.* Press **SET** button. Then the sub-menu appears on the CRT screen *4.* Press + or – button a few times to shift the cursor onto the position you want to recall ("Current" signal only or "All" 24 signals). *5.* Press **SET** button to execute.
Degauss 	Mode 1	*1.* Press **MENU** button a few times to select Mode 1. *2.* Press + or – button a few times to select "DEGAUSS" control. *3.* Press **SET** button to execute.
Mute 	Mode 1	*1.* Press **MENU** button a few times to select Mode 1. *2.* Press + or – button a few times to select "MUTE" control. *3.* Press **SET** button to mute the audio. The message "MUTE" will remain displayed on the screen. Press **SET** button again to un-mute the audio.
Vertical Size 	Mode 2	*1.* Press **MENU** button a few times to select Mode 2. *2.* Press + or – button a few times to select "V. SIZE" control. *3.* Press **SET** button. *4.* Press + or – button a few times to adjust the vertical size of the image. "+": set the height larger. "–": set the height smaller. *5.* Press **SET** button to store the correction in the memory.
Vertical Position 	Mode 2	*1.* Press **MENU** button a few times to select Mode 2. *2.* Press + or – button a few times to select "V. POSI" control. *3.* Press **SET** button. *4.* Press + or – button a few times to move the image vertically. "+": move the image upward. "–": move the image downward. *5.* Press **SET** button to store the correction in the memory.
Horizontal Size 	Mode 2	*1.* Press **MENU** button a few times to select Mode 2. *2.* Press + or – button a few times to select "H. SIZE" control. *3.* Press **SET** button. *4.* Press + or – button a few times to adjust the horizontal size of the image. "+": set the width larger. "–": set the width smaller. *5.* Press **SET** button to store the correction in the memory.

Item	Mode	How to adjust
Horizontal Position 	Mode 2	*1.* Press **MENU** button a few times to select Mode 2. *2.* Press + or – button a few times to select "H. POSI" control. *3.* Press **SET** button. *4.* Press + or – button a few times to move the image horizontally. "+": move the image right. "–": move the image left. *5.* Press **SET** button to store the correction in the memory.
Side Pincushion 	Mode 2	The side-pincushion distortion level (shape of image sides) can be set. *1.* Press **MENU** button a few times to select Mode 2. *2.* Press + or – button a few times to select "SIDE PIN" control. *3.* Press **SET** button. *4.* Press + or – button a few times to move the image sides. "+": move the image outward (concave). "–": move the image inward (convex). *5.* Press **SET** button to store the correction in the memory.
Trapezoid 	Mode 2	*1.* Press **MENU** button a few times to select Mode 2. *2.* Press + or – button a few times to select "TRAPEZOID" control. *3.* Press **SET** button. *4.* Press + or – button a few times to adjust the trapezoidal distortion level (top or bottom image width). "+": make the top of the image wider. "–": make the bottom of the image wider. *5.* Press **SET** button to store the correction in the memory.
Parallelogram 	Mode 2	*1.* Press **MENU** button a few times to select Mode 2. *2.* Press + or – button a few times to select "PARALLEL" control. *3.* Press **SET** button. *4.* Press + or – button a few times to adjust the parallelogram. "+": shift the top of the image to the left. "–": shift the top of the image to the right. *5.* Press **SET** button to store the correction in the memory.
Corner Side-Pincushion 	Mode 2	Corner side-pincushion control can be adjusted the top and bottom corner shape. *1.* Press **MENU** button a few times to select Mode 2. *2.* Press + or – button a few times to select "SPIN COR" control. *3.* Press **SET** button. *4.* Press + or – button a few times to move the image sides. "+": move the image outward (concave). "–": move the image inward (convex). *5.* Press **SET** button to store the correction in the memory.
Side-Pincushion Balance 	Mode 2	Side-pincushion balance control can be adjusted the shape of the vertical bow. *1.* Press **MENU** button a few times to select Mode 2. *2.* Press + or – button a few times to select "SPIN BAL" control. *3.* Press **SET** button. *4.* Press + or – button a few times to adjust the balance. "+": move the left image outward (concave), the right image inward (convex). "–": move the right image outward (concave), the left image inward (convex). *5.* Press **SET** button to store the correction in the memory.

