

JVC

SERVICE MANUAL

D-ILA PROJECTOR

DLA-S10E DLA-S10EK

BASIC CHASSIS
XA

Supplementary

Please use this OPERATING INSTRUCTION together with the DLA-S10E / DLA-S10EK SERVICE MANUAL (No.51428, Oct. 1998) previously issued.
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DLA-S10E
DLA-S10EK

OPERATING INSTRUCTIONS

JVC

D-LA™ PROJECTOR

BEDIENUNGSANLEITUNG : **D-LA™** PROJEKTOR

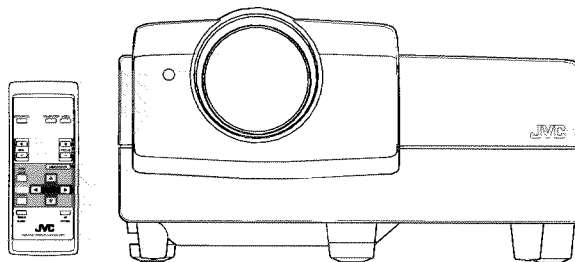
MANUEL D'INSTRUCTIONS : PROJECTEUR **D-LA™**

MANUALE D'ISTRUZIONI : PROIETTORE **D-LA™**

MANUAL DE INSTRUCCIONES : PROYECTOR **D-LA™**

DLA-S10E DLA-S10EK

INSTRUCTIONS



ENGLISH

DEUTSCH

FRANÇAIS

ITALIANO

ESPAÑOL

Thank you for purchasing this projector. Before using it, read and follow all instructions carefully to take full advantage of the projector's capabilities.

SAFETY PRECAUTIONS

IMPORTANT INFORMATION

WARNING :

TO PREVENT FIRE OR SHOCK HAZARDS, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

WARNING :

THIS APPARATUS MUST BE EARTHED.

CAUTION :

To reduce the risk of electric shock, do not remove cover.
Refer servicing to qualified service personnel.

MACHINE NOISE INFORMATION (Germany only)

Changes Machine Noise Information Ordinance 3. GSGV, January 18, 1991: The sound pressure level at the operator position is equal or less than 70 dB(A) according to ISO 7779.

About burning-in of the D-ILA device

Do not allow the same still picture to be projected for a long time or an abnormally bright video picture to be projected.

Do not project video images with high-intensity or high-contrast on a screen. The video image could be burned in to the D-ILA device.

Use special care when projecting video games or computer program images. There is no problem with ordinary video-cassette playback images.

IMPORTANT SAFEGUARDS

Electrical energy can perform many useful functions. This unit has been engineered and manufactured to assure your personal safety. But **IMPROPER USE CAN RESULT IN POTENTIAL ELECTRICAL SHOCK OR FIRE HAZARD**. In order not to defeat the safeguards incorporated into this product, observe the following basic rules for its installation, use and service. Please read these "Important Safeguards" carefully before use.

- All the safety and operating instructions should be read before the product is operated.
- The safety and operating instructions should be retained for future reference.
- All warnings on the product and in the operating instructions should be adhered to.
- All operating instructions should be followed.
- Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
- Do not use attachments not recommended by the product manufacturer as they may be hazardous.
- Do not use this product near water. Do not use immediately after moving from a low temperature to high temperature, as this causes condensation, which may result in fire, electric shock, or other hazards.
- Do not place this product on an unstable cart, stand, or table. The product may fall, causing serious injury to a child or adult, and serious damage to the product. The product should be mounted according to the manufacturer's instructions, and should use a mount recommended by the manufacturer.
- When the product is used on a cart, care should be taken to avoid quick stops, excessive force, and uneven surfaces which may cause the product and cart to overturn, damaging equipment or causing possible injury to the operator.
- Slots and openings in the cabinet are provided for ventilation. These ensure reliable operation of the product and protect it from overheating. These openings must not be blocked or covered. (The openings should never be blocked by placing the product on bed, sofa, rug, or similar surface. It should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided and the manufacturer's instructions have been adhered to.)



For proper ventilation, separate the product from other equipment, which may prevent ventilation and keep distance more than 50 cm.

- This product should be operated only with the type of power source indicated on the label. If you are not sure of the type of power supply to your home, consult your product dealer or local power company.

- This product is equipped with a three-wire plug. This plug will fit only into a grounded power outlet. If you are unable to insert the plug into the outlet, contact your electrician to install the proper outlet. Do not defeat the safety purpose of the grounded plug.

- Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them. Pay particular attention to cords at doors, plugs, receptacles, and the point where they exit from the product.

- For added protection of this product during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the cable system. This will prevent damage to the product due to lightning and power line surges.

- Do not overload wall outlets, extension cords, or convenience receptacles on other equipment as this can result in a risk of fire or electric shock.

- Never push objects of any kind into this product through openings as they may touch dangerous voltage points or short out parts that could result in a fire or electric shock. Never spill liquid of any kind on the product.

- Do not attempt to service this product yourself as opening or removing covers may expose you to dangerous voltages and other hazards. Refer all service to qualified service personnel.

- Unplug this product from the wall outlet and refer service to qualified service personnel under the following conditions:

- a) When the power supply cord or plug is damaged.
- b) If liquid has been spilled, or objects have fallen on the product.
- c) If the product has been exposed to rain or water.
- d) If the product does not operate normally by following the operating instructions. Adjust only those controls that are covered by the Operation Manual, as an improper adjustment of controls may result in damage and will often require extensive work by a qualified technician to restore the product to normal operation.
- e) If the product has been dropped or damaged in any way.
- f) When the product exhibits a distinct change in performance – this indicates a need for service.

- When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or with same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or other hazards.

- Upon completion of any service or repairs to this product, ask the service technician to perform safety checks to determine that the product is in proper operating condition.

- The product should be placed more than one foot away from heat sources such as radiators, heat registers, stoves, and other products (including amplifiers) that produce heat.

- When connecting other products such as VCRs, and personal computers, you should turn off the power of this product for protection against electric shock.

- Do not place combustibles behind the cooling fan. For example, cloth, paper, matches, aerosol cans or gas lighters that present special hazards when over heated.

- Do not look into the projection lens while the illumination lamp is turned on. Exposure of your eyes to the strong light can result in impaired eyesight.

- Do not look into the inside of this unit through vents (ventilation holes), etc. Do not look at the illumination lamp directly by opening the cabinet while the illumination lamp is turned on. The illumination lamp also contains ultraviolet rays and the light is so powerful that your eyesight can be impaired.

- Xenon gas is enclosed with high pressure inside the light-source lamp (lamp unit) of this projector. If you drop or impart a shock to the lamp, or discard it as is, there is the possibility of explosion, leading to personal injury.

- Use special care when handling the lamp. For any unclear points, consult your product dealer.

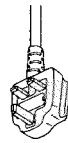
- Use only the accessory cord designed for this product to prevent shock.

- The power supply voltage rating of this product is AC 200 – 240 V, the power cord attached conforms to the following power supply voltage. Use only the power cord designated by our dealer to ensure Safety and EMC.

- When it is used by other power supply voltage, power cable must be changed.

- Consult your product dealer.

Power cord (Power supply voltage: AC 200 – 240 V)



For DLA-S10EK
(for United Kingdom)



For DLA-S10E
(for European continent countries)

***DO NOT allow any unqualified person to install the unit.**

Be sure to ask your dealer to install the unit (eg. attaching it to the ceiling) since special technical knowledge and skills are required for installation. If installation is performed by an unqualified person, it may cause personal injury or electrical shock.

POWER CONNECTION
(United Kingdom only)

WARNING

Do not cut off the main plug from this equipment.

If the plug fitted is not suitable for the power points in your home or the cable is too short to reach a power point, then obtain an appropriate safety approved extension lead or adapter or consult your dealer.

If nonetheless the mains plug is cut off, remove the fuse and dispose of the plug immediately, to avoid a possible shock hazard by inadvertent connection to the main supply.

If a new main plug has to be fitted, then follow the instruction given below:

WARNING:
THIS APPARATUS MUST BE EARTHED.

IMPORTANT

The wires in the mains lead on this product are coloured in accordance with the following cord:

Green-and-yellow : Earth
Blue : Neutral
Brown : Live

As these colours may not correspond with the coloured marking identifying the terminals in your plug, proceed as follows:

The wire which is coloured green-and-yellow must be connected to the terminal which is marked with the letter E or the safety earth or coloured green or green-and-yellow.

The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black.

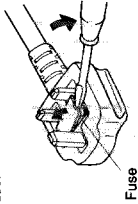
The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.

When replacing the fuse, be sure to use only a correctly rated approved type, re-fit the fuse cover.

IF IN DOUBT — CONSULT A COMPETENT ELECTRICIAN.

How To Replace The Fuse

Open the fuse compartment with the blade screwdriver, and replace the fuse.



Fuse

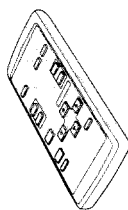
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* This manual is divided into five language sections: English, German, French, Italian, and Spanish.

Accessories

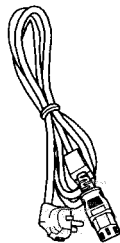
The following accessories are included with this projector. Check for them; if any item is missing, please contact your dealer.



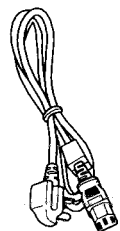
Remote control unit (RM-M10SG)



AAA/R03-size dry cell battery (x2)
(for checking operation)

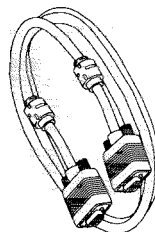


for DLA-S10E
(for European continent countries)

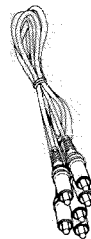


for DLA-S10EK
(for United Kingdom)
Power cord (approx. 2.5 m)

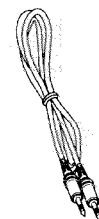
or



Personal computer connection cable
(approx. 2 m)
(D-sub, 3-row 15 pin)



AV connection cable
(approx. 1.5 m)



Audio cable
(approx. 3 m)
(3.5 mm dia. stereo mini plug)



Conversion adapter for Mac
(for Macintosh)

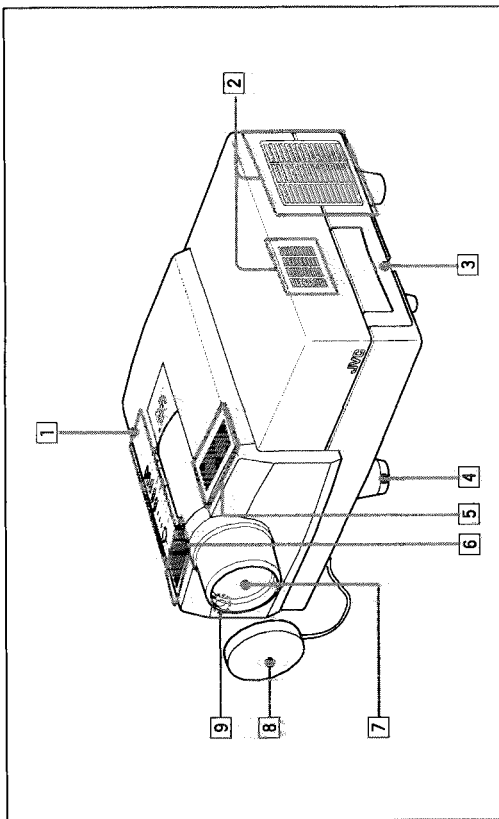


BNC-RCA conversion plug

ENGLISH

Controls and Features

Front Side / Top Surface / Right Side



1 Control panel

For details, refer to "Control Panel" (page 9).

2 Exhaust vents

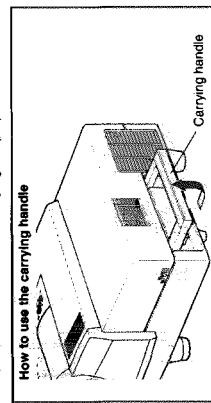
Vents for cooling fans through which warm air comes out.

CAUTION

• Do not block the exhaust vents, or heat builds up inside, possibly causing a fire. Also, do not touch the vents, or this could cause a low-temperature burn.

3 Carrying handle

Raise this handle when carrying the projector.

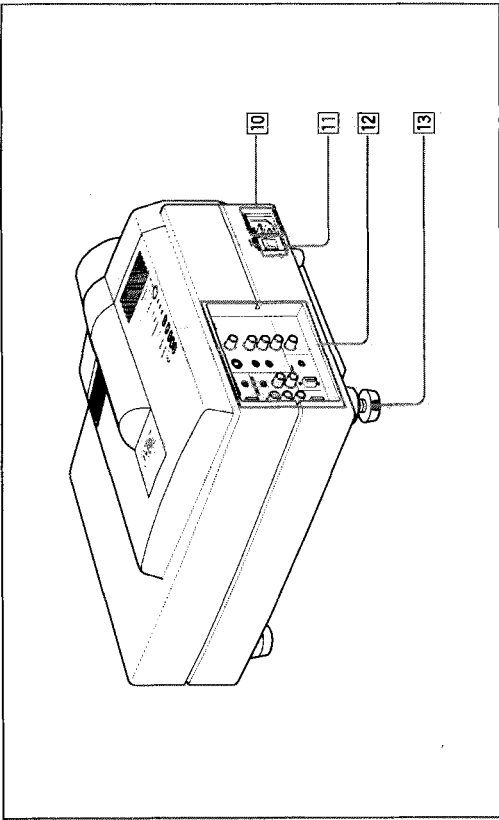


CAUTIONS

- When carrying the projector, do not give a shock to it. Be careful to keep its balance.
- Do not carry it while the light source lamp is on or the cooling fan is operating. This could cause personal injury.

Controls and Features (Cont.)

Left-hand side



10 AC IN (power input) terminal

This is the power input terminal where the supplied power cord is connected. For details, refer to page 24.

CAUTION

• Use the supplied power cord with the ferrite core only.

11 MAIN POWER switch

This is the MAIN POWER switch. When it is turned on, the projector goes into stand-by state, and the STAND BY indicator on the control panel comes on.
ON [I]: The MAIN POWER turns on.
OFF [O]: The MAIN POWER turns off.

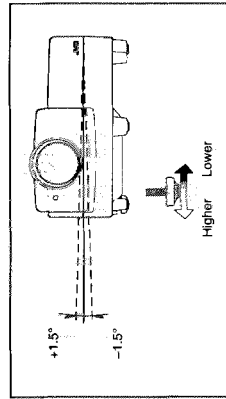
12 Connector panel

For details, refer to "Connector Panel" on page 11.

13 Adjustable foot (for horizontal angle adjustment)

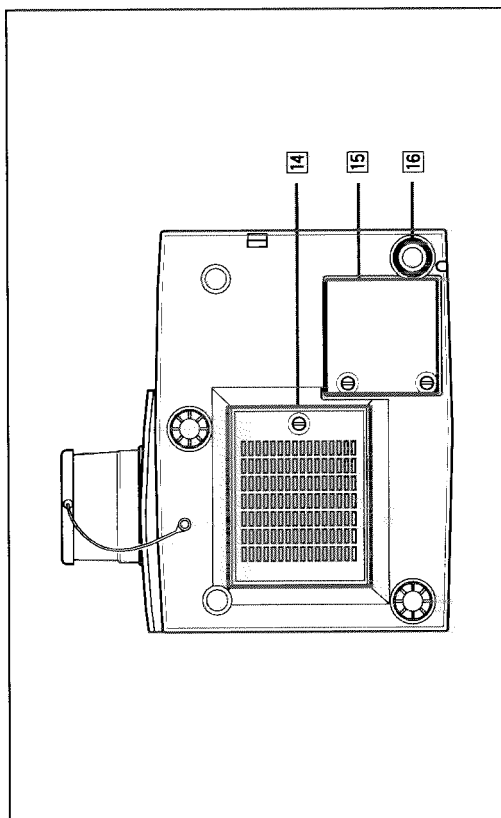
It is set at the lower position when shipped from the factory. Turn the foot to make the projector level. Adjustment can be made in the range of +1.5° and -1.5° from the horizontal position.

- This adjustable foot can be removed. Turn the foot and extend it until removed. (Screw size available here is M5.)



Controls and Features (Cont.)

Bottom Surface



14 Air Intake area (filter)

Air is taken in through this area to cool the light-source lamp. If this area is blocked or if something that obstructs taking in or exhausting air is placed around the projector, heat may build up inside and could cause a fire. For details, refer to "Precautions for installation" on page 15.

CAUTIONS

- Be careful as paper, cloth or soft cushion could be drawn in if placed nearby. Do not block the intake area, or heat may build up and could cause a fire.
- Clean the filter periodically. For details, refer to "Cleaning and Replacing the Filter" on page 51.
- Deposition of dirt on the filter works to reduce the cooling effect, causing heat to build up inside, which could cause a fire or malfunction.

15 Opening for replacing the light-source lamp

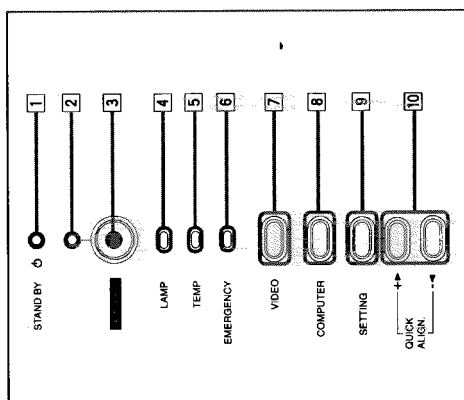
For replacing the light-source lamp, refer to "Replacing the Light-Source Lamp" on page 48.

