

## COLOR VIDEO PROJECTOR

# VPH-1031Q

**OPERATING INSTRUCTIONS** page 2

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

Installation and preliminary adjustments should be performed by qualified Sony personnel.

**OWNER'S RECORD**

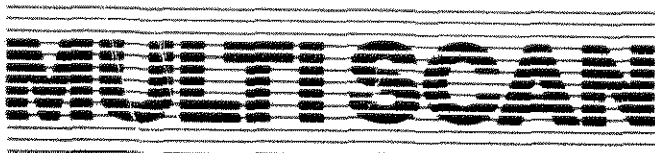
The model and serial numbers are located at the right side. Record these numbers in the spaces provided below. Refer to them whenever you call upon your Sony dealer regarding this product.

Model No. \_\_\_\_\_ Serial No. \_\_\_\_\_

**MODE D'EMPLOI** page 22

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

L'installation et les réglages préliminaires doivent être accomplis par un personnel Sony qualifié.



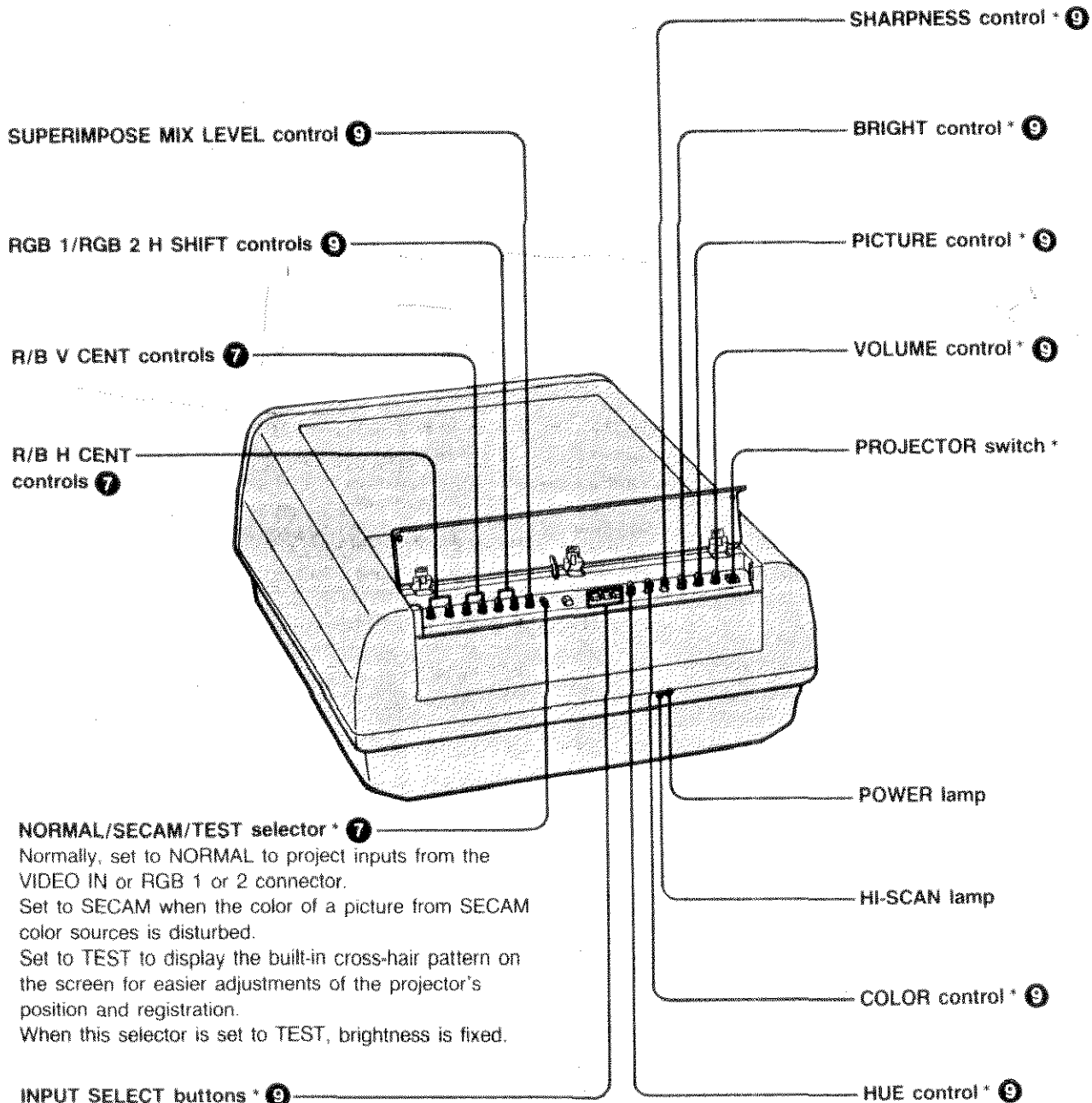
# SYSTEM INSTALLATION PROCEDURE

	Type of installation									
	1	2	3	4	5	6	7	8	9	10
<b>1</b> Install the screen. (See pages 4 to 9 and screen's installation manual.)	1	1	1	1	1	1	1	1	1	1
<b>2</b> Place the projector on the desk. (See pages 4 and 6.)	2				2				2	
<b>3</b> Place the projector on the SU-722 pedestal. (See pages 4 and 6 and SU-722's installation manual.)		3				3				
<b>4</b> Change the polarity. (See page 12.)			4	4			4	4		4
<b>5</b> Install the PSS-722 suspension support to the ceiling and attach the projector to the PSS-722. (See pages 5, 7 and 8 and PSS-722's installation manual.)			5	5			5	5		5
<b>6</b> Adjust the lens focus. (See page 13.)		6		6	6	6	6	6	6	6
<b>7</b> Adjust the registration. (See page 14.)		7		7	7	7	7	7	7	7
<b>8</b> Make the connections. (See the projector's instruction manual.)	8	8	8	8	8	8	8	8	8	8

# LOCATION AND FUNCTION OF CONTROLS

For details on the use of each control, refer to the pages in ●.