Detail operation

Item	Mode	How to adjust
Raster Rotation 	Mode 2	*1.* Press **MENU** button a few times to select Mode 2. *2.* Press + or – button a few times to select "ROTATION" control. *3.* Press **SET** button. *4.* Press + or – button a few times to adjust the rotation. "+": rotate the raster clockwise. "–": rotate the raster counter-clockwise. *5.* Press **SET** button to store the correction in the memory.
H. Moire **HM**	Mode 2	H. Moire control can smoothen "wrinkles" or "waves" that may occur in some parts of a picture. *1.* Press **MENU** button a few times to select Mode 2. *2.* Press + or – button a few times to select "H. MOIRE" control. *3.* Press **SET** button. *4.* Press + or – button a few times to adjust the moire. "+": increase the level of moire concealment. "–": decrease the level of moire concealment. Concealment is effective in the horizontal direction. *5.* Press **SET** button to store the correction in the memory.
Input Signal Status Display 	Mode 2	*1.* Press **MENU** button a few times to select Mode 2. *2.* Press + or – button a few times to select "SIGNAL" control. *3.* Press **SET** button. Then the screen indicates "f_H" and "fv". Press **SET** or **MENU** button to return to Mode 2.
Monitor ID Code Selection **ID**	Mode 2	The monitor identification No. (Monitor ID) can be set up to 10 (0 – 9) on DT-2750MS. When you use plural units of DT-2750MS simultaneously, you can address via the wireless remote control, an individual DT-2750MS. (See the wireless remote control for the detail operation) *1.* Press **MENU** button a few times to select Mode 2. *2.* Press + or – button a few times to select "ID CODE" control. *3.* Press **SET** button. Then the sub-menu appears on the CRT screen. *4.* Press + or – button a few times to select the monitor ID code. *5.* Press **SET** button to store the correction in the memory.
RS-232C Speed Selection **RS**	Mode 2	*1.* Press **MENU** button a few times to select Mode 2. *2.* Press + or – button a few times to select "RS-232C" control. *3.* Press **SET** button. Then the sub-menu appears on the CRT screen. *4.* Press + or – button a few times to select the RS-232C speed. *5.* Press **SET** button to store the correction in the memory.
Clamp Pulse Width Selection **CS**	Mode 2	*1.* Press **MENU** button a few times to select Mode 2. *2.* Press + or – button a few times to select "Clamp Pulse Width Selection" control. *3.* Press **SET** button. Then the sub-menu appears on the CRT screen. *4.* Press + or – button a few times to select "NORMAL" or "NARROW". **Note:** Usually you can select "NORMAL". But, if you see the video sag on the CRT screen, select "NARROW". *5.* Press **SET** button to store the correction in the memory.
Aspect Ratio Selection **AP**	Mode 2	*1.* Press **MENU** button a few times to select Mode 2. *2.* Press + or – button a few times to select "ASPECT" control. *3.* Press **SET** button. Then the sub-menu appears on the CRT screen. *4.* Press + or – button a few times to select the aspect ratio. *5.* Press **SET** button to store the correction in the memory.

Memories

This monitor has three types of memory to store the data sets in. These control the on-screen image. The first type is the **user memory**. The second type is the **preset memory** which is preset by the factory (See pages 39 – 42 for Timing).
The third type is the **last status memory**. All user control settings for the on-screen image are automatically saved approximately **6 seconds** after the last adjustment, or saved by pressing **SET** button from the on-screen display control.

User memory

(10 user memories available besides factory presets)

The user control data sets are stored in the **user memory**. The **user memory** and the **preset memory** control the horizontal size, vertical size, horizontal centering, vertical centering, brightness, contrast, side-pincushion, trapezoid, color, tint, sharpness, volume, H. moire, side-pin corner, side-pin balance, parallel and aspect ratio adjustments of the displayed image.

The **user memory** has priority over the **preset memory**, see the figure on page 36, signal discrimination flowchart.

If the **user memory** is completely used and a new set of user control data is saved, the oldest data set in the user memory is deleted and the new data set is automatically saved approximately **6 seconds** after the last adjustment, or saved by pressing **SET** button from the on-screen display control.

Last status memory

(Only for input mode)

The **last status memory** decides the status of the input mode just after the monitor is turned on with the main power switch and power switch.
The **last status memory** stores the statuses just before the monitor is turned off.

When the monitor is turned on, this mode is set to the same as the previous status.

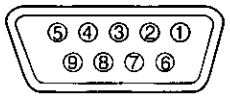
RS-232C communication

The DT-2750MS has an RS-232C connector on the rear panel. Users can control brightness, contrast, horizontal centering, vertical centering, horizontal size, vertical size, color, tint, sharpness, volume, mute, input select, degauss, color temperature, side-pincushion, trapezoid, power ON/OFF, memory recall, rotation, parallel, side-pin corner, side-pin balance, white balance (user) and OSD control with a computer by connecting an RS-232C cable.