16 Fixing foot

Under the rubber seal of the bottom of this foot, there is a tapped hole. (Screw size available here is M8.)

Controls and Features (Cont.)

Control Panel



1 STAND BY indicator

ON : When in stand-by mode.

Blinking : When in cool-down mode.

Memo

About the cool-down mode:

This projector has a function to cool down the heated lamp for a fixed period of time after projection is finished. This feature is referred to as the cool-down mode.

CAUTION

- The purpose of the cool-down mode is to prevent inner parts from being deformed or broken by heat from the heated lamp as well as to prolong the life of the lamp. Do not turn off the MAIN POWER switch while in the cool-down mode. Also, do not place the projector on its side or stand it upright; this may block the exhaust vents.

2 OPERATE indicator

ON: When in operation (projecting) mode.

3 OPERATE button

After turning on the MAIN POWER switch (the projector is in stand-by mode), press this button to set the projector to operation mode. (The operate indicator lights.) Press it again, and the projector goes into the cool-down mode, then stand-by mode.

Memo

While in the cool-down mode:

If you press the OPERATE button, the projector is not turned on.

4 LAMP indicator

ON : After the light-source lamp has been used for more than approx. 900 hours.

Blinking : Replace the lamp. Refer to "Replacing the Light-Source Lamp" on page 48.

5 TEMP indicator

ON: The temperature inside the projector has abnormally risen.

Note

- While the TEMP indicator is on (during abnormal temperature), the power is automatically cut off, and an emergency mode is shown (with the EMERGENCY indicator blinking).

6 EMERGENCY indicator

Blinking: Something abnormal has occurred with the projector.

Memo

About the emergency mode:

The emergency mode is shown when the following anomalies have occurred with the projector (the EMERGENCY indicator blinks). In the emergency mode, projection is automatically interrupted and the cooling fans operate for about 20 seconds.

- When the air filter is clogged.
- When the light-source lamp has suddenly gone off.
- When the fans have stopped.
- When the temperature inside has risen abnormally high.

ENGLISH

CAUTION

When an emergency mode is shown:

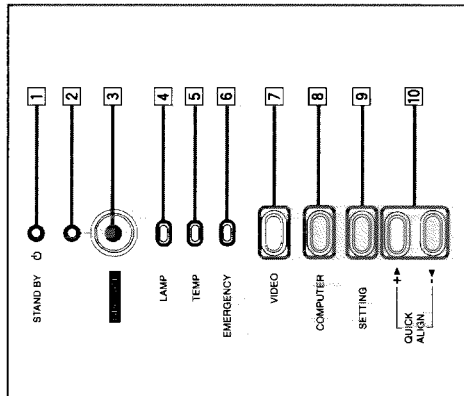
After the cooling fans have stopped, turn off the MAIN POWER switch and unplug the power cord from the wall outlet.

Make sure the lamp-replacement cover and the air filter are correctly installed. Then, plug in the power cord again and operate the projector.

If it goes into an emergency mode again, after the cooling fans have stopped, turn off the MAIN POWER switch, unplug the power cord, and call your dealer for repair.

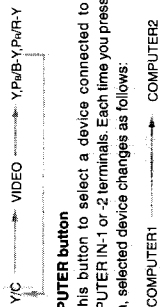
Controls and Features (Cont.)

Control Panel (Cont.)



[7] VIDEO button

Use this button to select a device such as a VCR connected to the AV IN terminal of the projector. Each time you press the button, the selected device changes as follows:



[8] COMPUTER button

Use this button to select a device connected to the COMPUTER IN-1 or -2 terminals. Each time you press the button, selected device changes as follows:



[9] SETTING button

Use this button to call up the setting menu. For details, refer to "Making Basic Settings" on page 31.

[10] QUICK ALIGN, +> -< button

While a submenu screen is shown, use this button to adjust the values for the item selected. When no menu is shown, the quick alignment function works.

• When a menu is shown

+> button: The value for the selected item changes (increases).

-< button: The value for the selected item changes (decreases).

• When no menu is shown

Press the +> button and -< button at the same time: QUICK ALIGNMENT is displayed on the screen and the quick alignment function works (TRACKING, PHASE, H. POS. and V. POS. are automatically adjusted). When the adjustment is finished, the display goes off automatically.

Memo

The quick alignment function :

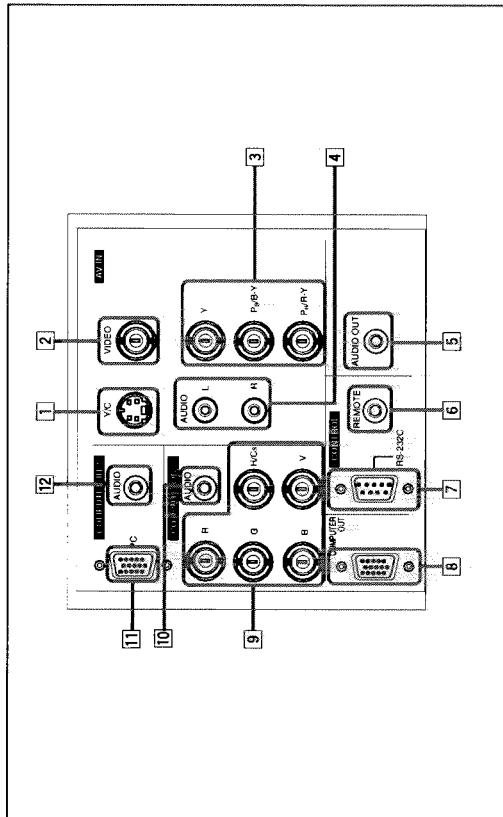
- Works for computer input (COMPUTER IN-1 and -2 input terminals) signals.
- Does not work for video input (AV IN input terminal) signals.

CAUTION

- Automatic adjustment with the quick alignment function should be done on a bright still-picture screen. This function may not work correctly on a dark screen or motion-picture screen. If adjustment with this function is not satisfactory, adjust TRACKING, PHASE, H. POS. and V. POS. manually (see pages 31, 37 and 38).

Controls and Features (Cont.)

Connector Panel



[1] Y/C (S video) input terminal (Mini DIN 4 pin)

Connect this terminal to the S video output terminal of a VCR, etc.

[2] VIDEO (composite video) input terminal (BNC)

Connect this terminal to the composite video output terminal of a VCR, etc.

[3] Y, Pa/B-Y, Pa/R-Y input terminals (BNC)

These are input terminals for component (Y, B-Y, R-Y) signals and Hi-Vision base band (Y, Pb, Pr) signals. Devices with component signal output terminals for NTSC or Hi-Vision can be connected.

[4] AUDIO L/R (audio left/right) input terminals (pin jacks)

Of devices connected to the video input terminals, such as a VCR, etc., the audio output terminals of the device to be projected is connected to these terminals. The input audio signal is reproduced by the speakers of the projector. The signal is also output from the AUDIO OUT terminal of the projector.

- When the input signal is stereo signal, connection should be made to both L and R.

- Signals from a monaural device should be connected to only L. That way, the projector's speakers and the AUDIO OUT terminal produce the same sound from both L and R.

Memo

To select the proper audio input for video input:

The video input terminals (AV IN input terminals) can be switched with the projector's or remote control's VIDEO button. However, since this projector has only single audio input terminal, reconnect audio input in accordance with the AV device to be used.

[5] AUDIO OUT (audio output) terminal (stereo mini jack)

Of input signals inputted to the projector, the audio signal of the device being projected is output. Volume should be adjusted using the VOL. (+/-) buttons on the remote control or VOLUME on the setting menu. When a cable is connected to this jack, no audio sound is produced from the projector's speakers.

[6] REMOTE terminal (mini jack)

Connect an infrared remote control extension unit, etc. to this jack.

- For details, consult your dealer.

[7] RS-232C terminal (D-sub 9 pin)

This is a RS-232C interface-specified terminal. This projector can be controlled by a computer connected externally.

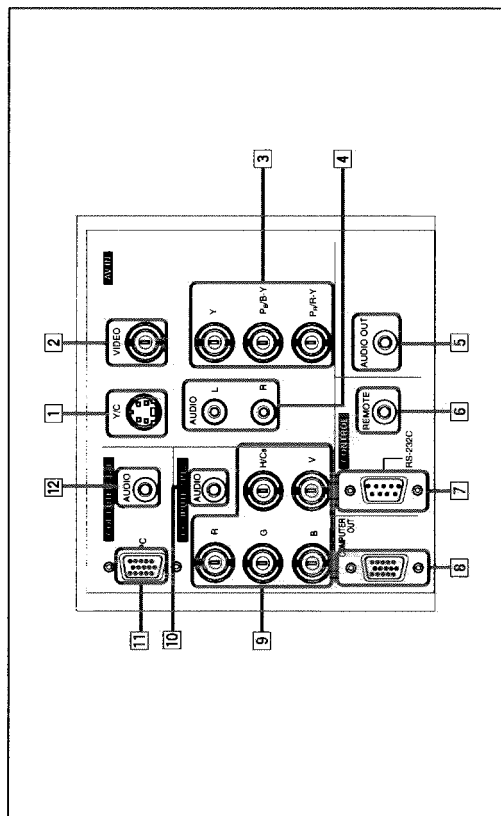
- For details, consult your dealer.

[8] COMPUTER OUT (computer output) terminal (D-sub 3-row 15 pin)

The computer input signal projected on the screen is output. A display unit can be used by connecting it to this terminal.

Controls and Features (Cont.)

Connector Panel (Cont.)



- [9] COMPUTER IN (computer input) -2 terminal (BNC)**
These are input terminals for analog RGB signals, vertical sync (V) signals, and horizontal sync (H) signals/composite signals (Cs). Devices which have analog RGB signal output terminals can be connected.
- **Input of external sync signals is automatically detected.**
Detection of H/D signals or Cs signals causes automatic switch to external sync. The priority order is H/D > Cs.

CAUTION

- When computer-related signals are input, the uppermost edge of the screen may appear bowing if the sync signal input is composite sync (Cs) or G on sync signal. In that case, use separate sync signals for vertical sync (V) and horizontal sync (H).

- [10] AUDIO (audio) input terminal (stereo mini jack)**

This is an audio input terminal for COMPUTER IN (computer input) -2 terminal. Connect the audio output signal of a device connected to COMPUTER IN (computer input) -2 terminal.

• When input to COMPUTER IN-2 is selected, the audio signal input is reproduced by the projector's speakers. Also, signals can be output from the AUDIO OUT (audio output) terminal.

(However, if a cable is connected to AUDIO OUT (audio output) terminal, audio sound does not come out from the projector's speakers.)

- [11] COMPUTER IN (computer input) -1 terminal (D-sub 3-row 15 pin)**
This is an input terminal (PC) dedicated for computer signals (RGB video signals and sync signals). Connect the display output terminal of the computer to this terminal. When a Macintosh computer is to be connected, use the Conversion adapter for Mac supplied.

CAUTION

- When computer-related signals are input, the uppermost edge of the screen may appear bowing if the sync signal input is composite sync (Cs) or G on sync signal. In that case, use separate sync signals for vertical sync (V) and horizontal sync (H).

- [12] AUDIO (audio) input terminal (stereo mini jack)**

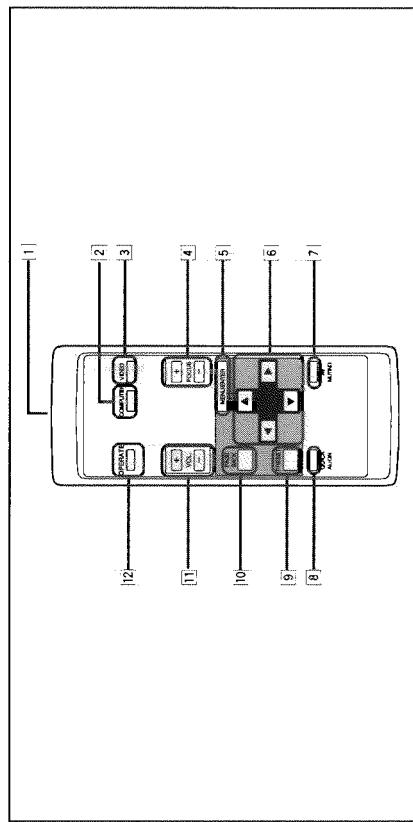
This is an audio input terminal for COMPUTER IN (computer input) -1 terminal. Connect the audio output signal of a device connected to COMPUTER IN (computer input) -1 terminal.

• When input to COMPUTER IN-1 is selected, the audio signal input is reproduced by the projector's speakers. Also, signals can be output from the AUDIO OUT (audio output) terminal.

(However, if a cable is connected to AUDIO OUT (audio output) terminal, audio sound does not come out from the projector's speakers.)

Controls and Features (Cont.)

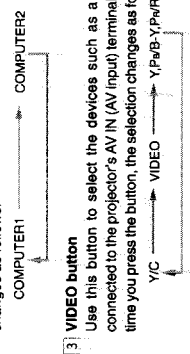
Remote Control Unit



- [1] Remote control's signal transmitter**

- [2] COMPUTER button**

Use this button to select the devices connected to the projector's COMPUTER IN (computer input) -1 and -2 input terminals. Each time you press the button, the selection changes as follows:



- [3] VIDEO button**

Use this button to select the devices such as a video connected to the projector's AV IN (AV input) terminal. Each time you press the button, the selection changes as follows:



- [4] FOCUS (+/-) button**

Use these buttons to adjust the focus of the projected video.

- + The focus point becomes more distant.
- The focus point becomes nearer.

- [5] MENU/ENTER button**

Use this button to display the main menu. While the main menu is displayed, pressing this button displays a details setting (submenu) for items with details settings.

- [6] Cursor (4-way) button**

While the main menu is displayed, use these buttons to select an item to adjust or make adjustment.

- [7] AV MUTING (On/Off) button**

Use this button to turn off the video image and audio sound temporarily. Pressing it again makes the video image and audio sound to resume.

- [8] QUICK ALIGN (Quick Alignment) button**

Use this button to automatically adjust TRACKING, PHASE, H, POS, and V, POS of the projected video. During the automatic adjustment, QUICK ALIGNMENT appears on the screen, and disappears after it is finished.

Memo**Quick alignment function:**

Does not work for video input (AV IN input terminal) signals. Works only for computer-related (COMPUTER IN-1 and -2 input terminals) signals.

CAUTION

- Automatic adjustment with the quick alignment function should be done on a bright still-picture screen. This function may not work correctly on a dark screen or motion-picture screen. If adjustment with this function is not satisfactory, adjust TRACKING, PHASE, H, POS, and V, POS, manually (see pages 31, 37 and 38).

- [9] PRESET button**

While making adjustment on the main or setting menu, use this button to reset the setting of the selected item to the factory-set value. This button works only for numerical settings and does not work for switching ON to OFF.

- [10] PAGE BACK button**

While a details setting is displayed, use this button to go back to the previous page.

- [11] VOL. (Volume) (+/-) button**

Use these buttons to adjust the sound volume.

- + Increase the volume level.
- Decrease the volume level.

- [12] OPERATE button**

To turn on the power, press this button for one second or more.

- About 30 seconds after the power has turned on, video image will appear on the screen.

ENGLISH

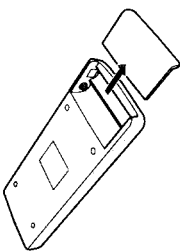
Controls and Features (Cont.)

Installing Batteries

Install batteries in the remote control. If the remote control has started to work erratically, replace the batteries.

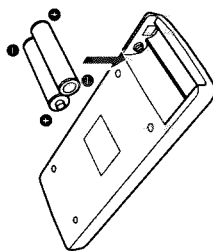
1 Open the back cover.

While pushing on the back cover, slide it in the direction of the arrow.



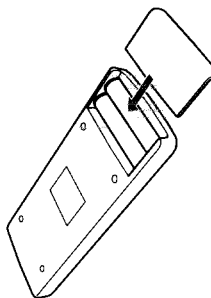
2 Install the batteries.

Place the two batteries (AAA/R03-size) supplied in the remote control as illustrated below.



3 Close the back cover.

Slide the back cover in the direction of the arrow until a click is heard.



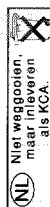
Precautions for using batteries
if batteries are used incorrectly, they may crack or leak liquid. This could cause a fire, burn, malfunction, or staining or damaging the surrounding.

Beware of the following:

- Do not mix new and old batteries.
- Do not mix different types of batteries as they differ in characteristics.
- Place batteries so they match the polarities indicated: (+) to (+) and (-) to (-).
- Be sure to put the minus (-) end in first to avoid short-circuiting.
- Use only designated batteries.
- Remove the batteries if not used for a prolonged period of time.
- When the batteries are exhausted, replace them immediately. Otherwise, liquid could leak, or malfunction could occur due to leaked liquids. If the leaked liquid contacts the skin, wipe it off with a cloth, otherwise the skin could become rough.
- Do not put batteries into fire or try to recharge them.
- Batteries run for six months to one year in normal use. But the batteries supplied are for confirming operation and may not run that long. When the remote control starts failing to work properly, replace the batteries with new ones.

The instruction below applies only to the use in Holland.