## Control panel



**NORMAL/SECAM/TEST selector\* 7**  
 Normally, set to NORMAL to project inputs from the VIDEO IN or RGB 1 or 2 connector.  
 Set to SECAM when the color of a picture from SECAM color sources is disturbed.  
 Set to TEST to display the built-in cross-hair pattern on the screen for easier adjustments of the projector's position and registration.  
 When this selector is set to TEST, brightness is fixed.

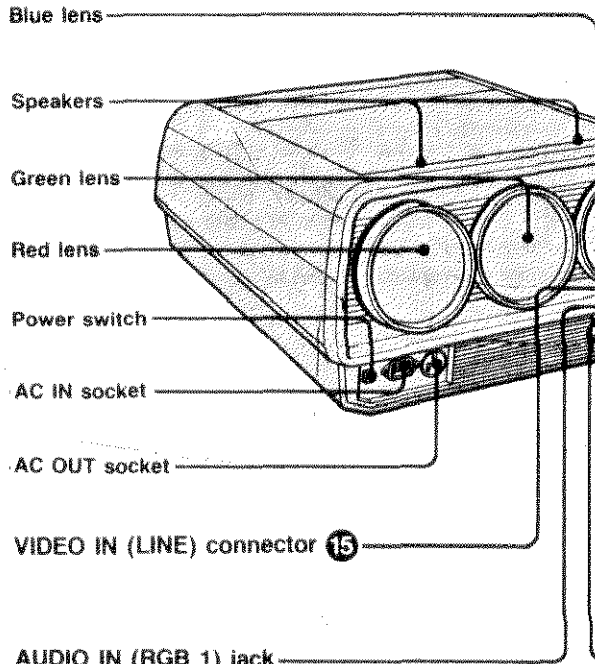
**INPUT SELECT buttons\* 9**  
 Press to select the program source to be projected.  
**LINE:** For inputs from the TO VPR-722 connector or the VIDEO IN/AUDIO IN connectors.  
**RGB 1:** For inputs from the RGB 1 connector and AUDIO IN (RGB 1) jack.  
**RGB 2:** For inputs from the RGB 2 connector.

### Notes

• SHARPNESS, COLOR and HUE controls do not function for RGB inputs.

• Controls and buttons with \* do not function when the VPR-722 remote controller is connected to the TO VPR-722 connector. The same controls on the VPR-722 are operative.

## Connector panel



**AUDIO IN (LINE) jack 15**  
Connect to the audio line output of a video tape recorder, video camera, TV, etc.

**VIDEO OUT connector 15 17**

**TO VPR-722 connector 17**

**RGB 2 input connector 16**

**NORMAL/SUPER selector 16**

Normally, set to NORMAL.

Set to SUPER when superimposing the data from the microcomputer connected to the RGB 2 connector, on the picture from No. 20 (video input) pin of the RGB 2 connector when the function select (AV control) signal fed through No. 8 pin is in the high state or no signal is fed through No. 8 pin, or on the picture from the TO VPR-722 or VIDEO IN connector when the signal fed through No. 8 pin is in the low state.

**RGB 1 input connector 16**

**DIGITAL selector**

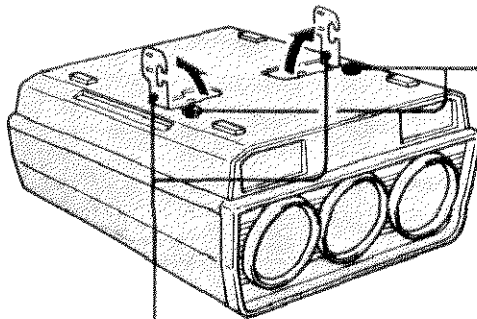
Normally set to 2.