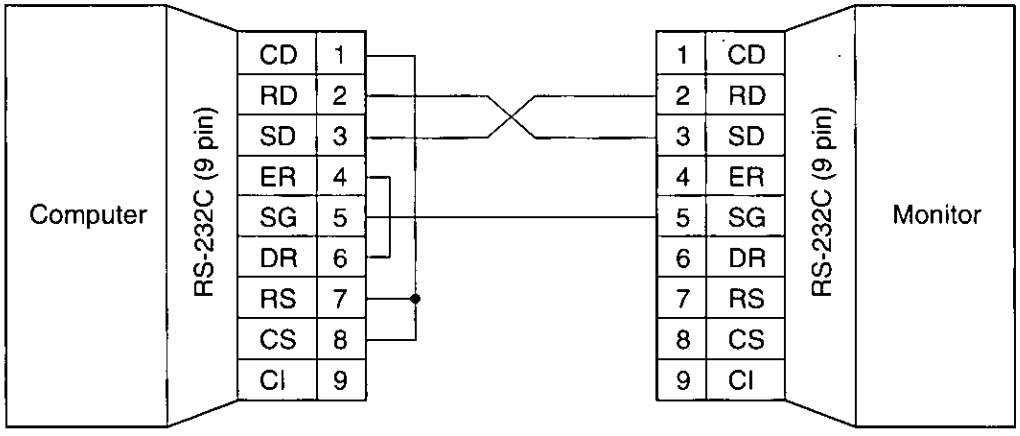
1. Computer — Monitor connection

Input connector

RS-232C

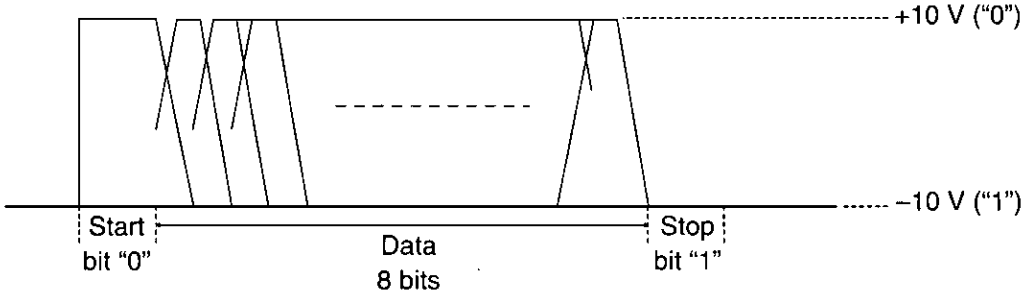


D-sub 9 pin

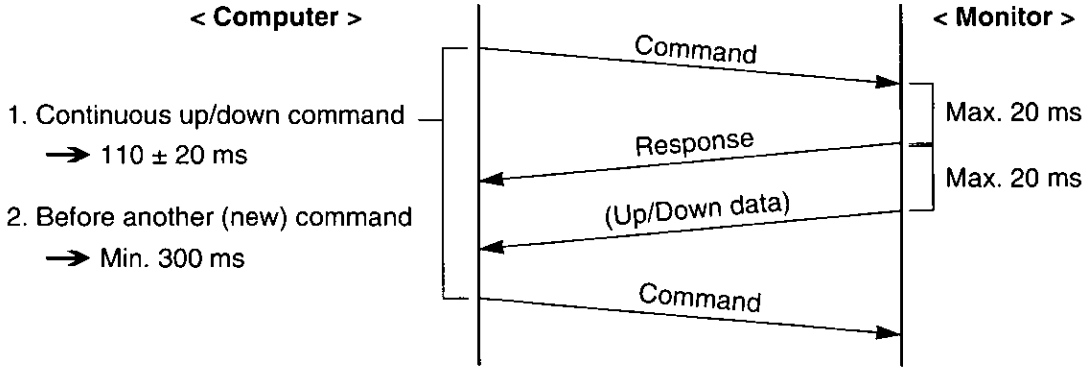


Protocol

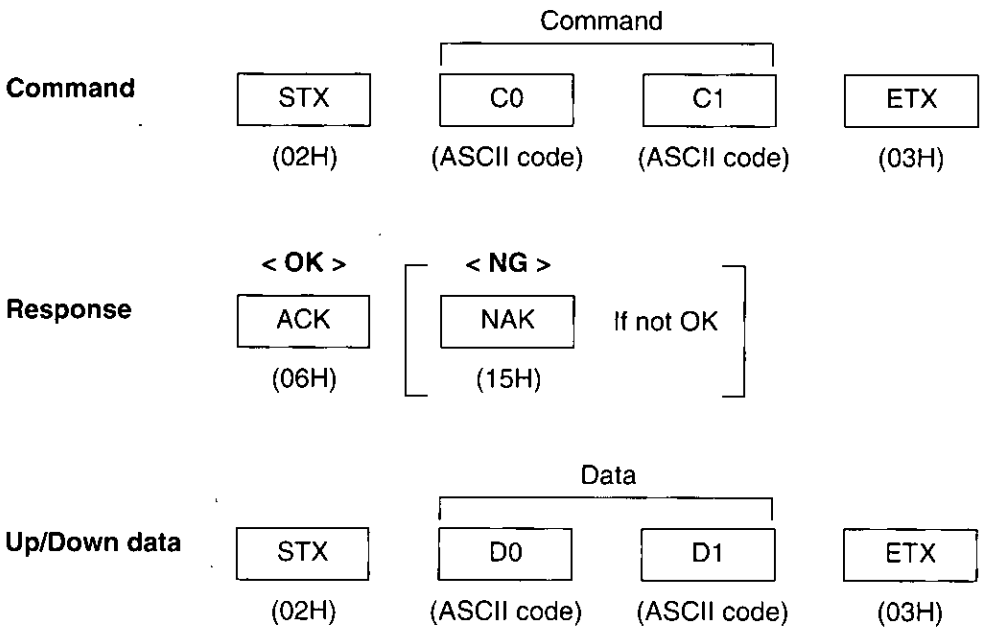
Speed	: 2400 bps, 9600 bps, 14400bps, 28800 bps → Select
Non-parity	
Data	: 8 bit
Stop bit	: 1 bit



Data interval



2. Communication format



3. Up/Down data code

Update data	Code data		ASCII code	
	D0	D1	D0	D1
Min.	00		30H	30H
≀	≀		≀	≀
Max.	63		36H	33H