Gebruik batterijen:



Installing the Projector

Precautions for Installation

CAUTION

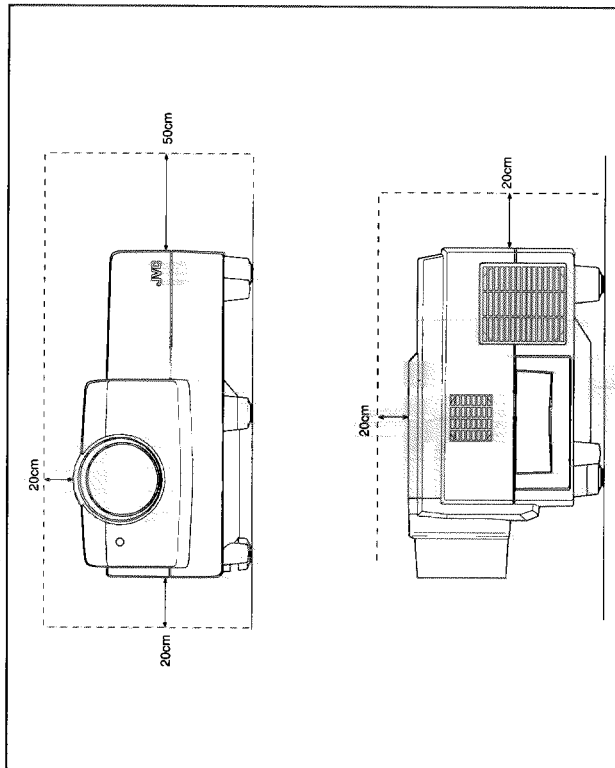
Do not install the projector in the following places:

- There is much water, humidity or dust.
 - The projector may be subjected to oil smoke or cigarette smoke.
 - On a soft surface such as a carpet or cushion.
 - The projector may be subjected to direct sunlight.
 - Temperature is high or humidity is low.
- Allowable operation temperature range: +5°C to +35°C
Allowable relative humidity range: 20% to 80% (no condensation)
Allowable storage temperature range: -10°C to +60°C

■ When installing the projector, observe the followings:

- **Do not use the projector placed on its side.**
Avoid using the projector placed on its side. This could cause a malfunction.
- **Use the projector within the installed angle.**
Avoid using the projector inclined $\pm 30^\circ$ or more right-to-left or left-to-right. This could cause colour variation or harm the lamp life.
- **Do not block the exhaust vents.**
Do not use a cover which encloses the projector air-tight or blocks the exhaust vents. Allow sufficient space around the projector. When the projector is enclosed in a space of the following dimensions, use an air conditioner so the temperature inside becomes equal to the outside temperature.

Allowable minimum space required



Installing the Projector (Cont.)

Relationship between Projection Distances and Projection Screen Sizes

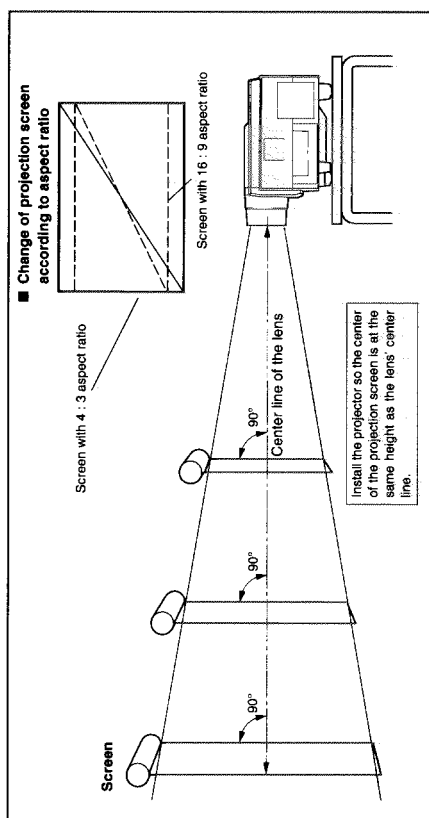
- Use the table below as a guide or reference when installing the projector.

Projection screen size (diagonal length)	Projection distance	
	When screen aspect ratio is 4 : 3	When screen aspect ratio is 16 : 9
36.7" (approx. 93 cm)		approx. 0.76 m
40" (approx. 101 cm)	approx. 0.76 m	approx. 0.83 m
50" (approx. 127 cm)	approx. 0.96 m	approx. 1.05 m
60" (approx. 152 cm)	approx. 1.16 m	approx. 1.27 m
70" (approx. 177 cm)	approx. 1.36 m	approx. 1.49 m
80" (approx. 203 cm)	approx. 1.56 m	approx. 1.72 m
90" (approx. 228 cm)	approx. 1.76 m	approx. 1.94 m
100" (approx. 254 cm)	approx. 1.97 m	approx. 2.16 m
110" (approx. 279 cm)	approx. 2.17 m	approx. 2.38 m
120" (approx. 304 cm)	approx. 2.37 m	approx. 2.60 m
130" (approx. 330 cm)	approx. 2.57 m	approx. 2.82 m
140" (approx. 355 cm)	approx. 2.77 m	approx. 3.04 m
150" (approx. 381 cm)	approx. 2.97 m	approx. 3.26 m
160" (approx. 406 cm)	approx. 3.18 m	approx. 3.48 m
170" (approx. 431 cm)	approx. 3.38 m	approx. 3.70 m
180" (approx. 457 cm)	approx. 3.58 m	approx. 3.92 m
190" (approx. 482 cm)	approx. 3.78 m	approx. 4.14 m
200" (approx. 508 cm)	approx. 3.98 m	

Installing the Projector (Cont.)

Projection Distance and Screen Size

- This projector uses a fixed focal length lens.
- The projection distance that can be focused is approx. 0.76 to 4.14 m. Install the projector within this range.



Projection screen size (diagonal length)	Projection distance	
	When screen aspect ratio is 4 : 3	When screen aspect ratio is 16 : 9
36.7" (approx. 93 cm)		approx. 0.76 m
50" (approx. 127 cm)	approx. 0.96 m	approx. 1.05 m
100" (approx. 254 cm)	approx. 1.97 m	approx. 2.16 m
150" (approx. 381 cm)	approx. 2.97 m	approx. 3.26 m
200" (approx. 508 cm)	approx. 3.98 m	

*Also, refer to the table of "Relationship Between Projection Distances and Projection Screen Sizes" on page 17 as a reference.

CAUTIONS and NOTES

- Install the screen so the center of the projected picture aligns with the extended center line of the projector's lens. That way, the center of the picture projected on a 4 : 3 aspect ratio screen aligns with the extended center line of the lens. Also, the screen must be at right angles with the extended center line of the lens (so that projection occurs at right angles with the screen).
- When installing the screen, use a 4 : 3 aspect ratio picture.
- The diagonal length of a 16 : 9 aspect ratio picture is about 91.8% that of a 4 : 3 aspect ratio picture. This value is a guide and should be used as a reference.
- If sunlight or lamp light strikes the projection screen directly, the picture becomes whitish and dim. Be sure to use a curtain, etc. to shield the light.
- Trapezoidal distortion may not be corrected.
- Adjust the projector within the range of angle adjustment (up/down adjustment angle: +7°; horizontal adjustment angle: ±1.5°) so that it is set up level.
- The numeric values listed in the table of Relationship between Projection Distances and Screen Sizes on page 17 are provided only as a guide or reference. The projection sizes may vary within manufacturing tolerances of the projection lens.

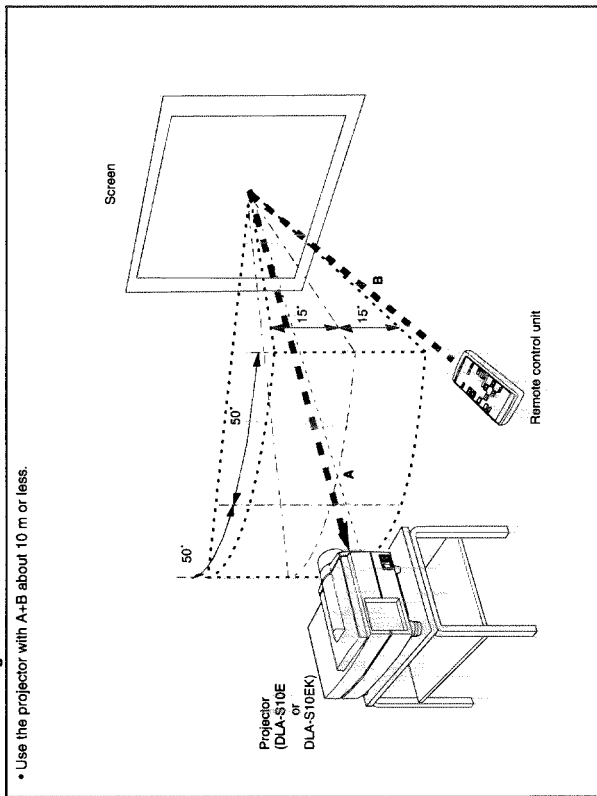
Installing the Projector (Cont.)

Effective Range and Distance of the Remote Control Unit

The operable distance of the remote control unit is about 10 m for direct reception. The remote control can be used by having it reflected on the screen, etc. When you use the remote control by reflecting it at the screen, the total distance of A + B should be about 10 m or less. The operable angles of the remote control unit is 50° right to left, and 15° up and down.

The effective range and distance of the remote control unit

- Use the projector with A+B about 10 m or less.



Note

- Depending on the type of the screen used, the effective distance of the remote control may be reduced.

Connecting to Various Devices

- Before connection, be sure to turn off the projector and connected devices.
- Read the manual which comes with each device thoroughly.

Signals that Can Be Input to the Projector

The following signals can be input to the projector:

■ Video signals

(1) Response to colour systems

Input terminal	Colour system	NTSC	NTSC4.43	PAL	SECAM
VIDEO		○	○	○	○
Y/C		○	○ ¹	○	○
Y, P _B /B-Y, P _R /R-Y		○ ²	○ ²	○ ²	○ ²
G, B, R, H/Cs, V		○ ²	○ ²	○ ²	○ ²

¹: Responds if Y/C output is available

²: Signifies that component signals ("Y, P_B, P_R" / "Y, B-Y, R-Y" / "G, B, R, H/Cs, V") conform to the signal timing (synchronization and video period) of each colour system. The colour systems are used for convenience only.

(2) Response to double density (*1), high-vision signals

Input terminal	NTSC ²	PAL ³	High-vision signal
Y, P _B /B-Y, P _R /R-Y	○	○	○
G, B, R, H/Cs, V	○	○	○

*1: Signals whose density of scanning lines/field is twice as high.

*2: Responds to signals whose horizontal scanning frequency is 31.5 kHz. NTSC can be made twice as dense by a line doubler (separately available: recommended article). Also, possible to respond to fully-specified, decoded wide-clear-vision signals and 525P progressive signals.

*3: Responds to signals whose horizontal scanning frequency is 33.5 kHz. PAL can be made twice as dense by a line doubler (separately available: recommended article).

■ Computer signals

- Signals with the following resolutions can be input to the input terminal of COMPUTER IN-1 (PC) or COMPUTER IN-2 (G, B, R, H/Cs, V). (The following signals are preset.)

Screen resolution (standard name)	Horizontal frequency	Vertical frequency	Scanning method
640 × 400 (PC-9801)	24.8kHz	56.4Hz	Non-interlace
640 × 350 (VGA1)	31.5kHz	70.1Hz	Non-interlace
640 × 480 (VGA3)	31.5kHz	59.9Hz	Non-interlace
640 × 480 (Macintosh 13")	35.0kHz	66.7Hz	Non-interlace
640 × 480 (VGA VESA)	37.5kHz	75.0Hz	Non-interlace
800 × 600 (SVGA1)	37.9kHz	60.3Hz	Non-interlace
800 × 600 (SVGA2)	48.1kHz	72.2Hz	Non-interlace
832 × 624 (Macintosh16")	49.7kHz	74.6Hz	Non-interlace
1024 × 768 (XGA1)	48.4kHz	60.0Hz	Non-interlace
1024 × 768 (XGA2)	56.5kHz	70.1Hz	Non-interlace
1024 × 768 (Macintosh 19")	60.2kHz	74.9Hz	Non-interlace
1152 × 870 (Macintosh 21")	68.7kHz	75.0Hz	Non-interlace
1280 × 1024 (SXGA1)	64.0kHz	60.0Hz	Non-interlace
1280 × 1024 (SXGA2)	70.8kHz	67.0Hz	Non-interlace
1360 × 1024 (SXGA3, Mac Board)	80.0kHz	75.1Hz	Non-interlace

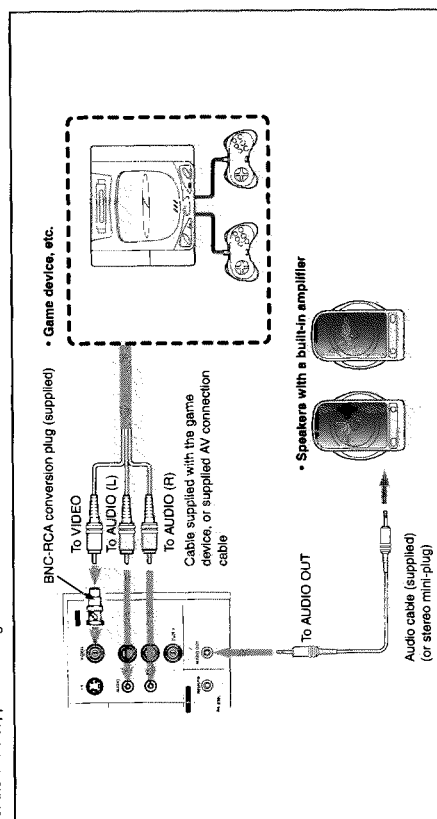
Notes

- Interface signals are not handled.
- Some signals other than listed above can be displayed. But they require adjustment. Even some of the signals listed above may require adjustment depending on the video board used.
- When a signal other than listed above is input, the screen could be partially erased or an unneeded lock-over screen could appear.
- Even signals in the frequency range that can be input may not be displayed normally depending on the type of the signal.
- Composite sync (Cs) and G on sync signals cannot be handled depending on the device connected.

Connecting to Various Devices (Cont.)**Connecting to Other Devices**

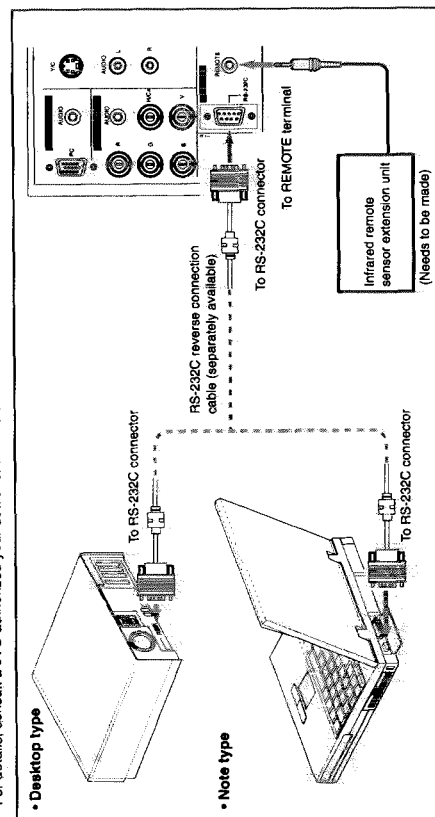
Before connection, be sure to turn off both the projector and other devices to be connected.

- Read the manual thoroughly which comes with the device to be connected.
- Speakers with a built-in amplifier and game devices can be connected. Use the AV connection cable and audio cable supplied, or the cable supplied with a game device.

**Connecting to Devices which Control the Projector**

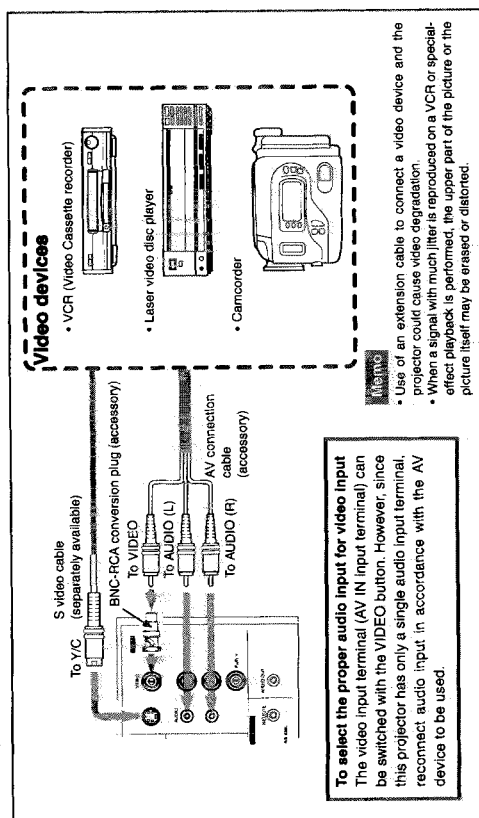
Before connection, be sure to turn off both the projector and devices to be connected.

- Read the manual thoroughly which comes with each device to be connected.
- By connecting a computer to the RS-232C terminal, you can control the projector. Also, you can make an infrared remote sensor extension unit and connect it to the REMOTE terminal of the projector.
- Obtain connection cables as required.
- For details, consult a JVC-authorized your dealer or service center.

**Connecting to Various Devices (Cont.)****Connecting to Video Devices**

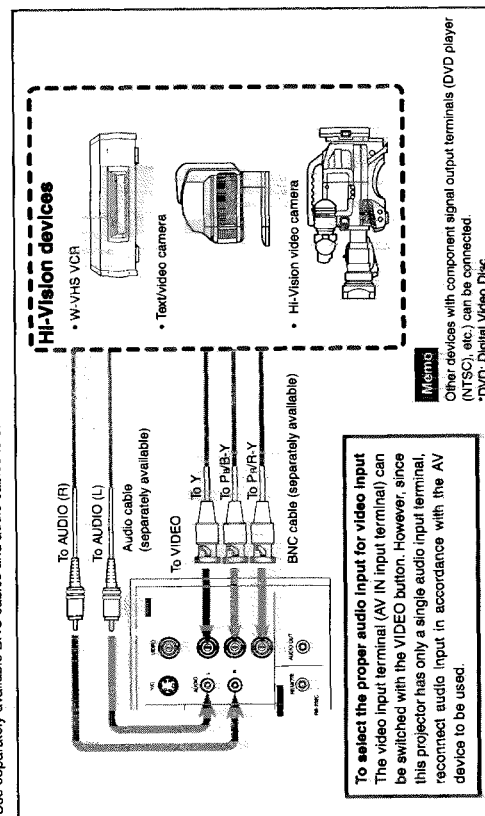
Before connection, be sure to turn off both the projector and video device.

- Read the manual which comes with each video device thoroughly.
- Use the supplied AV connection cable. An AV connection cable with an S video terminal is not supplied.

**Connecting to Hi-Vision Devices**

Before connection, be sure to turn off both the projector and Hi-Vision devices.

- Read the manual which comes with each Hi-Vision device thoroughly.
- Use separately available BNC cables and audio cables to connect Hi-Vision devices.

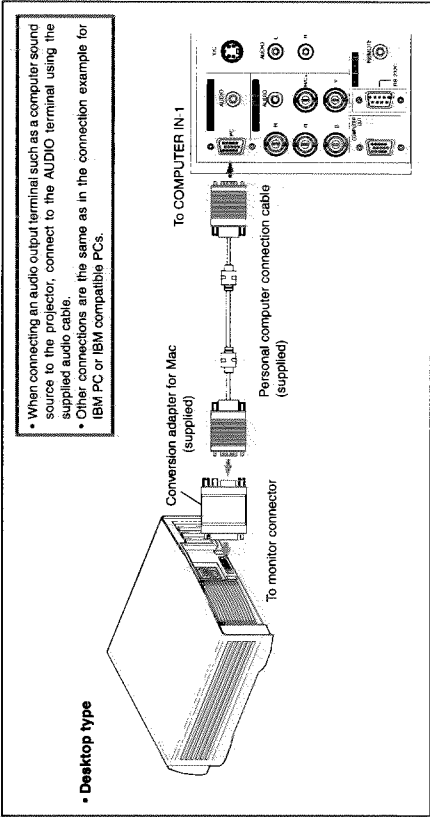


Connecting to Various Devices (Cont.)

Connecting to Computer Devices (Cont.)

Before connection, be sure to turn off both the projector and computer devices.

- Read the manual which comes with each device thoroughly.
- **Connection to Macintosh**
- Use the supplied Personal computer connection cable and the supplied conversion adapter for Mac.



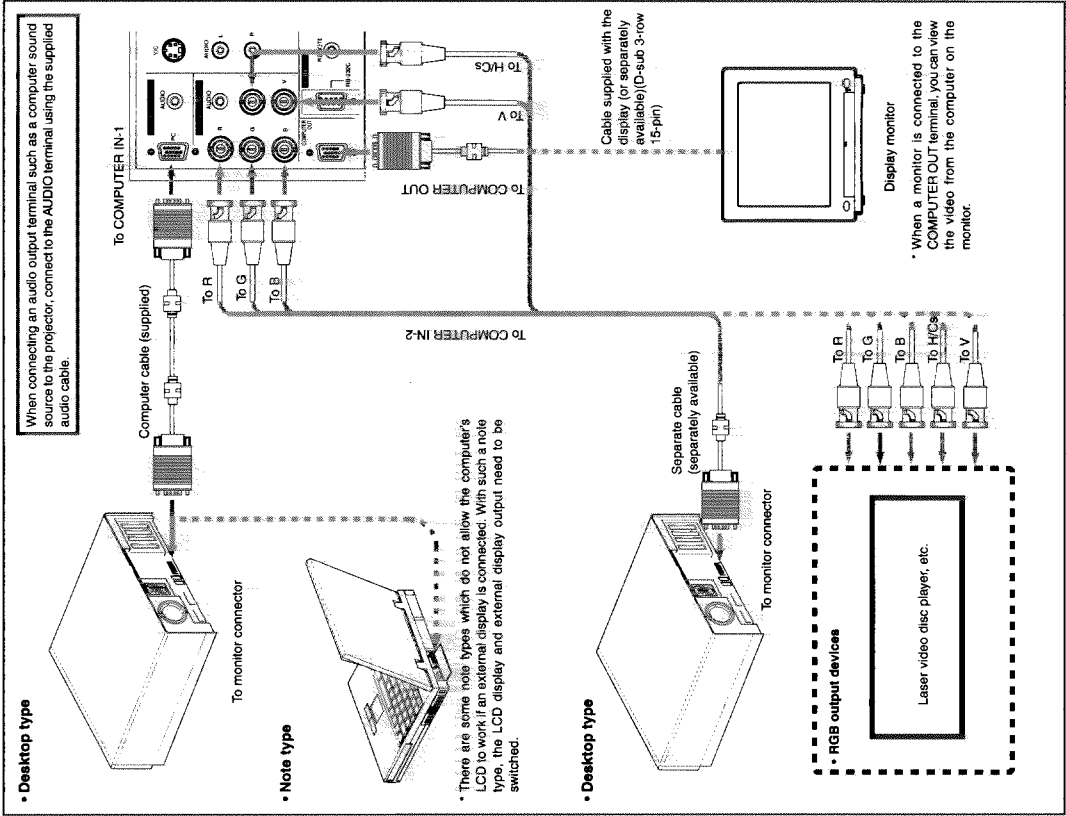
• Desktop type

Connecting to Various Devices (Cont.)

Connecting to Computer Devices

Before connection, be sure to turn off both the projector and computer devices.

- Read the manual which comes with each device thoroughly.
- **Connection to an IBM PC or IBM-compatible computer**
- Use the supplied computer connection cable. Also, prepare cables required for connecting the devices connected.



• Desktop type

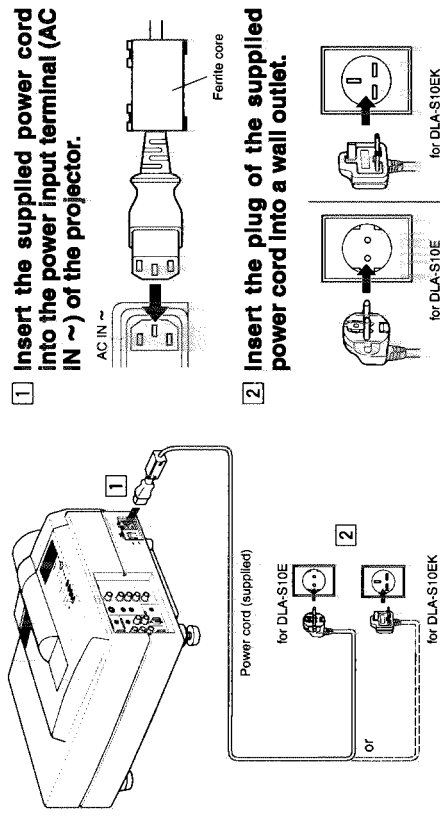
• Note type

• Desktop type

Connecting to Various Devices (Cont.)

Connecting the Power Cord (Supplied)

After all devices have finished being connected, connect the projector's power cord. At this time, do not turn on the MAIN POWER switch yet.



CAUTION

- To prevent fire and electric shock, observe the following:**
- When you do not use devices, pull out their power cords from wall outlets.
 - Do not connect the devices with power cords other than supplied.
 - Do not use voltage other than the power voltage indicated.
 - Do not scar, damage, or work on the power cords. Also, do not put a heavy object on, heat or pull the power cords, otherwise they may be damaged.
 - Do not insert or pull out the plugs with a wet hand.

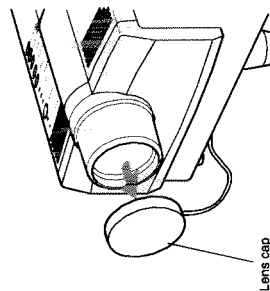
CAUTION

- Since the power requirement of the projector is high, be sure to insert the power plug directly into a wall outlet.
- Use the supplied power cord with the ferrite core only.
- Do not remove the ferrite core from the supplied power cord. Otherwise, there may be a possibility that a harmful interference occurs.

■ To use the projector

- **Remove the lens cap.**
 - The lens cap has a string attached and it is fixed to the projector.

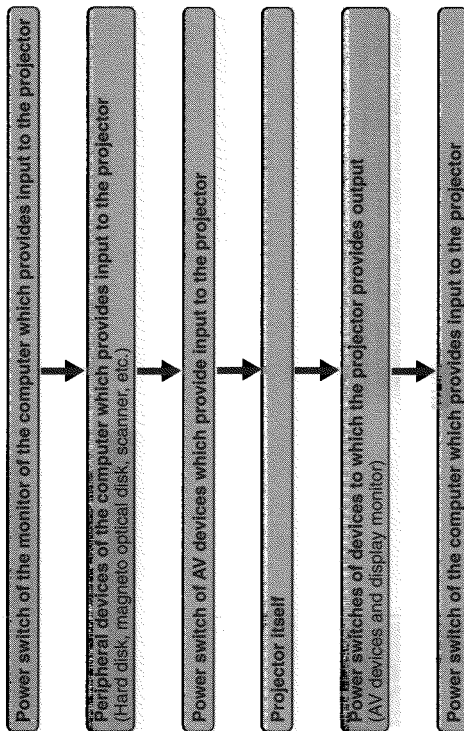
Be sure to fit lens cap when not in use.



Connecting to Various Devices (Cont.)

When Turning On the Devices Connected to the Projector

Turn on the switches of the projector and the devices connected in the following order. Skip over unconnected devices if there is any.



* When turning off the power switches, do so in the reverse order.

Notice

When the **OPERATE** button is pressed but the power is not supplied:

If the filter or lamp replacement opening cover is displaced, the power is not supplied. Check them for correct installation.

CAUTIONS and NOTES

Do not turn off the MAIN POWER switch suddenly while the projector is being used or immediately after it has been used. This could cause a malfunction.

- Since the projector uses a high-intensity lamp and is heated to high temperature, cooling fans are operating even during projection. So, after use, the cooling fans continue to run from when the **OPERATE** button is pressed until the light-source lamp is cooled down. During cooling, the **STAND BY** indicator blinks to alert the cooling fans are running. During this time, do not turn off the **MAIN POWER** switch. After the cooling of the light-source lamp is finished (the fans stop) and the **STAND BY** indicator comes on, then turn off the **MAIN POWER** switch.
- If you press the **OPERATE** button immediately after the light-source lamp lights, it takes about 40 seconds for the lamp to go off. To turn the lamp on again, wait 10 seconds or more before pressing the **OPERATE** button.

When the TEMP indicator lights, the power turns off automatically.

- While the light-source lamp is on, if an abnormal temperature rise is detected, the **TEMP** indicator comes on, the power is automatically cut off, and the projector's **EMERGENCY** indicator blinks (goes into an emergency mode).

When the EMERGENCY indicator blinks, turn off the MAIN POWER switch after the fans have stopped running.

- If the following abnormality occur to the projector, it goes into an emergency mode (the **EMERGENCY** indicator blinks). When the projector goes into an emergency mode, it stops projecting automatically and runs the fans for about 20 seconds.

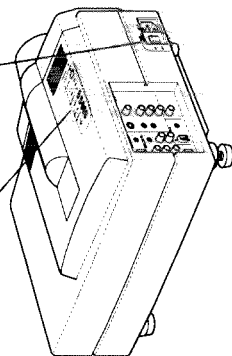
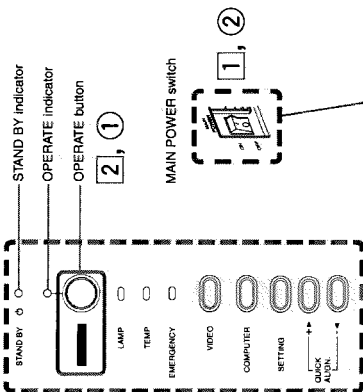
- When the filter is dislodged.
- When the filter is clogged.
- When the light-source lamp suddenly goes off.
- When the fans stop running.
- When the temperature inside rises abnormally high.

After the projector goes into an emergency mode:

- When the fans have stopped, turn off the **MAIN POWER** switch and pull out the power cord. After that, re-insert the power cord and try to operate the projector. If it goes into emergency again, after the fans have stopped, turn off the **MAIN POWER** switch, pull out the power cord, and consult your JVC-authorized dealer or service center for repair.

Basic Operations

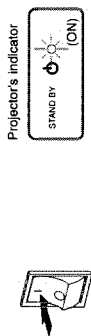
Projector's buttons



The following describes the basic procedure for normal use of the projector.

1. Turning on the Power

- 1 Turn on the MAIN POWER switch.
- ON (1): The main power turns on and the STAND BY indicator comes on.



- 2 Press the OPERATE button. (Or press the remote control's OPERATE button for one second or more.)

- The OPERATE indicator comes on.
- About 30 seconds after the MAIN POWER switch is turned on, you can start projecting.



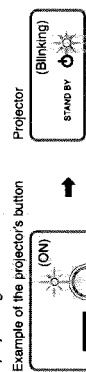
Note

- After the power is turned on, the screen may be jumbled for a few seconds, but this is not a malfunction.

Turning off the Power

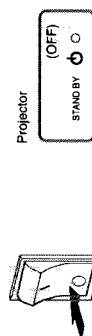
- 1 Press the OPERATE button. (Or press the remote control's OPERATE button for one second or more.)

- The STAND BY indicator changes to blinking, and the projector goes into cool-down mode.



- 2 Turn off the MAIN POWER switch after the STAND BY indicator changes to steady on.

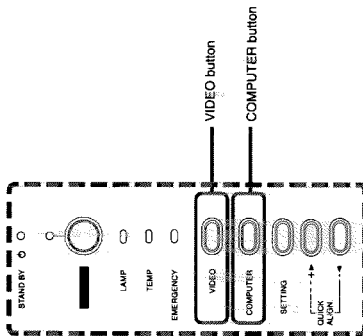
- OFF (2): The MAIN POWER switch turns off and the STAND BY indicator goes off.



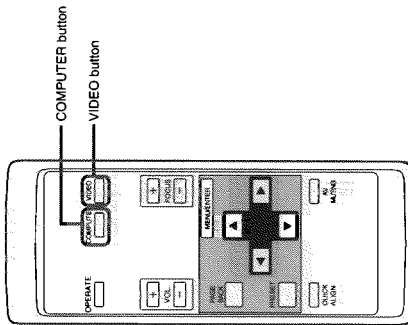
- Do not turn off the MAIN POWER switch during cool down mode (the STAND BY indicator blinking). Turn it off after the STAND BY indicator becomes on (stand-by mode).

Basic Operations (Cont.)

Projector's buttons



Remote control unit



2. Select the video input to be projected

- Press the VIDEO button or the COMPUTER button to switch the input.

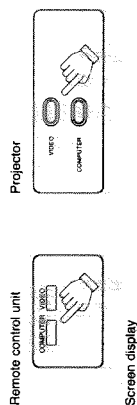
- Each time you press either button, the selected input changes as follows.

- When you press VIDEO:

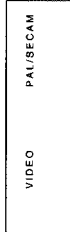
Y/C → VIDEO → YPbPr-Y

- When you press COMPUTER:

COMPUTER1 → COMPUTER2



Screen display



- When the input is switched, the line display (ex. VIDEO) and the source display (ex. PAL/SECAM) are shown on the upper part of the screen (they disappear in about five seconds). However, they will not be shown if LINE DISPLAY in "Setting and Adjusting Other Functions (OPTIONS)" on page 43 is set to OFF.

(For setting the source, see page 46.)

Note

- To select the proper audio input for video input
The video input terminal (AV IN input terminal) can be switched with the VIDEO button. However, since this projector has only a single audio input terminal, reconnect audio input in accordance with the AV device to be used.

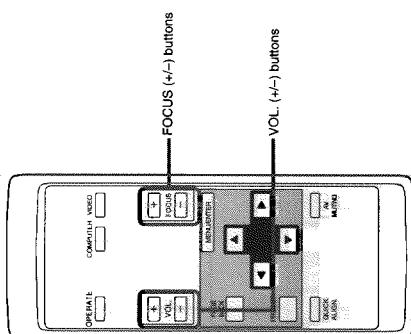
ATTENTIONS

- DO NOT give any shock to this projector while operating it; otherwise, the light-source lamp goes off (the EMERGENCY indicator lights up).

If the shock turns off the light-source lamp —
Turn off the power by pressing the MAIN POWER switch, then turn it on again. Now you can operate the projector as usual.

Basic Operations (Cont.)

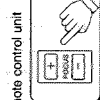
■ Remote control unit



3. Adjust focus

- **Adjust focus with the remote control's FOCUS (+/-) buttons.**

- **To focus on further points:**
Press the FOCUS (+) button.
- **To focus on nearer points:**
Press the FOCUS (-) button.



Note

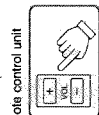
- Focus adjustment can also be made on the SETTING menu. For operating the SETTING menu, refer to "Making Basic Settings" on page 31.