4. Command code table

Command		Command		ASCII code		Note
		C0	C1	C0	C1	
Power	ON	0	1	30H	31H	1
	OFF	0	2	30H	32H	
RGB1	Select	0	3	30H	33H	1
RGB2	Select	0	4	30H	34H	1
AV1	Select	0	5	30H	35H	1
AV2	Select	0	6	30H	36H	1
DTV	Select	0	7	30H	37H	1
Mute	ON	0	8	30H	38H	1
	OFF	0	9	30H	39H	
Color	9300K	0	A	30H	41H	
temperature	6500K	0	B	30H	42H	1
	User	0	C	30H	43H	
Degauss	ON	0	D	30H	44H	1
Recall	Current	0	E	30H	45H	1
	All	0	F	30H	46H	
White	Low	1	0	31H	30H	2
balance	High	1	1	31H	31H	
Volume	Up	2	0	32H	30H	1
	Down	2	1	32H	31H	
Bright	Up	2	2	32H	32H	1
	Down	2	3	32H	33H	
Contrast	Up	2	4	32H	34H	1
	Down	2	5	32H	35H	
Color	Up	2	6	32H	36H	1
	Down	2	7	32H	37H	
Tint	Up	2	8	32H	38H	1
	Down	2	9	32H	39H	
Sharpness	Up	2	A	32H	41H	1
	Down	2	B	32H	42H	

Command		Command		ASCII code		Note
		C0	C1	C0	C1	
V. Size	Up	2	C	32H	43H	1
	Down	2	D	32H	44H	
V. Position	Up	2	E	32H	45H	1
	Down	2	F	32H	46H	
H. Size	Up	3	0	33H	30H	1
	Down	3	1	33H	31H	
H. Position	Up	3	2	33H	32H	1
	Down	3	3	33H	33H	
Side pin	Up	3	4	33H	34H	1
	Down	3	5	33H	35H	
Trapezoid	Up	3	6	33H	36H	1
	Down	3	7	33H	37H	
Rotation	Up	3	8	33H	38H	1
	Down	3	9	33H	39H	
Parallel	Up	3	A	33H	41H	1
	Down	3	B	33H	42H	
Side pin	Up	3	C	33H	43H	1
corner	Down	3	D	33H	44H	
Side pin	Up	3	E	33H	45H	1
balance	Down	3	F	33H	46H	
White balance	Up	4	0	34H	30H	2
Red	Down	4	1	34H	31H	
White balance	Up	4	2	34H	32H	2
Green	Down	4	3	34H	33H	
White balance	Up	4	4	34H	34H	2
Blue	Down	4	5	34H	35H	
	Menu	8	0	38H	30H	
OSD control	Set	8	1	38H	31H	1
	Up	8	2	38H	32H	
	Down	8	3	38H	33H	

Note: Composing RS-232C commands

1 Choose a value of C0 C1 from the table that corresponds to the desired command. Transmit it in accordance with the previously described protocol.
Commands that only select, or turn a function on or off, need only to be sent once.
Commands that change a value ("Up" or "Down") should be sent repeatedly, until the desired value is reached.
Memorization of the final value takes place one second after transmission stops.

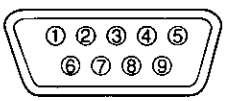
2 A few commands, marked with "2", require an extra step:
The Up/Down commands for white balance should only be sent after "User-H" or "User-L" has been pre-selected. In other words, first transmit 10 or 11 to set "White balance Low/High" to the desired mode: Low light (background) adjustment or highlight adjustment. After that, send the command to change the R, G, or B value for white balance up or down. Send that command repeatedly, etc, as with any Up/Down command.
It is not necessary to send OC before sending 10 or 11. Only use the OC command in the same way that OA or OB is used: To select the screen's color temperature for viewing (9300K, 6500K, or User).
Values for 9300K and 6500K have been set at the factory, and cannot be re-balanced by user software.

Simplified wired communication

The DT-2750MS can support the simplified wired communication with 9P D-sub connector.
The customer can control "Power ON/OFF" and "Input signal select" by setting 3 pins of a 9P D-sub to high or low level.
These are 3 of the unused pins on the same connector that is provided for RS-232C control. (RS-232C requires only 2 pins and a ground.)

1. 9 pin D-sub pin assignment

RS-232C



D-sub 9 pin

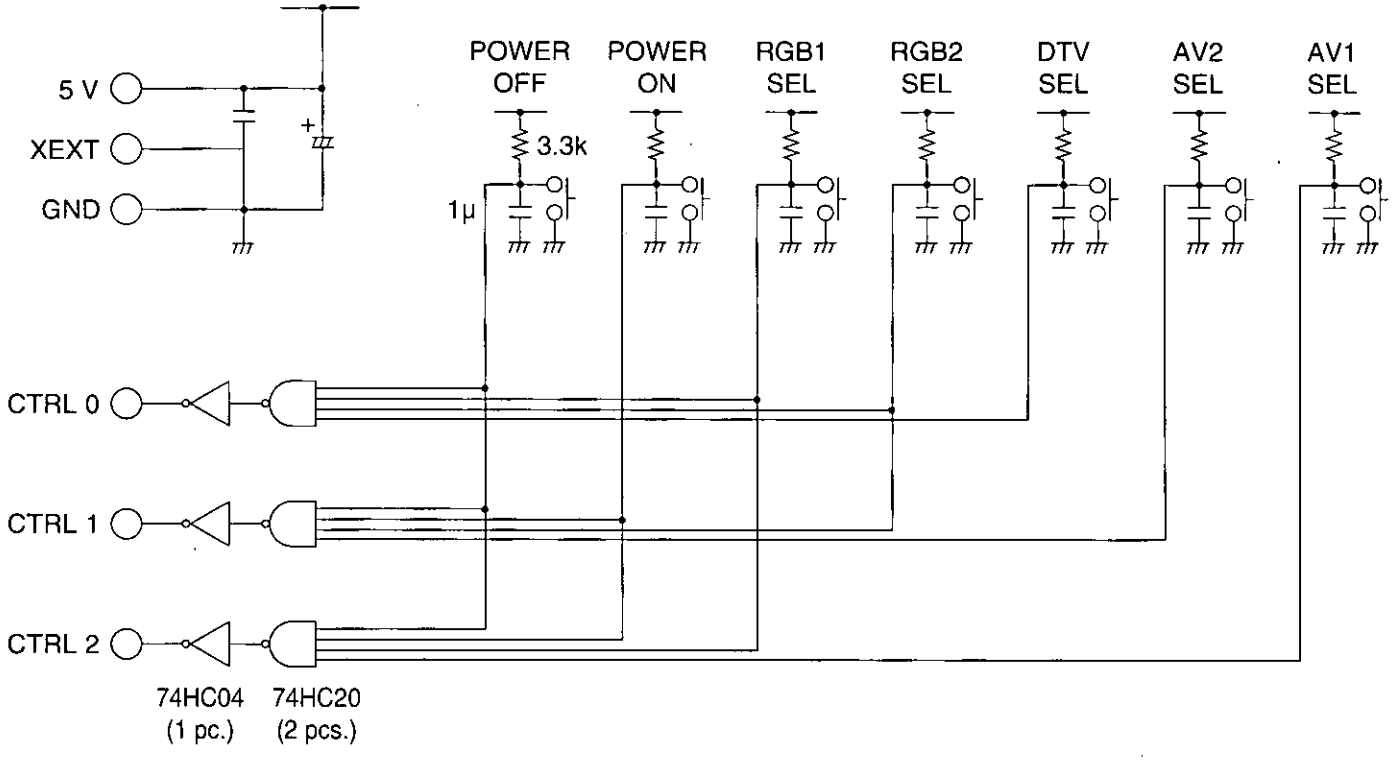
Pin No.	Signal	Assignment
1	XTEST	Open
2	RXD	Used for RS-232C communication
3	TXD	Used for RS-232C communication
4	5V (STAND BY)	Used for the simplified wired remote control
5	GND	———
6	XEXT-ACTIVE	Used for the simplified wired remote control
7	EXT-CTRL 0	Used for the simplified wired remote control
8	EXT-CTRL 1	Used for the simplified wired remote control
9	EXT-CTRL 2	Used for the simplified wired remote control

2. Command table of the simplified wired remote control

EXT-CTRL			Action command
2	1	0	
0	0	0	POWER OFF
0	0	1	POWER ON
0	1	0	RGB1 SELECT
0	1	1	AV1 SELECT
1	0	0	RGB2 SELECT
1	0	1	AV2 SELECT
1	1	0	DTV SELECT
1	1	1	Null

Note: To make the simplified wired communication active, XEXT-ACTIVE terminal (#6 pin) should be connected to the ground.
When the simplified wired communication is active, control via front panel, wireless remote control unit, and RS-232C communication are disabled.