4. Adjust sound volume

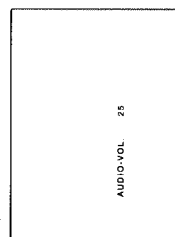
- **Adjust sound volume with the remote control's VOL. (+/-) buttons.**

- **When you press the VOL. (+) button:**
The sound volume becomes higher. (0 → 50)
- **When you press the VOL. (-) button:**
The sound volume becomes lower. (50 → 0)

- When you press either button, the corresponding AUDIO-VOL. level is displayed on the screen (the display will disappear in about five seconds).



Screen display

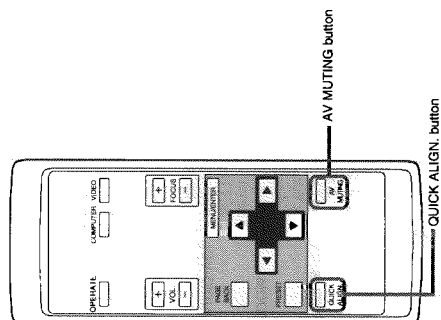


Note

- Sound volume can be adjusted on the SETTING menu. For operating the SETTING menu, refer to "Making Basic Settings" on page 31.

Basic Operations (Cont.)

■ Remote control unit



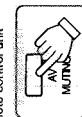
● For Operating Other Functions

- **To turn off video image and audio sound temporarily**

Press the AV MUTING button.

- **Press once:**
Video image and audio sound turn off (do not come out).
- **Press again:**
Video image and audio sound come out again.

Remote control unit



- **To use the quick alignment function**

The quick alignment function is used to automatically adjust (set) the screen settings of "TRACKING, PHASE, H. POS. and V. POS." of computer system input video.

- Use either the remote control's or projector's button.

- **When using the remote control unit:**

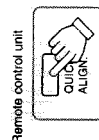
Press the QUICK ALIGN button.

- **When using the projector:**

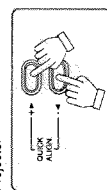
Clear the menu display, and press the projector's QUICK ALIGN, "→" and "←" buttons at the same time.

- During the automatic adjustment, "QUICK ALIGNMENT" appears on the screen and disappears automatically after the adjustment is completed.

ENGLISH

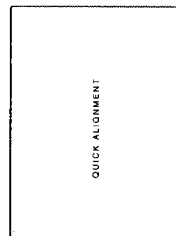


Remote control unit



Projector

Screen display



Note

- This function works only for computer system inputs. It does not work for AV inputs.

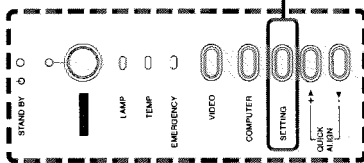
CAUTION

- **When performing automatic adjustment using the quick alignment function:**

Use a bright, still-picture screen. It may not function correctly on a dark or motion-picture screen. If the condition adjusted by using the quick alignment function is not good, manually adjust TRACKING, PHASE, H. POS. and V. POS. (see pages 31, 37 and 38).

Basic Operations (Cont.)

■ Projector button



■ To display the SETTING menu

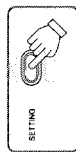
The SETTING menu is used to make basic adjustments and settings (TRACKING, PHASE, H. POS., V. POS., FOCUS, ZOOM* and AUDIO-VOL.) of the video picture being projected after installation (connection) or after inputs are switched. For operating the SETTING menu, refer to "Making Basic Settings" on page 31.

- "ZOOM" cannot be adjusted.

■ Press the projector's SETTING button.

The SETTING menu is displayed on the screen.

Projector



■ To display the main menu

The main menu is used to adjust or set the projected video picture and the projector's condition, etc. (PIXEL CLOCK, POSITION, PICTURE, SOUND, OPTIONS, SOURCE, DECODER and LANGUAGE). For operating the main menu, refer to pages 34 to 47.

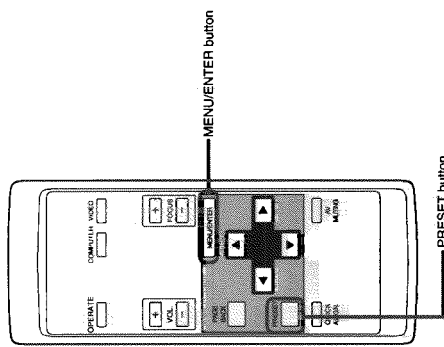
■ Press the remote control's MENU/ENTER button.

The main menu appears on the screen.

Remote control unit



■ Remote control unit

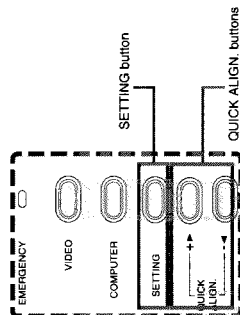


No.51428B

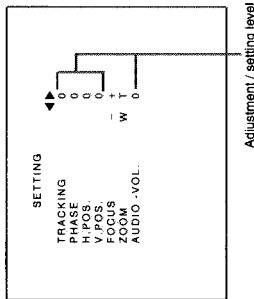
Operating the Setting Menu

Making Basic Settings

■ Projector's buttons



■ SETTING menu



Adjustment / setting level

Description of adjustment and setting items

- TRACKING** : If wide vertical stripes appear on the screen, adjust the lateral video size and display area so that they disappear. (-255 ↔ 0 ↔ +255)
- PHASE** : If characters on the screen flicker or become dim, adjust so they become clear.
- H. POS.** : If the screen position is displaced to the right or left, adjust the horizontal position of the screen. (-255 ↔ 0 ↔ +255)
- V. POS.** : If the screen position is displaced upward or downward, adjust the vertical position of the screen. (-120 ↔ 0 ↔ +120)
- FOCUS** : Adjust the focus of video picture.
- ZOOM** : Focuses on near points.
- AUDIO-VOL.** : Adjust the sound level. (0 ↔ 50)

ENGLISH

Here, we make basic video adjustment and sound volume adjustment which are set up after installation (connection).

Notes

- This adjustment menu (SETTING menu) can be displayed with only the projector's button. After displaying the SETTING menu, you can select or set (adjust) items with cursor buttons on the remote control unit.
- If settings and connections are changed, adjust and set those items again.
- After this adjustment (SETTING menu), if video picture adjustment is necessary by using the devices connected, perform the details setting and adjustment on the main menu (pages 34 to 47).
- For computer-related inputs, use of the quick alignment function shows automatic adjustment of TRACKING, PHASE, H. POS. and V. POS. (See pages 31, 37 and 38).
- Though "ZOOM" appears on SETTING menu, it cannot be adjusted.

1 Press the SETTING button of the projector.

- The SETTING menu is displayed on the screen.

2 Press the SETTING button to select the desired item.

- The selected item is shown in magenta colour. Each time you press the button, the selected item changes as follows:



Memo

To select items using the remote control unit: Items can be selected using the cursor buttons ▲ (backward) or ▼ (forward) on the remote control unit. In this case, menu clearing in the above order is not available. The selection changes from AUDIO-VOL. to TRACKING directly.

3 Adjust and set the selected item using the QUICK ALIGN buttons +> or <-.

- To adjust and set multiple items, repeat steps 2 and 3.
- To reset the adjustment value of the selected item (TRACKING, PHASE, H. POS. or V. POS.) to the factory-set value, press the remote control's PRESET button. This button does not work for FOCUS, ZOOM or AUDIO-VOL.
- "ZOOM" cannot be adjusted.

Memo

To adjust and set items using the remote control unit: Items can be adjusted and set using the cursor buttons ▲ or ▼ on the remote control unit.

4 Clear the SETTING menu by pressing the SETTING button repeatedly.

Memo

To clear the SETTING menu using the remote control unit: You can also clear the SETTING menu by pressing the PAGE BACK button on the remote control unit.

Operating the Main Menu

Configuration the Main Menu (AV Input) For computer inputs, see the following page.

You can adjust video quality (PICTURE), audio quality (SOUND), etc. using the menus.
The menus are configured as follows:

Main menu (AV inputs : During AV IN input signal)

PIXEL CLOCK	TRACKING PHASE	- Normally, no adjustment is required. The lateral size and display area of video image are adjusted. - Normally, no adjustment is required. Flickering or dim video image is adjusted.
POSITION	H. POS. V. POS.	- The horizontal position of the video image being projected is adjusted. - The vertical position of the video image being projected is adjusted.
PICTURE	BRIGHTNESS CONTRAST SHARPNESS COLOR TINT	- The brightness of the video image being projected is adjusted. - The contrast of the video image being projected is adjusted. - The sharpness of the video image being projected is adjusted. - The colour density of the video image being projected is adjusted. - The tint of the video image being projected is adjusted. (Displayed only for NTSC signal) - All the items adjusted are reset.
SOUND	TREBLE BASS	- The treble of the audio sound being input is adjusted. - The bass of the audio sound being input is adjusted.
OPTIONS	MENU AUTO OFF LINE DISPLAY	- Sets whether to turn off menu display automatically (YES) or not (NO). - Sets whether to make the line display effective (ON) or not (OFF) for about 5 seconds after input switching.
	RIGHT LEFT REV. TOP BOTTOM INV. CLAMP	- Video image is reversed right-to-left. - Video image is inverted top-to-bottom. - Sets the clamp pulse's position at the back porch (BP) or on the sink tip (ST). Normally, the clamp pulse is used at BP. If, with some PCs or workstations, the screen becomes unstable such as being too dark or too bright, try to switch to ST.
	RESIZE BACK COLOR	- Does not work with AV (video) input. (RESIZE is shown in gray.) - Specifies the background colour when there is no video signal. Background colour can be selected from BLUE, CYAN, BLACK, GREEN, MAGENTA, RED, and YELLOW.
	COLOR TEMP.	- Adjusts the colour temperature of the image being projected. Make adjustment when the image becomes reddish or bluish. - Colour temperature can be set to LOW, MIDDLE, or HIGH.
	ASPECT CHANGE	Selects the vertical-to-horizontal ratio of the image projected. The factory-set ratio is 4 : 3. When projecting high-vision video image, a ratio of 16 : 9 can be selected.
	SLEEP TIME	Sets the length of sleep time. A set sleep time after input signal is depleted, the projector goes into a stand-by state. Sleep time can be selected from 10 minutes, 20 minutes, 30 minutes, and 60 minutes.
	LAMP TIME	Indicates the accumulated used hours of the light-source lamp.
SOURCE		Normally used in AUTO. If use in AUTO is unstable such as colour not appearing, the screen being disturbed or the screen being intermittent, set to the dedicated source (forced mode) in accordance with the input signal.
DECODER		Normally, set to AUTO. The colour system of an input signal is automatically identified and shown in (). When use in AUTO is unstable such as no colour being shown, set the dedicated colour system in accordance with the input signal. You can select from AUTO, NTSC, NTSC4.43, PAL, and SECAM.
LANGUAGE		Text on the screen can be changed to a language other than English. Languages that can be displayed are the following six : ENGLISH, DEUTSCH (German), ESPAÑOL (Spanish), ITALIANO (Italian), FRANÇAIS (French), and 日本語 (Japanese). However, some texts are shown only in English.

Operating the Main Menu (Cont.)

Configuration of the Main Menu (Computer-related input)

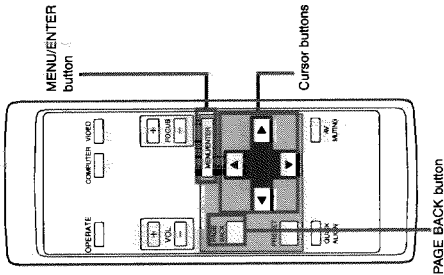
Main menu (Computer-related inputs : During COMPUTER IN-1 or -2 input signal)

PIXEL CLOCK	TRACKING PHASE	- The lateral size and display area of video image are adjusted. - Flickering or dim video image is adjusted.
POSITION	H. POS. V. POS.	- The horizontal position of the video image being projected is adjusted. - The vertical position of the video image being projected is adjusted.
PICTURE	BRIGHTNESS CONTRAST R-GAIN G-GAIN B-GAIN TEXT MODE	- The brightness of the video image being projected is adjusted. - The contrast of the video image being projected is adjusted. - The gain in red signal of the video image being projected is adjusted. - The gain in green signal of the video image being projected is adjusted. - The gain in blue signal of the video image being projected is adjusted. - Adjust easiness for reading text during RESIZE. - NORMAL : Normal - TEXT 1 : Display the outline of small letters already. - TEXT 2 : Makes the outline of large letters sharp. - All the items adjusted are reset.
SOUND	ALL RESET	All the items adjusted are reset.
	TREBLE BASS	- The treble of the audio sound being input is adjusted. - The bass of the audio sound being input is adjusted.
OPTIONS	MENU AUTO OFF LINE DISPLAY	- Sets whether to turn off menu display automatically (YES) or not (NO). - Sets whether to make the line display effective (ON) or not (OFF) for about 5 seconds after input switching.
	RIGHT LEFT REV. TOP BOTTOM INV. CLAMP	- Image is reversed right-to-left. - Image is inverted top-to-bottom. - Sets the clamp pulse's position at the back porch (BP) or on the sink tip (ST). Normally, the clamp pulse is used at BP. If, with some PCs or workstations, the screen becomes unstable such as being too dark or too bright, try to switch to ST.
	RESIZE	When the number of pixels (resolution) sought by the video image input is smaller than that (resolution) of D-ILA device, the video image is then enlarged to a virtually full screen size of D-ILA device and projected. (Resizing indication)
	BACK COLOR	Specifies the background colour when there is no image signal. Background colour can be selected from BLUE, CYAN, BLACK, GREEN, MAGENTA, RED, and YELLOW.
	COLOR TEMP.	- Adjusts the colour temperature of the video image being projected. Make adjustment when the video image becomes reddish or bluish. - Colour temperature can be set to LOW, MIDDLE, or HIGH.
	ASPECT CHANGE	Selects the vertical-to-horizontal ratio of the video image projected. The factory-set ratio is 4 : 3. When projecting high-vision image, a ratio of 16 : 9 can be selected.
	SLEEP TIME	Sets the length of sleep time. A set sleep time after input signal is depleted, the projector goes into a stand-by state. Sleep time can be selected from 10 minutes, 20 minutes, 30 minutes, and 60 minutes.
	LAMP TIME	Indicates accumulated used hours of the light-source lamp.
SOURCE		Normally used in AUTO. If use in AUTO is unstable such as colour not appearing, the screen being disturbed or the screen being intermittent, set to the dedicated source (forced mode) in accordance with the input signal.
DECODER		Does not work with computer-related inputs. (The colour system is indicated in gray.)
LANGUAGE		Text on the screen can be changed to a language other than English. Languages that can be displayed are the following six : ENGLISH, DEUTSCH (German), ESPAÑOL (Spanish), ITALIANO (Italian), FRANÇAIS (French), and 日本語 (Japanese). However, some texts are shown only in English.

Operating the Main Menu (Cont.)

Operating the Main Menu (Basic Operation of the Main Menu)

Remote control unit

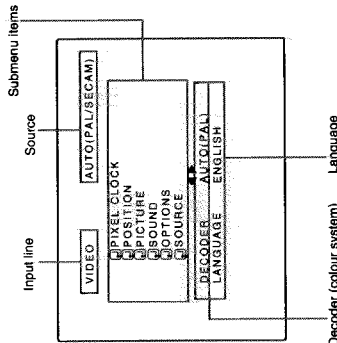


For projector's menus, the SETTING menu and the main menu are available. Here, we explain about the operation of the main menu. (see pages 34 to 47)
For the SETTING menu, refer to "Making Basic Settings" on page 31.

- 1 Press the MENU/ENTER button.
 - The main menu is displayed on the screen.
- 2 Select an item with the cursor button ▲ or ▼.
 - The selected item is shown in magenta colour on the screen.
- 3 Set (adjust) the item.
 - To select DECODER or LANGUAGE.
 - Set it with the cursor button ▲ or ▼.
 - To finish the main menu, press the PAGE BACK button.
 - To select an item on the submenu.
 - Press the MENU/ENTER button to display the submenu, then set (adjust) the item with the cursor buttons ▲/▼ or ▲/▼.
 - To return to the main menu, press PAGE BACK again. (To finish the main menu from the submenu, press PAGE BACK twice.)

Main menu

(Example: During video signal input)



About main menu display:

The selected input-mode designation is displayed. For input-mode designation, "Y/C", "VIDEO", "Y, Pb-B-Y, Pb-R-Y", "COMPUTER1" and "COMPUTER2" are available.

Source display:

The type of signal being input is displayed. With this projector, unique designations are previously given to specific horizontal and vertical frequencies. This allows the source selected under SOURCE (submenu item) to be indicated. The source setting can be selected from AUTO mode and dedicated (forced) modes. When AUTO is selected, the horizontal and vertical frequencies of a signal being input are detected and the matched designation is displayed in ().
Display example: "AUTO (PAL/SECAM)".
Therefore, be careful as the source display does not always correspond to the indication or type of the input signal. For the unique designations for the specific horizontal and vertical frequencies, see pages 19 and 46.

Submenu item display:

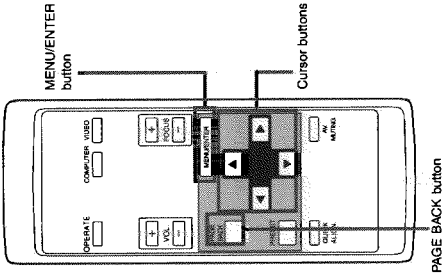
- PIXEL CLOCK : See page 37.
- POSITION : See page 38.
- PICTURE : See pages 39 – 41.
- SOUND : See page 42.
- OPTIONS : See pages 43 – 45.
- SOURCE : See pages 46 and 47.