3. Example of external control circuit diagram



Power management

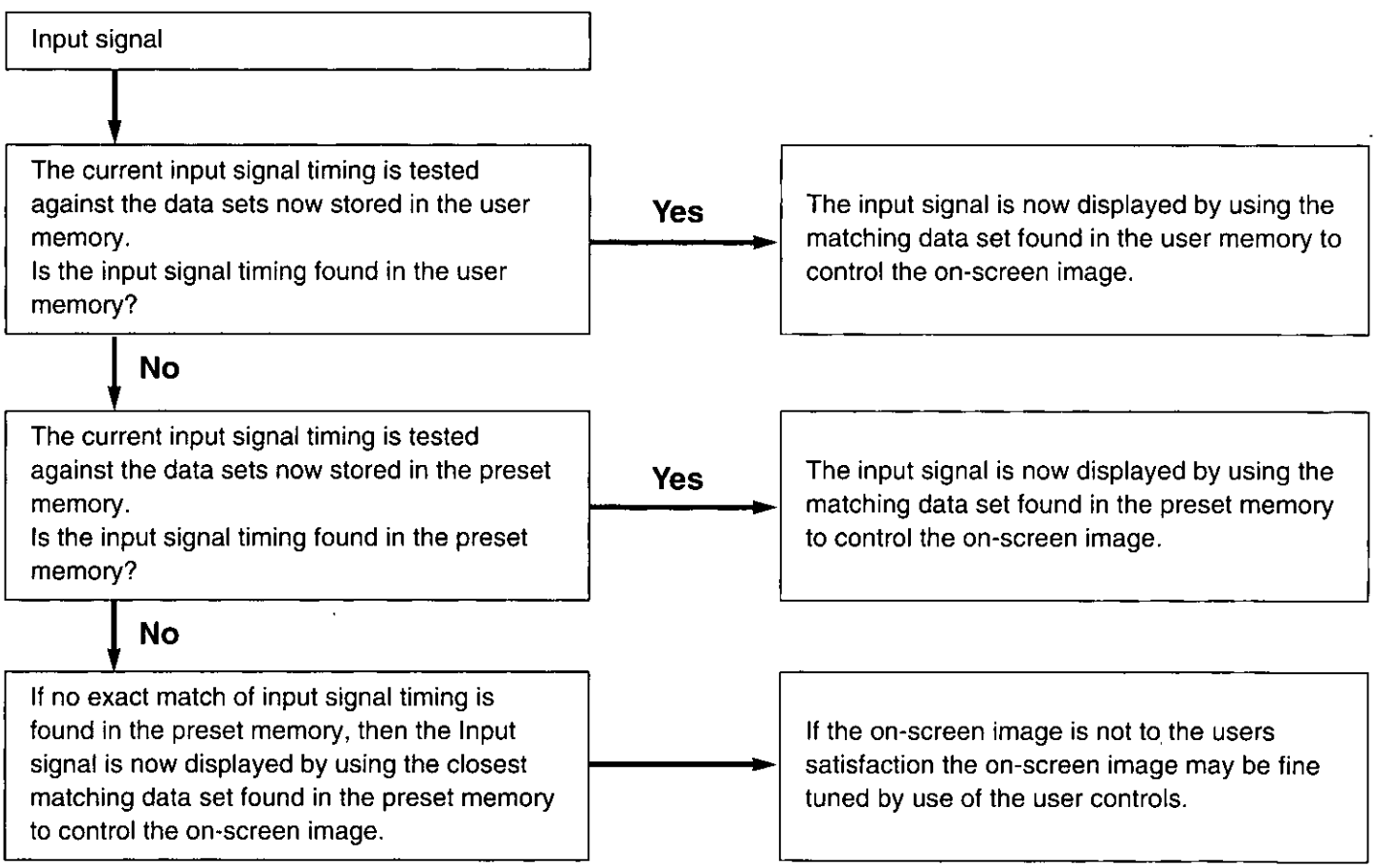
The DT-2750MS is equipped with power management circuitry, conforming to the VESA DPMS. Depending on the signal from a computer, switching occurs between four modes to minimize non-essential energy consumption.

Signal from PC			
State	Signals		
	Horizontal	Vertical	Video
ON	Yes	Yes	Active
Stand-by (Sleep)	No	Yes	Blanked
Suspended (Sleep)	Yes	No	Blanked
Active off (Deep sleep)	No	No	Blanked

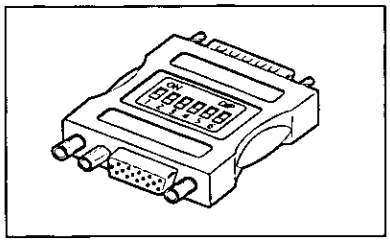
Monitor state at 120 VAC		
State	Power consumption	Power LED
Active	Normal	Green
Stand-by (Sleep)	Approx. 15 W	Flashing (Interval 1 sec.)
Suspended (Sleep)	Approx. 15 W	
Active off (Deep sleep)	Approx. 8 W	Flashing (Interval 3 sec.)

Note: Power management circuitry does not work for AV and DTV inputs modes.

Signal discrimination flowchart



Option



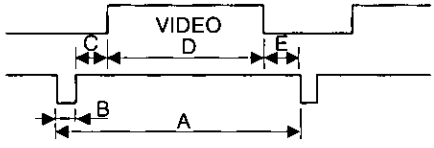
- MAC→VGA adaptor is available as the optional use when you use a MAC computer.
  Please order as ET-ADMACU.
- Pin Assignments

Signal	15 pin HD D-sub	15 pin D-sub	Signal	15 pin HD D-sub	15 pin D-sub
Sense	0	4	Blue Video	3	9
Sense	1	7	Blue GND	8	13
Sense	2	10	H. Sync GND	10	14 11
Red Video	1	2	C. Sync	5	3
Red GND	6	1	H. Sync	13	15
Green Video	2	5	V. Sync	14	12
Green GND	7	6		Shell	Shell

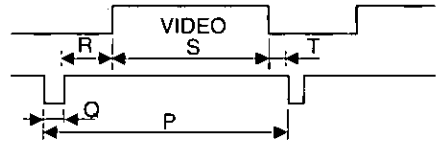
Timing charts for preset memory

Separate Sync.

Horizontal

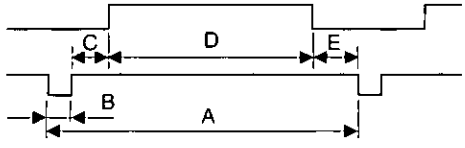


Vertical

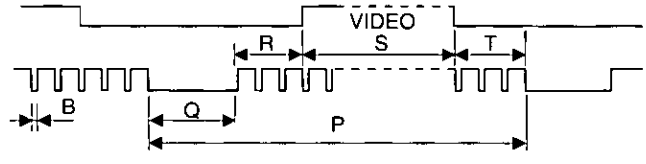


H/V Composite Sync.

Horizontal

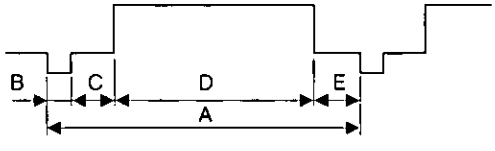


Vertical

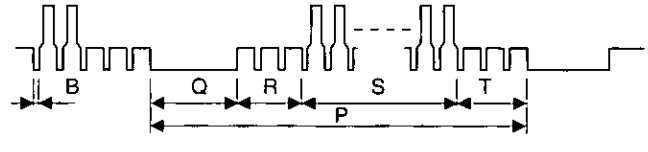


Sync. on Green

Horizontal



Vertical



Preset timing

This monitor will auto size and center with boards which use the following timings (17 modes).

Mode / Signal Timing	IBM		VESA	
	VGA	VGA	SVGA / 56 Hz	SVGA / 60 Hz
	640 x 400	640 x 480	800 x 600	800 x 600
fH (kHz)	31.47	31.47	35.156	37.879
A µs (Line time total)	31.775	31.775	28.444	26.4
B µs (Sync pulse)	3.813	3.813	2.0	3.2
C µs (Back porch)	1.907	1.907	3.556	2.2
D µs (Active)	25.42	25.42	22.222	20.0
E µs (Front porch)	0.636	0.636	0.667	1.0
fv (Hz)	70.09	59.95	56.25	60.317
P ms (Frame time total)	14.267	16.682	17.778	16.579
Q ms (Sync pulse)	0.064	0.064	0.057	0.106
R ms (Back porch)	1.112	1.049	0.626	0.607
S ms (Active)	12.71	15.252	17.067	15.84
T ms (Front porch)	0.381	0.318	0.028	0.026
H. Sync polarity	Negative	Negative	Positive or Negative	Positive
V. Sync polarity	Positive	Negative	—	Positive

Mode / Signal Timing	VESA			
	SVGA / 75 Hz	SVGA / 85 Hz	VGA2	VGA
	800 x 600	800 x 600	640 x 400	640 x 480
fH (kHz)	46.875	53.674	37.861	37.5
A µs (Line time total)	21.333	18.631	26.413	26.667
B µs (Sync pulse)	1.616	1.138	2.032	2.032
C µs (Back porch)	3.232	2.702	3.048	3.810
D µs (Active)	16.162	14.222	20.317	20.317
E µs (Front porch)	0.323	0.569	1.016	0.508
fv (Hz)	75	85.061	85.080	75
P ms (Frame time total)	13.333	11.756	11.754	13.333
Q ms (Sync pulse)	0.064	0.056	0.079	0.080
R ms (Back porch)	0.448	0.503	1.083	0.427
S ms (Active)	12.800	11.179	10.565	12.800
T ms (Front porch)	0.021	0.019	0.026	0.027
H. Sync polarity	Positive	Positive	Negative	Negative
V. Sync polarity	Positive	Positive	Positive	Negative

Preset timing

Mode / Signal Timing	VESA			
	VGA	48 kHz / 60 Hz	56 kHz / 70 Hz	XGA
	640 x 480	1024 x 768	1024 x 768	1024 x 768
fH (kHz)	43.269	48.363	56.476	60.023
A µs (Line time total)	23.111	20.677	17.707	16.660
B µs (Sync pulse)	1.556	2.092	1.813	1.219
C µs (Back porch)	2.222	2.462	1.92	2.235
D µs (Active)	17.778	15.754	13.653	13.003
E µs (Front porch)	1.556	0.369	0.32	0.203
fv (Hz)	85.008	60	70.069	75.029
P ms (Frame time total)	11.764	16.667	14.272	13.328
Q ms (Sync pulse)	0.069	0.124	0.106	0.050
R ms (Back porch)	0.578	0.6	0.513	0.466
S ms (Active)	11.093	15.88	13.599	12.795
T ms (Front porch)	0.023	0.062	0.053	0.017
H. Sync polarity	Negative	Sync. on green	Positive or Negative	Positive
V. Sync polarity	Negative	—	—	Positive

Mode / Signal Timing	VESA		
	SXGA	UXGA	UXGA
	1280 x 1024	1600 x 1200	1600 x 1200
fH (kHz)	79.976	87.50	93.75
A µs (Line time total)	12.504	11.429	10.667
B µs (Sync pulse)	1.067	1.016	0.948
C µs (Back porch)	1.837	1.608	1.501
D µs (Active)	9.481	8.466	7.902
E µs (Front porch)	0.119	0.339	0.316
fv (Hz)	75.025	70.00	75.00
P ms (Frame time total)	13.329	14.286	13.333
Q ms (Sync pulse)	0.038	0.034	0.032
R ms (Back porch)	0.475	0.526	0.491
S ms (Active)	12.803	13.715	12.799
T ms (Front porch)	0.013	0.011	0.011
H. Sync polarity	Positive	Positive	Positive
V. Sync polarity	Positive	Positive	Positive

Mode / Signal Timing	Apple	
	Mac II	Mac Quadra
	640 x 480	1152 x 870
fH (kHz)	35.0	68.6813
A µs (Line time total)	28.571	14.560
B µs (Sync pulse)	2.116	1.280
C µs (Back porch)	3.175	1.440
D µs (Active)	21.164	11.520
E µs (Front porch)	2.116	0.320
fv (Hz)	66.67	75.0616
P ms (Frame time total)	15.0	13.323
Q ms (Sync pulse)	0.086	0.044
R ms (Back porch)	1.114	0.568
S ms (Active)	13.714	12.667
T ms (Front porch)	0.086	0.044
H. Sync polarity	Composite, Negative and Sync on green	Positive
V. Sync polarity	—	Positive