Decoder (Colour system) display : See page 35.
Language display : See page 36.

Operating the Main Menu (Cont.)

Changing the Colour System

Remote control unit



AUTO is set for the colour system when the projector is shipped from the factory. Normally, use it in AUTO. If operation in AUTO is unstable such as with colour not being shown, set to a dedicated colour system in accordance with the colour system of the signal being input.

- 1 Press the MENU/ENTER button.
 - The main menu is shown on the screen.
- 2 Select "DECODER" with the cursor button ▲ or ▼.
 - The selected item is shown in magenta colour on the screen.
- 3 Set the colour system with the cursor button ▲ or ▼.
 - Each time you press the cursor button ▲ or ▼, the colour system changes as follows.
 - ▶ : Forward / ◀ : Backward

AUTO Normally, set to AUTO. The colour system of a signal being input is automatically identified.

NTSC Dedicated to NTSC.

NTSC4.43 Dedicated to NTSC4.43.

PAL Dedicated to PAL.

SECAM Dedicated to SECAM.

Memo

About automatic signal identification

- AUTO is selected when shipped from the factory. In AUTO, the colour system (DECODER) of the signal being input is automatically identified and indicated in (). Refer to the main menu display.
- If operation in AUTO is unstable such as with colour not being shown, set to a dedicated colour system in accordance with the colour system of the signal being input. When the dedicated colour system is set, be careful as automatic identification does not work.

- To finish the main menu, press the PAGE BACK button.

Colour system (DECODER) display

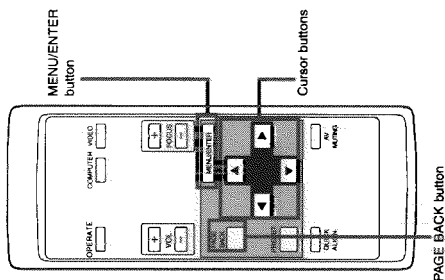
Note

- When computer-related signal is input, the display of the colour system is changed to gray colour, making operation impossible. When video signals from AV devices are input, the item for the colour system can be set.

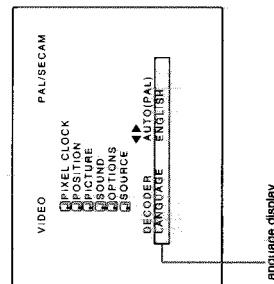
Operating the Main Menu (Cont.)

Changing the Language Display

■ Remote control unit



■ Main menu

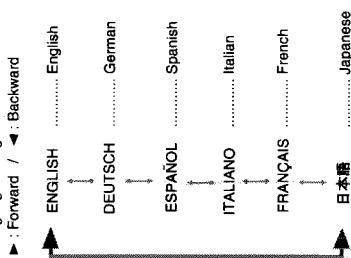


Note

- The selected item is shown in magenta colour. Items shown in gray cannot be operated or set in the current mode.

The language in the menu display is set to English when shipped from the factory. When you want to change to another language, set it as follows.

- 1 Press the MENU/ENTER button.**
 - The main menu is shown on the screen.
- 2 Select "LANGUAGE" with the cursor button ▲ or ▼.**
 - The selected item is shown in magenta colour on the screen.
- 3 Set the desired language with the cursor button ◀ or ▶.**
 - Each time you press the cursor button ◀ or ▶, the selected language changes as follows.



Memo

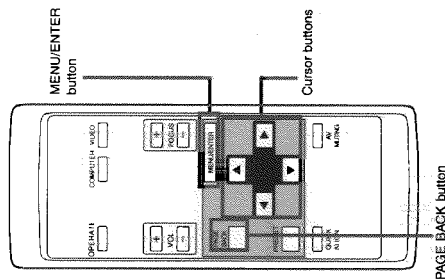
About language display
English is selected when the projector is shipped from the factory. The languages in the menu display are the following six: ENGLISH, DEUTSCH (German), ESPAÑOL (Spanish), ITALIANO (Italian), FRANÇAIS (French) and 日本語 (Japanese). However, some text such as "QUICK ALIGNMENT" is displayed only in English. Unique designations such as line display and source display are similarly indicated.

- To finish the main menu, press the PAGE BACK button.**

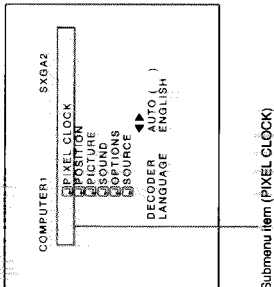
Operating the Main Menu (Cont.)

Adjusting the Pixel Clock

■ Remote control unit



■ Main menu



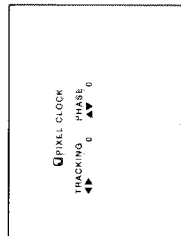
Submenu item (PIXEL CLOCK)

Notes

- The selected item is shown in magenta colour. Items shown in gray colour cannot be operated or set in the current mode.
- A dim screen could be caused by insufficient adjustment of brightness and contrast. Before adjusting phase, make sure that brightness and contrast are correctly adjusted.

The pixel clock should be adjusted mainly for computer-related inputs. (Normally, it does not need to be adjusted for video inputs.) If a wide stripe appears on the screen, adjust the lateral size of video image and the display area (tracking adjustment) so the stripe disappears. Also, if text on the video screen appears flickering or dim, make adjustment so it becomes clear (phase adjustment).

- 1 Press the MENU/ENTER button.**
 - The main menu appears on the screen.
- 2 Select "PIXEL CLOCK" with the cursor button ▲ or ▼.**
 - The selected item is shown in magenta colour on the screen.
- 3 Press the MENU/ENTER button.**
 - The submenu items of the PIXEL CLOCK menu appears on the screen.



(PIXEL CLOCK menu)

- 4 Adjust "TRACKING" and "PHASE" with the cursor buttons.**
 - Adjust the tracking and phase of the video screen being projected. To adjust the phase, first check for correct tracking adjustment.

ENGLISH

Adjustment item	Button	Adjustment content
TRACKING	◀	The screen shrinks laterally (right-to-left). (-255 → 0 → +255)
	▶	The screen extends laterally (right-to-left). (-255 → 0 → +255)
PHASE	▲	Set to a position where text appears clear.
	▼	(-127 → 0 → +127) (-127 → 0 → +127)

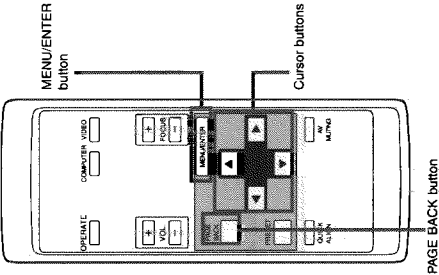
- To reset to the factory-set adjustment values, press the remote controls PRESET button. Tracking and phase are reset to the factory-set adjustment values.

- To return to the main menu, press the PAGE BACK button. To finish the main menu, press the PAGE BACK again.**
- To finish the menu display from the submenu display (PIXEL CLOCK menu), press PAGE BACK twice.

Operating the Main Menu (Cont.)

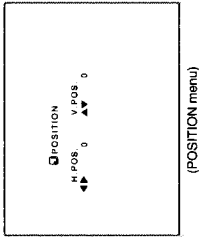
Adjusting the Screen Position

■ Remote control unit

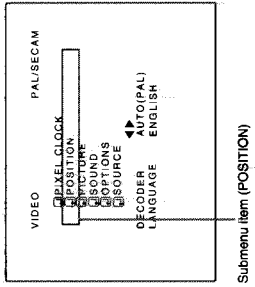


Adjust the position of the screen if it is displaced.

- 1 Press the MENU/ENTER button.**
 - The main menu appears on the screen.
- 2 Select "POSITION" with the cursor button ▲ or ▼.**
 - The selected item is shown in magenta colour on the screen.
- 3 Press the MENU/ENTER button.**
 - The submenu items of the POSITION menu appear on the screen.



■ Main menu



Note

- The selected item is shown in magenta colour. Items shown in gray colour cannot be operated or set in the current mode.

4 Adjust "H. POS." and "V. POS." with the cursor buttons.

- Adjust the horizontal and vertical positions of the video picture screen being projected.

Adjustment item	Button	Adjustment content
H. POS.	◀	The screen moves to the left. (-255 ← 0 ← +255)
	▶	The screen moves to the right. (-255 → 0 → +255)
V. POS.	▲	The screen moves upwards. (-120 → 0 → +120)
	▼	The screen moves downwards. (-120 ← 0 ← +120)

- To reset to the factory-set adjustment values, press the remote control's PRESET button. H. POS. and V. POS. are reset to the factory-set adjustment values.

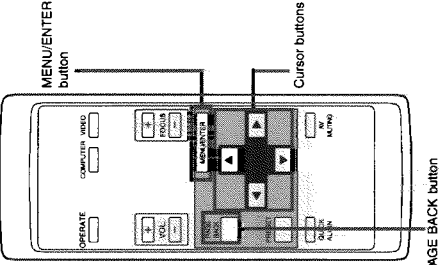
● To return to the main menu, press the PAGE BACK button. To finish the main menu, press the PAGE BACK again.

- To finish the menu display from the submenu display (POSITION menu), press PAGE BACK twice.

Operating the Main Menu (Cont.)

Adjusting Picture Quality

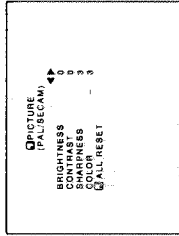
■ Remote control unit



Adjust brightness, contrast, etc. so you have the desired screen. Adjustment items (on the PICTURE menu) are different when video-related signals are input and when computer-related signals are input.

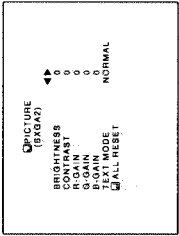
- 1 Press the MENU/ENTER button.**
 - The main menu appears on the screen.
- 2 Select "PICTURE" with the cursor button ▲ or ▼.**
 - The selected item is shown in magenta colour on the screen.
- 3 Press the MENU/ENTER button.**
 - The submenu items of the PICTURE menu appear on the screen.

■ When AV signals are input



(PICTURE menu)

■ When computer-related signals are input



(PICTURE menu)

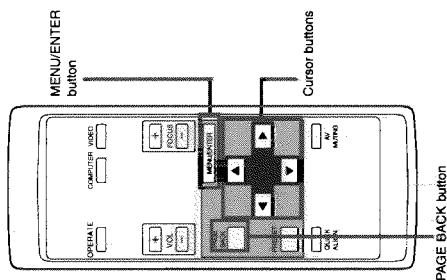
4 Select the item to adjust with the cursor button ▲ or ▼.

- The item to adjust is shown in magenta colour.

(To be continued on the next page)

Adjusting Picture Quality (Cont.)

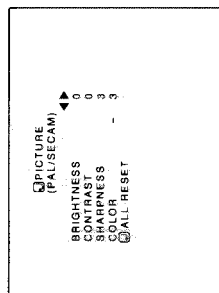
■ Remote control unit



PAGE BACK button

■ Submenu items

(PICTURE menu)



Notes

- The selected item is shown in magenta colour. Items shown in gray colour cannot be operated or set in the current mode.
- Adjustment items (on the PICTURE menu) are different when AV signals are input and when computer-related signals are input.

5 Make adjustment with the cursor button ◀ or ▶.

■ For video system input

- To adjust multiple items, repeat steps 4 and 5.
- To reset all items (to factory-set adjustment values "0"), select ALL RESET with the cursor buttons and press the MENU/ENTER button.
- To reset only the selected items (ALL RESET excluded) to the factory-set adjustment value, press the remote control's PRESET button. The selected item is reset to the factory-set adjustment value.

Adjustment item	Button	Adjustment content
BRIGHTNESS	◀	Gets darker. (-30 ← 0 ← +30)
	▶	Gets brighter. (-30 → 0 → +30)
CONTRAST	◀	Gets lower. (-30 ← 0 ← +30)
	▶	Gets higher. (-30 → 0 → +30)
SHARPNESS	◀	Gets softer. (0 ← 7)
	▶	Gets sharper. (0 → 7)
COLOR	◀	Gets softer. (-30 ← 0 ← +30)
	▶	Gets deeper. (-30 → 0 → +30)
TINT	◀	Gets reddish. (-30 ← 0 ← +30)
	▶	Gets greenish. (-30 → 0 → +30)
ALL RESET	MENU/ENTER	Resets all adjustment values of items on the PICTURE menu to the factory-set values (0).

*COLOR-COLOUR

Notes

- The adjustment item, TINT, is displayed only for NTSC system. It is not displayed (cannot be adjusted) when PAL or SECAM system signals are input.
- When video signals are input to the COMPUTER (IN-2 terminal), adjustment items "COLOR" and "TINT" are indicated but cannot be adjusted.

■ For computer system input

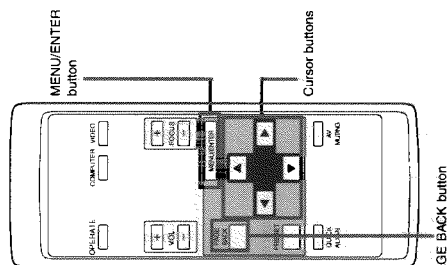
- To adjust multiple items, repeat steps 4 and 5.
- To reset all items (to factory-set adjustment values "0"), select ALL RESET with the cursor buttons and press the MENU/ENTER button.
- To reset only the selected items (ALL RESET excluded) to the factory-set adjustment value, press the remote control's PRESET button. The selected item is reset to the factory-set adjustment value.

Notes

- The selected item is shown in magenta colour. Items shown in gray colour cannot be operated or set in the current mode.
- Adjustment items (on the PICTURE menu) are different when AV signals are input and when computer-related signals are input.

Adjusting Picture Quality (Cont.)

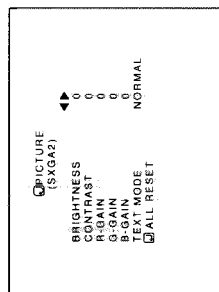
■ Remote control unit



PAGE BACK button

■ Submenu items

(PICTURE menu)



Notes

- The selected item is shown in magenta colour. Items shown in gray colour cannot be operated or set in the current mode.
- Adjustment items (on the PICTURE menu) are different when AV signals are input and when computer-related signals are input.

Adjustment item	Button	Adjustment content
BRIGHTNESS	◀	Gets darker. (-30 ← 0 ← +30)
	▶	Gets brighter. (-30 → 0 → +30)
CONTRAST	◀	Gets lower. (-30 ← 0 ← +30)
	▶	Gets higher. (-30 → 0 → +30)
R-GAIN	◀	Gets less reddish. (-30 ← 0 ← +30)
	▶	Gets more reddish. (-30 → 0 → +30)
G-GAIN	◀	Gets less greenish. (-30 ← 0 ← +30)
	▶	Gets more greenish. (-30 → 0 → +30)
B-GAIN	◀	Gets less bluish. (-30 ← 0 ← +30)
	▶	Gets more bluish. (-30 → 0 → +30)
TEXT MODE	◀	Sets a mode which allows easy text reading. NORMAL → TEXT1 NORMAL → TEXT2
	▶	Resets all adjustment values of items on the PICTURE menu to the factory-set status (adjustment values: 0, text mode: NORMAL).
ALL RESET	MENU/ENTER	

Note

- There is a relationship between the adjustment of items R-GAIN, G-GAIN, and B-GAIN and that of item CONTRAST. For example, when adjustment values are: R-GAIN: 0, G-GAIN: 5, B-GAIN: 0, and CONTRAST: 0, changing CONTRAST to 1 changes the adjustment values as follows: R-GAIN: 1, G-GAIN: 6, and B-GAIN: 1. Also, when the adjustment value of any of R-GAIN, G-GAIN, and B-GAIN has reached -30 (minimum) or +30 (maximum), CONTRAST cannot be adjusted to any higher value. For example, when R-GAIN is 0, G-GAIN is 5, B-GAIN is 0, and CONTRAST is 0, increasing CONTRAST allows the other adjustment values to increase until R-GAIN: 25, G-GAIN: 30, and B-GAIN: 25, then CONTRAST becomes 25 and cannot be adjusted to any higher value.

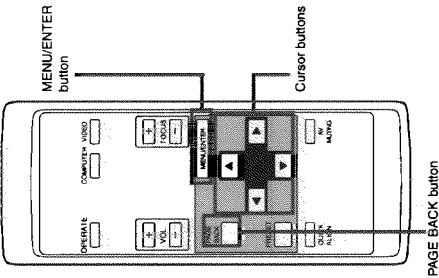
● To return to the main menu, press the PAGE BACK button. To finish the main menu, press PAGE BACK again.

- To finish the menu display from the submenu display (PICTURE menu), press PAGE BACK twice.

Operating the Main Menu (Cont.)

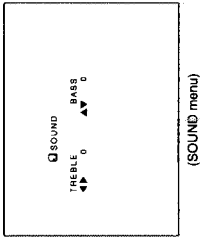
Adjusting Sound Quality

Remote control unit



Adjust the quality (treble/bass) of sound.

- 1 Press the MENU/ENTER button.
 - The main menu appears on the screen.
- 2 Select the "SOUND" with the cursor button ▲ or ▼.
 - The selected item is shown in magenta colour on the screen.
- 3 Press the MENU/ENTER button.
 - The submenu items of the SOUND menu appear on the screen.



4 Adjust "TREBLE" and "BASS" with the cursor buttons.

• Adjust the quality (TREBLE and BASS) of sound.