Specifications

Power source:	100 – 240 Volts AC 50/60 Hz
Power consumption:	260 Watts max.
Dimensions (W x H x D):	26 3/4" x 22 3/5" x 20 7/8" (678 x 575 x 530 mm)
Weight:	127.6 Lb. (58 kg)
Picture tube:	27" diagonal, flat square, invar shadow mask, P22 phosphor
Dot pitch:	0.6 mm
Maximum brightness:	65 ft-L at center white peak
Horizontal resolution:	
RGB:	1024 x 768 @75 Hz (1600 x 1200 @75 Hz emulation)
Video:	600 TV lines
Bandwidth:	
RGB:	40 MHz
Video:	6 MHz
Scan frequencies:	
Horizontal:	15 kHz, 30 – 95 kHz
Vertical:	45 – 120 Hz
Supported standards:	
Composite video:	NTSC / NTSC 4.43 / PAL / PAL 60 / SECAM
S-video:	NTSC / NTSC 4.43 / PAL / PAL 60 / SECAM
Computer:	VGA 720 x 400 (up to 85 Hz) VGA 640 x 480 (up to 85 Hz) SVGA 800 x 600 (up to 85 Hz) XGA 1024 x 768 (up to 75 Hz) SXGA 1280 x 1024 (up to 75 Hz) UXGA 1600 x 1200 (up to 75 Hz) Mac II 640 x 480 (67 Hz) Mac Quadra 832 x 624 (75Hz) Mac Quadra 1152 x 870 (75 Hz)
Component video:	480i, 480p, 1080i, 720p
Internal audio amplifier:	5 Watts (x 2)
Remote control Connector:	RS-232C D-sub 9 pin
Input:	
Front Computer:	15-pin HD D-sub (x 1)
Video:	RCA (x 1)
S-video:	4-pin DIN (x 1)
Audio:	RCA for video (x 1 pair)
Back Computer:	15-pin HD D-sub, BNC (x 5)
Video:	RCA (x 1) BNC (x 1)
S-video:	4-pin DIN (x 1)
Audio:	RCA for video (x 1 pair) RCA for computer (x 1)
Component video:	BNC x 3 The common terminals of RGB input are used.

Output:	
Back Computer:	15-pin HD D-sub (x 1)
Video:	BNC (x 1)
S-video:	4-pin DIN (x 1)
Audio:	RCA for video (x 1 pair) RCA for computer (x 1 pair)
Speaker out:	Speaker jack (x 1 pair)
Digital memories:	
Factory presets:	24 modes 720 x 400 @70 Hz, IBM VGA 720 x 400 @85 Hz, IBM VGA 640 x 480 @60 Hz, IBM VGA 640 x 480 @67 Hz, Apple Mac II 640 x 480 @75 Hz, VESA 640 x 480 @85 Hz 800 x 600 @56 Hz, VESA SVGA 800 x 600 @60 Hz, VESA SVGA 800 x 600 @75 Hz, VESA SVGA 800 x 600 @85 Hz 1024 x 768 @60 Hz, VESA XGA 1024 x 768 @70 Hz, VESA XGA 1024 x 768 @75 Hz, VESA XGA 1152 x 870 @75 Hz, Mac Quadra 1280 x 1024 @75 Hz 1600 x 1200 @70 Hz 1600 x 1200 @75 Hz NTSC, PAL, SECAM 480i, 480p, 1080i, 720p
User memories:	10 (Input selection, Volume, Brightness, Contrast, Sharpness, Color, Tint, H.size & position, V.size & position, Trapezoid, Side pincushion, Parallelogram, Side-pin balance and Side-pin corner)
User controls:	Power ON/OFF, Speaker select SW, BNC/HD D-sub select SW, 75 ohm/High select SW, Volume, Mute, Bright, Contrast, Color, Tint, Sharpness, White balance (High light), White balance (Low light), V-size, V-posi, H-size, H-posi, Side pin, Trapezoid, Parallelogram, Side-pin balance, Side-pin corner, Degauss, Input signal frequency display, Input signal select (Direct), Monitor ID, Color temperature select (9300K/6500K/User L/User H), Memory reset, Raster rotation, H-Moire, RS-232C speed select, Aspect ratio and Clamp SW

Regulations:	UL 1950, CSA 950, DHHS, FCC-A, DOC-A.
Accessories:	Power cable, 15 Pin HD D-sub cable, Handheld remote control unit
Environmental conditions:	
Operating temperature:	0 °C to +40 °C (32 °F to 104 °F)
Operating humidity:	20 % to 90 % Non-condensing
Operating altitude:	10,000 feet max.
Storage temperature:	-10 °C to +55 °C (14 °F to 131 °F)
Storage humidity:	5 % to 90 % Non-condensing
Storage altitude:	40,000 feet max.

Weight and dimensions shown are approximate.
Specifications and product design are subject to change without notice.
This product may be subject to export control regulations.

Memo

Panasonic®

Professional/Industrial Video

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