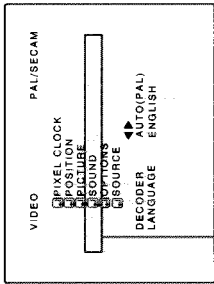
Adjustment Item	Button	Adjustment content
TREBLE	◀	Gets weaker. (-3 → 0 → +5)
	▶	Gets stronger. (-5 → 0 → +5)
BASS	▲	Gets stronger. (-5 → 0 → +5)
	▼	Gets weaker. (-5 → 0 → +5)

• To reset to the factory-set adjustment values, press the remote control's PRESET button. The treble and bass are reset to the factory-set adjustment values.

• To return to the main menu, press the PAGE BACK button. To finish the main menu, press PAGE BACK again.

• To finish the menu display from the submenu display (SOUND menu), press PAGE BACK twice.

Main menu



Submenu item (SOUND)

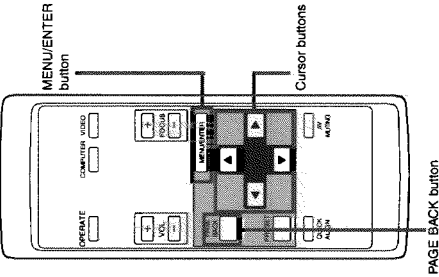
Note

• The selected item is shown in magenta colour. Items shown in gray colour cannot be operated or set in the current mode.

Operating the Main Menu (Cont.)

Setting and Adjusting Other Functions (OPTIONS)

Remote control unit



The following optional functions can be set (adjusted).

- MENU AUTO OFF
- LINE DISPLAY
- TOP BOTTOM INV.
- CLAMP
- BACK COLOR
- COLOR TEMP.
- SLEEP TIME
- LAMP TIME
- "COLOR-COLOUR"

Memo

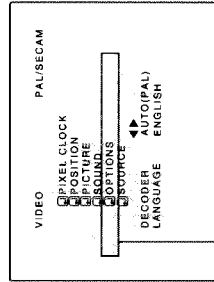
About the lamp use time (LAMP TIME)
The lamp use time indicates the accumulated used hours of the light-source lamp and cannot be set or adjusted. When you have replaced with a new light-source lamp, reset the lamp use time (see page 50).

Note

• The RESIZE function works for only computer system input. It does not work for video system input.

- 1 Press the MENU/ENTER button.
 - The main menu appears on the screen.
- 2 Select the "OPTIONS" with the cursor button ▲ or ▼.
 - The selected item is shown in magenta colour on the screen.
- 3 Press the MENU/ENTER button.
 - The submenu items of the OPTIONS menu are displayed.

Main menu

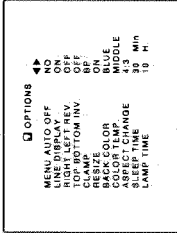


Submenu item (OPTIONS)

Note

• The selected item is shown in magenta colour. Items shown in gray colour cannot be operated or set in the current mode.
• Items to be set (adjusted) are different when AV signals are input and when computer system signals are input.

ENGLISH



(OPTIONS menu)

4 Select the item to set (adjust) with the cursor button ▲ or ▼.

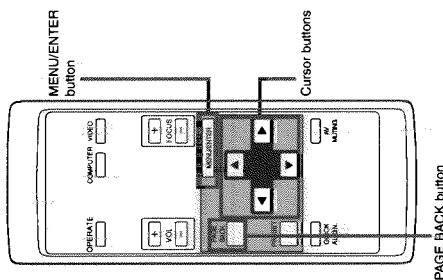
• The item to set is shown in magenta colour.

(To be continued on the next page)

Operating the Main Menu (Cont.)

Setting and Adjusting Other Functions (OPTIONS) (Cont.)

■ Remote control unit



■ Submenu items

[OPTIONS menu]

OPTIONS
 MENU AUTO OFF
 LINE DISPLAY ON
 RIGHT LEFT REV OFF
 TOP BOTTOM INV OFF
 CLAMP ON
 CLAMP BP ON
 ST
 BP
 RESIZE COLOR BLUE
 ASPECT TEMP MIDDLE
 SLEEP TIME 4:3
 LAMP TIME 30 Min.
 10 H.

Notes

- The selected item is shown in magenta colour. Items shown in gray colour cannot be operated or set in the current mode.
- Items to be set (adjusted) are different when AV signals are input and when computer-system signals are input.
- When you turn the RESIZE function ON, allowing the screen to be enlarged virtually to its full size for projection (resizing display), the video image (resolution) becomes coarse.

5 Set (adjust) the desired item with the cursor button ◀ or ▶.

- To adjust multiple items, repeat steps 4 and 5.

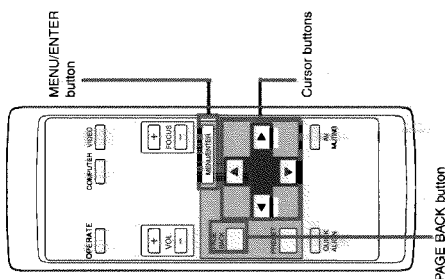
Adjustment item	Button	Adjustment content
MENU AUTO OFF	◀▶	Sets whether to clear the menu display automatically a fixed time later or not. (Factory setting: NO) YES: Clears the display automatically in about 25 seconds. NO: Does not clear the display automatically.
LINE DISPLAY	◀▶	Sets whether to show the line display (V/C, VIDEO, etc.) at the top of the projected screen or not. (Factory setting: ON) OFF: Does not show the line display. (The line display disappears about 5 seconds after it is shown.) ON: Shows the line display.
RIGHT LEFT REV.	◀▶	Reverses video image right-to-left. (Factory setting: OFF) OFF: For the front method ON: For upside hanging from the ceiling
TOP BOTTOM INV.	◀▶	Inverts video image upside-down. (Factory setting: OFF) OFF: For normal set-up ON: For upside hanging from the ceiling
CLAMP	◀▶	Sets the clamp pulse's position at the back porch (BP) or on the sink lip (ST). Normally, the clamp is used at BP. If, with some PCs or workstations, the screen becomes unstable such as being too dark or too bright, try to switch to ST. BP: The clamp pulse is positioned at the back porch. ST: The clamp pulse is positioned on the sink lip.
RESIZE	◀▶	When the number of pixels (resolution) sought by the input video is smaller than that (resolution) of D-LA device, the video image is then enlarged to virtually full screen size of D-LA device and projected (resizing display). (Factory setting: ON) Does not work (cannot be set) for video system input. OFF: Does not enlarge the video image for projection. When the number of pixels sought by video image is smaller than that of D-LA device, projection takes place on a small screen size with a black area around the screen. ON: Enlarges virtually to the full screen size of D-LA device for projection (resizing display).

(To be continued on the next page)

Operating the Main Menu (Cont.)

Setting and Adjusting Other Functions (OPTIONS) (Cont.)

■ Remote control unit



■ Submenu items

[OPTIONS menu]

OPTIONS
 MENU AUTO OFF
 LINE DISPLAY ON
 RIGHT LEFT REV OFF
 TOP BOTTOM INV OFF
 CLAMP ON
 CLAMP BP ON
 ST
 BP
 RESIZE COLOR BLUE
 ASPECT TEMP MIDDLE
 SLEEP TIME 4:3
 LAMP TIME 30 Min.
 10 H.

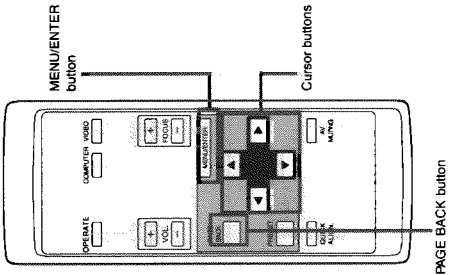
Notes

- The selected item is shown in magenta colour. Items shown in gray colour cannot be operated or set in the current mode.
- Items to be set (adjusted) are different when AV signals are input and when computer-system signals are input.

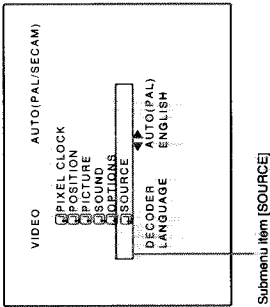
Operating the Main Menu (Cont.)

Changing (Setting) the Source

Remote control unit



Main menu



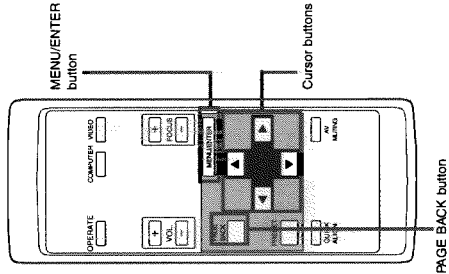
Notes

- The selected item is shown in magenta colour. Items shown in gray colour cannot be operated or set in the current mode.
- Items that can be set are different when video signals are input and when computer signals are input.
- For dedicated source signals (corresponding frequency, etc.) for computer signals, see page 19.

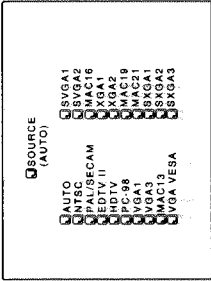
Operating the Main Menu (Cont.)

Changing (Setting) the Source (Cont.)

Remote control unit



Submenu item



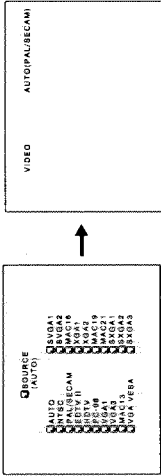
Notes

- The selected item is shown in magenta colour. Items shown in gray colour cannot be operated or set in the current mode.
- Items that can be set are different when video signals are input and when computer signals are input.
- For dedicated source signals (corresponding frequency, etc.) for computer signals, see page 19.

5 Press the MENU/ENTER button to set (fix) it.

When AUTO is selected:

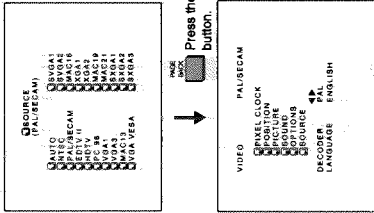
- The main menu is automatically cleared, completing the setting procedure, and the source display inputted appears.
- Both line display and source display appear on the screen and disappear in five seconds. However, they do not appear if the line display is set to OFF.



When other than AUTO is selected:

- The selected item is shown in () beneath the indicated text "SOURCE" at the top of the screen, completing the setting procedure.

- To finish the menu display, press the PAGE BACK button twice (the first press returns you to the main menu and the second press clears it).



- Press the PAGE BACK button.
- The menu display is finished.

Replacing the Light-Source Lamp

The light-source lamp has its service life. It is approximately 1000 hours.

When the light-source lamp approaches the end of its service life, its degradation progresses rapidly. When the lamp's used hours exceed 900 hours, the projector's LAMP indicator comes on. Also, at the start of projection (lamp energized), the message "REPL.-LAMP" appears on the projection screen for about two minutes. Then, replace with a new light-source lamp, or arrange for a replacement lamp. When lamp's service has reached 1000 hours, the projector's LAMP indicator starts blinking, and if you press the OPERATE button (or press the remote control's OPERATE button for more than one second), the light-source lamp does not turn on. The specified lamp replacement period is 1000 hours, but depending on use conditions, the replacement period may vary. If video image is dark and its colour tint is extraordinary even after you have adjusted colour tint and brightness, replace the light-source lamp a little earlier.

Purchase new light-source lamps (part No. : G10-LAMP-SU) from the JVC-authorized dealer where you have purchased the projector, or consult the nearest JVC Service center.

CAUTIONS and NOTES

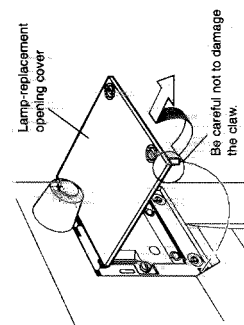
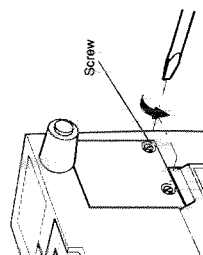
- If the projector is set up in a light place which is unsuitable for work, and if you perform replacement work there, this could hurt you. Move the projector to a place wide enough for work, and then replace the lamp.
- Use a genuine product for the light-source lamp. If you use other than a genuine product, this could cause a malfunction. Also, never use an old light-source lamp. An old lamp could cause marked degradation in performance or explode itself, possibly causing the projector to malfunction. Also, its broken pieces could come out of the projector and harm you when replacing the light-source lamp.
- Do not replace the light-source lamp immediately after the projector has been used. The temperature of the light-source lamp is still high and could cause a burn. Be sure to allow a cooling period of one hour or more before performing replacement work.
- Before starting lamp replacement work, turn off the MAIN POWER switch (see page 26), and disconnect the power cord from the wall outlet. If you perform the replacement work with the power cord left connected, this could cause harm or electric shock.
- Never discard an old light-source lamp (used lamp), as is. Otherwise, this could involve a great danger. The lamp contains a xenon gas inside, which is applying a high pressure. If the gas is not removed, it could cause the lamp to explode. For handling used lamps, refer to the manual supplied with the new replacement lamp you have purchased. If you have any questions, consult a JVC-authorized dealer where you have bought the replacement lamp or nearest JVC Service center.

1 Remove the lamp-replacement opening cover by loosening screws.

Loosen the two screws with a flat-end screwdriver.

Note

- The screws are fitted so that they do not come off the lamp-replacement opening cover.



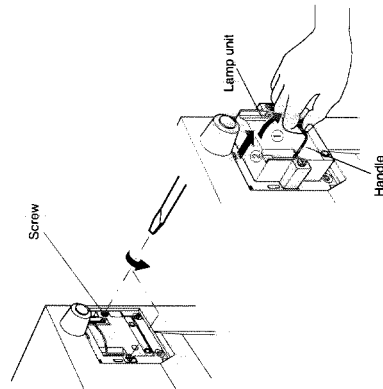
Replacing the Light-Source Lamp (Cont.)

2 Loosen the lamp-unit screws, raise the handle, and pull out the lamp unit.

Loosen the two screws with a flat-end screwdriver.

Note

- The screws are fitted so that they do not come off the lamp-unit.

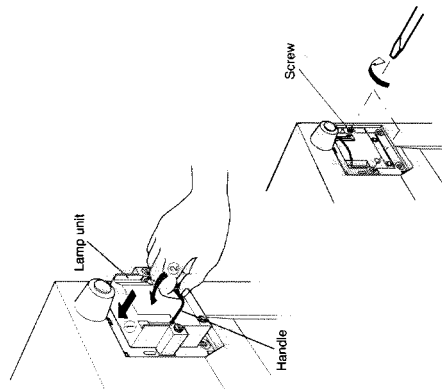


3 Insert the new lamp unit fully inside and fasten the screws.

Fasten the two screws with a flat-end screwdriver.

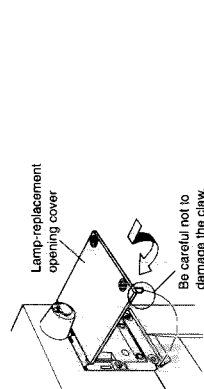
CAUTION

- Do not touch the glass surface of the light-source lamp directly with your hand as well as staining it. If you touch with a bare hand, stains on your hand may adhere to the lamp, possibly preventing the lamp from performing as specified due to a shortened lamp life, a darkened screen, etc. To handle a new light-source lamp, hold its plastic part. Never touch the metal part or the front glass surface.



4 Replace the lamp-replacement opening cover and fasten the screws.

Fasten the two screws with a flat-end screwdriver.



CAUTIONS

- Install the lamp unit and close the lamp-replacement opening cover correctly; otherwise, a safety switch is activated to prevent the projector from operating.
- If the claw on the lamp-replacement opening cover is damaged, the projector may not possibly operate. Then, replace with a new lamp-replacement opening cover.
- After replacing the lamp, be sure to reset the lamp use time (see page 50).

Cleaning and Replacing the Filter

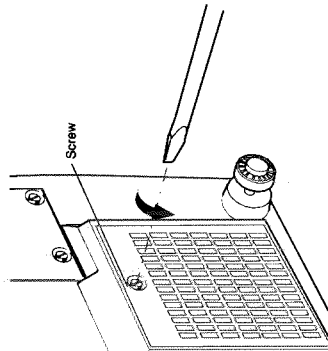
Clean the filter periodically. If the filter is heavily stained and does not get clean, or if it is damaged, replace the filter with a new filter (part No.: LC30206). Otherwise, dirt may get inside and appear on the screen, possibly preventing you from enjoying the video image fully. If dirt gets inside or if you need information about the filter, consult a JVC-authorized dealer where you have purchased the projector or nearest JVC Service center.

1 Turn off the MAIN POWER switch.

After the projector goes into stand-by state with the STAND BY indicator on, turn off the MAIN POWER switch and pull out the power cord from the projector and the wall outlet.

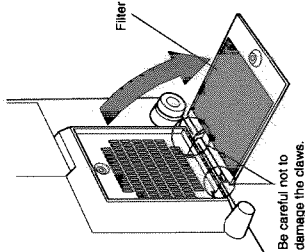
2 Remove the filter.

Loosen the screw with a flat-end screwdriver.



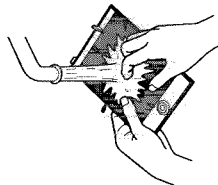
Notes

- This screws are fitted so that they do not come off the filter.
- If the filter is clogged with dirt, etc., the projector goes into an emergency mode (the EMERGENCY indicator blinks). So, clean the filter periodically. For the emergency mode, refer to pages 9 and 25.



3 Clean the filter.

Clean the filter with a neutral detergent, wash it in water, and then dry it in the shade.



CAUTIONS

- Put on rubber gloves when using neutral detergent.
- After you have washed the filter in water, make sure the filter is completely dry before reinstalling it. Otherwise, electric shock or malfunction could occur.
- Do not clean the filter using a vacuum cleaner. Since the filter is soft, it may be sucked into the vacuum cleaner or damaged.

4 Reinstall the filter.

Fasten the screw with a flat-end screwdriver.

Notes

- Install the filter correctly. Otherwise, the projector does not operate. (Goes into an emergency mode.)
- If the filter's claws are damaged, the projector may not operate. Then, replace with a new filter.

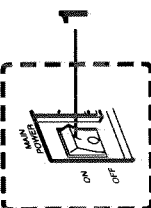
Replacing the Light-source Lamp (Cont.)

Resetting the Lamp Use Time

After replacing with a new light-source lamp, reset the counter inside the projector. This works to reset the life calculation of the light-source lamp, allowing the used time of the new light-source lamp to be accumulated.

Projector's button

[MAIN POWER switch]



1 Turn on the MAIN POWER switch to go into stand-by mode.

- ON [1]: The MAIN POWER turns ON and the STAND BY indicator lights.

2 Press and hold down the "VIDEO", "SETTING", and "COMPUTER" buttons at the same time for six seconds or more.

- The STAND BY and OPERATE indicators come on at the same time.

3 While the STAND BY and OPERATE indicators are on, press the "VIDEO", "SETTING", and "COMPUTER" buttons at the same time.

- The STAND BY and OPERATE indicators blink two seconds alternately, and after blinking, the projector returns to stand-by state (the STAND BY indicator lights).

4 This completes the resetting of the lamp use time.

- This completes the resetting of the lamp use time.

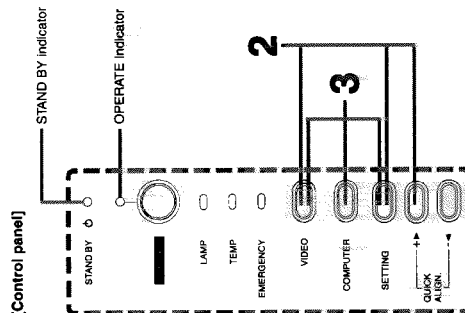
To check the lamp use time has been reset: You can check it by LAMP TIME on the OPTIONS menu.

Memo

To check the lamp use time has been reset: You can check it by LAMP TIME on the OPTIONS menu.

CAUTIONS

- After replacing with a new light-source lamp, be sure to reset the lamp use time. When the lamp use time indicates 1000 hours, and if it is not reset, the projector does not operate. (The light-source lamp does not turn on.)
- Reset the lamp use time only when you have replaced with a new light-source lamp. Never reset it at a halfway time. Otherwise, the replacement time may become unclear, degrade performance markedly, or cause lamp explosion.



Troubleshooting

Solutions to common problems related to your projector are described here. If none of the solutions presented here solves the problem, unplug the projector and consult a JVC-authorized dealer or service center.

Symptom	Probable cause	Corrective action	Page
Power is not supplied.	• Is the power cord disconnected?	• Insert the power cord (plug) firmly.	24
	• Is the MAIN POWER switch turned on?	• Turn on the MAIN POWER switch.	26
	• Is the lamp-replacement opening cover closed correctly?	• Turn off the MAIN POWER switch, close the lamp-replacement opening cover, and turn on the MAIN POWER switch again.	26, 48
	• Is the air filter closed correctly?	• Turn off the MAIN POWER switch, fit the air filter correctly, and turn on the MAIN POWER switch again.	26, 51
Light is not emitted, or light level is low.	• Has the lamp life expired? (Has the lamp use time reached 1000 hours?)	• Turn off the MAIN POWER switch, replace with a new light source lamp, and turn on the MAIN POWER switch. Reset the lamp use time after replacing with a new lamp.	26, 48, 50
	• Is the lens cap removed? • Is the lamp life near its end?	• Remove the lens cap. • Check the lamp use time on the menu, and if the lamp life is near its end, arrange for a replacement lamp, or replace a little earlier.	24 43
With power on, operation starts but stops in a few minutes.	• Is the air intake or exhaust area blocked?	• Turn off the MAIN POWER switch, remove any blocking objects, and turn on the MAIN POWER switch again.	6, 8, 15, 26
Video image does not appear, or audio sound does not occur.	• Is the correct input selected?	• Select the correct inputs with the VIDEO and COMPUTER buttons.	27
	• Are connected devices connected correctly?	• Connect connected devices correctly.	19
	• Are signals being supplied from the connected devices?	• Set connected devices correctly.	—
	• Are input signals (scanning frequency, etc.) appropriate?	• Check if the signal is correct as input (scanning frequency, etc.). Input the appropriate signal.	19
Video image dims.	• Is the source setting correctly selected? Isn't a wrong source (forced mode) selected?	• Set the source setting to AUTO or to the correct dedicated source (forced mode).	46, 47
	• Is brightness adjusted correctly?	• Adjust brightness on the menu.	39
	• Is volume set at minimum?	• Adjust volume with the remote control's VOL. (+/-) buttons.	28
	• Aren't video and audio turned off by pressing the remote control's AV MUTE button?	• Press the remote control's AV MUTE button to turn video and audio on.	29
	• Is focus adjusted correctly?	• Adjust focus with the remote control's FOCUS (+/-) buttons.	28, 31
	• Is distance too short or too long?	• Set the projector at the correct distance.	16, 17
Colour is poor or unstable.	• Are TRACKING and PHASE adjusted correctly?	• Adjust TRACKING and PHASE on the menu.	31, 37
	• Is picture quality (colour density, etc.) adjusted correctly?	• Adjust picture quality on the menu.	39
	• Is the correct broadcast system (colour system) selected?	• Set the broadcast system (colour system) to AUTO.	35
	• Are signals (scanning frequency, etc.) to connected devices appropriate?	• Check if the signal is appropriate (scanning frequency, etc.), and input the appropriate signal.	19
	• Is the source setting correctly selected? Isn't a wrong source (forced mode) selected?	• Set the source setting to AUTO. If the problem still persists, set it to the correct dedicated source (forced mode).	46

Symptom	Probable cause	Corrective action	Page
The upper part of the video image bows or distorts.	• While computer system signal is input, isn't a sync signal for composite sync (Cs) or G on sync being input?	• Input separate sync signals for vertical sync (V) and horizontal sync (H) signals.	12
	• Isn't signal with much jitter or skew distortion being input to a video deck?	• Input signals with little jitter or distortion.	—
	• Is the source setting correctly selected? Isn't a wrong source (forced mode) selected?	• Set the source setting to AUTO. If the problem still persists, set it to the correct dedicated source (forced mode).	46
Video image and audio sound suddenly go out.	• Are video picture and audio turned off by pressing the AV MUTE button on the remote control unit?	• Turn on video picture and audio by pressing the remote control's AV MUTE button.	29
Remote control unit does not work.	• Are batteries installed correctly?	• Match the polarities of batteries correctly (+ to + and - to -).	14
	• Are batteries exhausted?	• Replace with new batteries.	14
	• Is there a shielding object between the remote control unit and the remote sensor?	• Remove any shielding objects.	18
	• Is the distance too long?	• Use the remote control unit at a nearer point.	18

* This projector is equipped with a microcomputer that may operate abnormally due to interference from external components. If this happens, turn off the MAIN POWER and disconnect the power cord from the wall AC outlet. Then reconnect the power cord to AC outlet and turn on the MAIN POWER again.
(For the turning on and off the power, see pages 25 to 26.)

Maintenance

• Stains on the cabinet

Should be wiped off with a soft cloth. If the cabinet is heavily stained, wipe it with a cloth soaked in water-diluted neutral detergent and wrung well, then wipe clean with a dry cloth.

• Since the cabinet may deteriorate in quality, become damaged or get its paint peeled off, be careful about the following:

- Do not wipe it with a hard cloth.
- Do not wipe it strong.
- Do not wipe it with thinner or benzene.
- Do not apply any volatile substance such as insecticides to it.
- Do not allow any rubber or vinyl article to remain in contact with it for a long time.

• Stains on the lens

Should be cleaned off with commercially available blowers or lens cleaning paper (for cleaning glasses and cameras). Do not use liquid cleaning agents. This could cause the surface coating to be removed.

Do not rub or hit the lens as its surface is prone to damage.

Specifications

Optical mechanism system

- 3D-LA device, 1 lens, 3 primary colour optical shutter method
- Projection method : 0.9" (2.3cm) measured diagonally (1,365×1,024 pixels) × 3 (Total number of pixels : 4,193,280)
- D-ILA device
- Projecting lens : 1 : 1 Fixed focal length lens
- Screen size : 40" to 200" (approx. 101 cm to 508 cm) measured diagonally (* with aspect ratio : 4 : 3)
- Light-source lamp : 400 W xenon lamp

Electrical system

- Colour system : NTSC, NTSC4.43, PAL, SECAM (* Automatic switching / manual switching)
- Resolution : 1,365 × 1,024 dots (*S-XGA full resolution, during RGB input)
- Scanning frequency : 1000TV lines (*Horizontal resolution, aspect ratio 4 : 3, during video input)
- Horizontal frequency : 15 kHz – 82 kHz
- Vertical frequency : 50 Hz – 78 Hz

Input / output

[AV IN (AV IN input)]

- V/C : 1-line, mini-DIN 4 pin × 1
- Y (luminance signal) : 1Vp-p, 75Ω (negative sync)
- C (chroma signal) : 0.286Vp-p (burst signal), 75Ω [NTSC]
: 0.3Vp-p (burst signal), 75Ω [PAL]

• VIDEO

- 1-line, BNC × 1
- Composite video signal : 1Vp-p, 75Ω (negative sync)

• Y, Pb/B-Y, Pr/R-Y

- 1-line, BNC × 1
- Component (Y/B-Y/R-Y) signals
- Y : 1Vp-p, 75Ω (negative sync)
- B-Y : 0.7Vp-p, 75Ω
- R-Y : 0.7Vp-p, 75Ω
- High-vision base band (YPb, Pr) signals
- Y : 1Vp-p, 75Ω (3-value sync)
- Pb : ±0.35Vp-p, 75Ω
- Pr : ±0.35Vp-p, 75Ω

• AUDIO LR (for AV IN)

- 1-line, RCA × 2
- Audio signal : 0.5Vrms, high impedance

[COMPUTER IN (COMPUTER Input)]

• COMPUTER IN-1 (PC)

- 1-line, D-sub 3-row 15 pin × 1
- Analog RGB signal
- R : 0.7Vp-p, 75Ω
- B : 0.7Vp-p, 75Ω
- G : 0.7Vp-p, 75Ω
- G on Sync : 1Vp-p, 75Ω (negative sync)
- Sync signal : 3 to 5Vp-p, high impedance (positive/negative polarity)
- * Some connected devices may not correspond to composite sync (Cs) or G on sync signal.

- AUDIO (For COMPUTER IN-1)
- 1-line, stereo mini-jack × 1
- 0.5Vrms, high impedance

• COMPUTER IN-2

- 1-line, BNC × 5
- Analog RGB signal
- R : 0.7Vp-p, 75Ω
- B : 0.7Vp-p, 75Ω
- G : 0.7Vp-p, 75Ω
- G on sync : 1Vp-p, 75Ω (negative sync)

Specifications (Cont.)

Horizontal sync/composite sync signal (H/Cs)

- H : 3 to 5Vp-p, high impedance (positive/negative polarity)
- Cs : 3 to 5Vp-p, high impedance (positive/negative polarity)
- Vertical sync signal (V)
- V : 3 to 5Vp-p, high impedance (positive/negative polarity)
- * Some connected devices may not correspond to composite sync (Cs) or G on sync signal.

- AUDIO (For COMPUTER IN-2)
- 1-line, stereo mini-jack × 1
- 0.5Vrms, high impedance

[COMPUTER OUT (COMPUTER output)]

- COMPUTER OUT
- 1-line, D-sub 3-row 15-pin × 1
- Analog RGB signal
- R : 0.7Vp-p, 75Ω
- B : 0.7Vp-p, 75Ω
- G : 0.7Vp-p, 75Ω
- G on sync : 1Vp-p, 75Ω (negative sync)
- Horizontal sync/composite sync signal (H/Cs)
- H : TTL level (Polarity : Same for input)
- Cs : TTL level (Polarity : Same for input)
- Vertical sync signal (V)
- V : TTL level (Polarity : Same for input)

• AUDIO OUT

- 1-line, stereo mini-jack × 1
- 0 to 0.5Vrms (variable output)

[CONTROL]

- RS-232C : 1-line, D-sub 9-pin × 1
- * RS-232C-interface specified control terminal for controlling this projector with a personal computer.

• REMOTE

- : 1-line, mini-jack × 1
- * Remote terminal for connecting an infrared remote sensor extension unit, etc.

[Other]

- Audio power output (effective) : 1 W + 1 W
- Built-in speaker : 6 × 3 cm oval type × 2, impedance 8Ω

General

- Power requirements : 200 – 240V AC, 50/60 Hz
- Power consumption : 4 A (200V AC) [7 W during stand-by]
- Allowable operation temperature : +5°C to +35°C
- Allowable relative humidity : 20% to 80% (no condensation)
- Allowable storage temperature : –10°C to +60°C
- Maximum outside dimensions (excluding protruding parts) : Approx. (W)425 × (H)246 × (D)416 mm
- Weight : Approx. 14.9kg
- Accessories : (Refer to page 5.)

* Design and specifications are subject to change without notice.

* D-ILA devices are manufactured with a very high-precision technology, allowing 99.99% of the pixels to be effective. Only 0.01% or less of the pixels are missing or always on.

* For easy understanding, pictures and illustrations are shown by being emphasized, omitted or composed, and may be more or less different from actual products.

* TRADEMARKS

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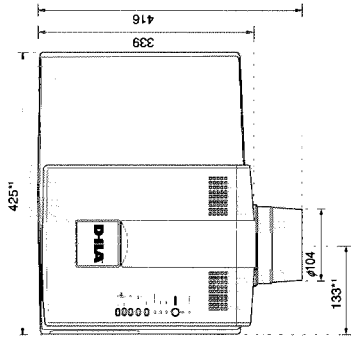
VESA is a trademark of the non-profit organization Video Electronics Standard Association.

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Specifications (Cont.)

Outside dimensions

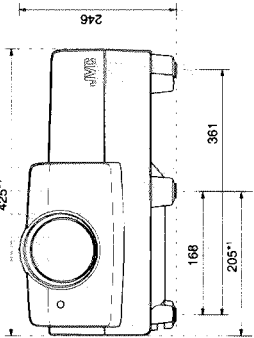
■ Top



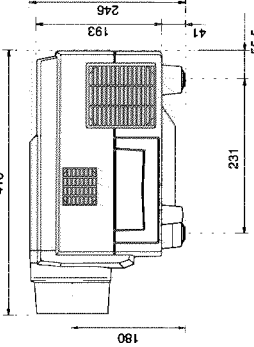
Unit: Inch (mm)

*1: Protrusion excluded

■ Front



■ Side



Specifications (Cont.)

Pin assignment (Specifications for terminals)

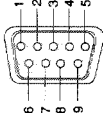
■ Y/C terminal

Pin number	Signal name
1	GND (Y)
2	GND (C)
3	Y
4	C



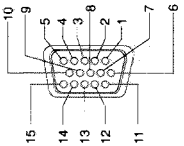
■ RS-232C terminal

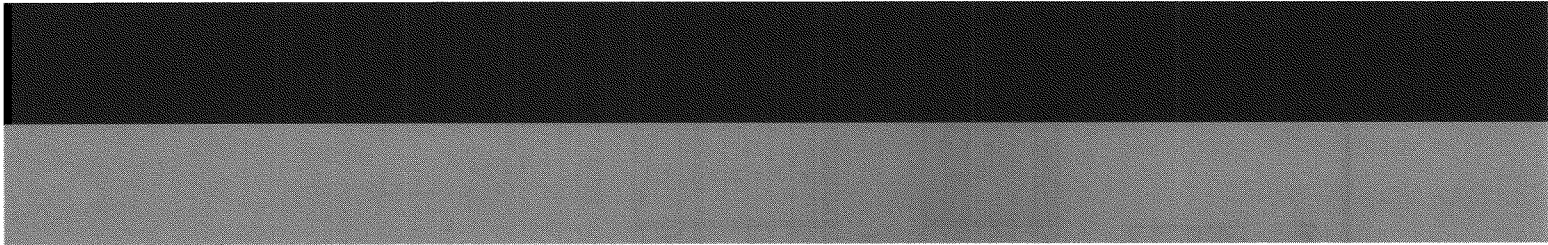
Pin number	Signal name	Pin number	Signal name
1	N/C	6	N/C
2	RD	7	N/C
3	TD	8	N/C
4	N/C	9	N/C
5	GND		



■ COMPUTER IN-1 (PC) / COMPUTER OUT Terminal

Pin number	Signal name	Pin number	Signal name
1	Red	9	N/C
2	Green	10	GND (SYNC)
3	Blue	11	GND
4	N/C	12	N/C
5	N/C	13	H SYNC
6	GND (Red)	14	V SYNC
7	GND (Green)	15	N/C
8	GND (Blue)		





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