When the microcomputer provided with the intensity output is connected, set to 1 for 16-color display.

**AUDIO IN (RGB 1) jack**

Connect to the analog RGB multioutput connector of a microcomputer.

## Bottom



**Brackets**

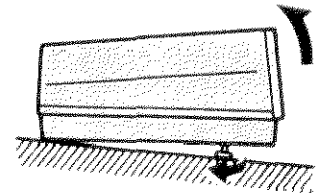
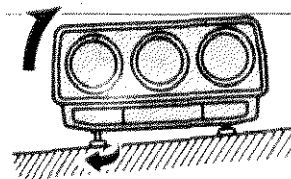
For attaching the projector to the PSS-722 suspension support or the SU-722 pedestal.

**Adjustable feet**

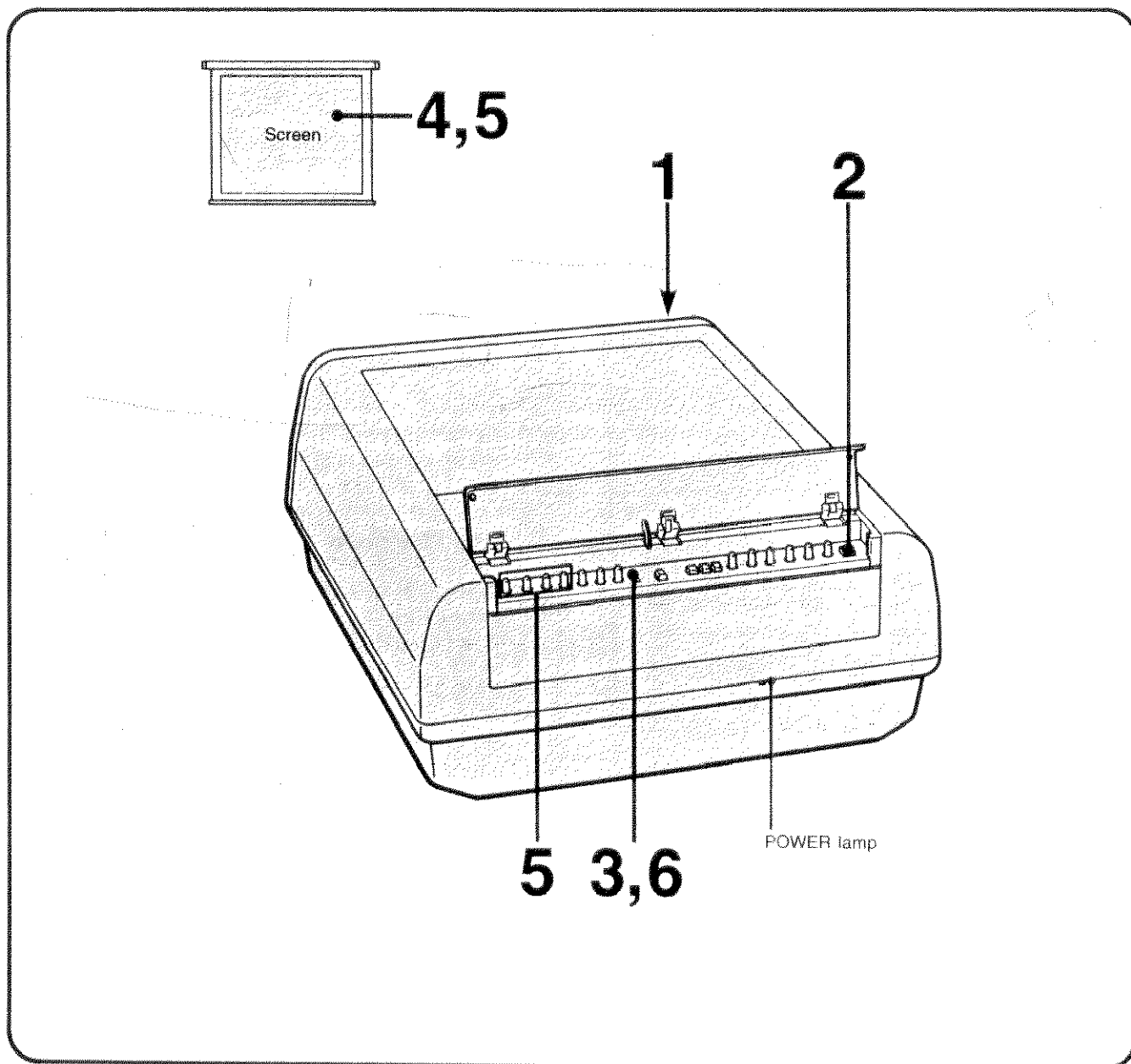
The horizontal balance and angle of the projector can be adjusted with these feet. The feet are factory-adjusted to the shortest length for a flat base.

Turn either foot to obtain horizontal balance.

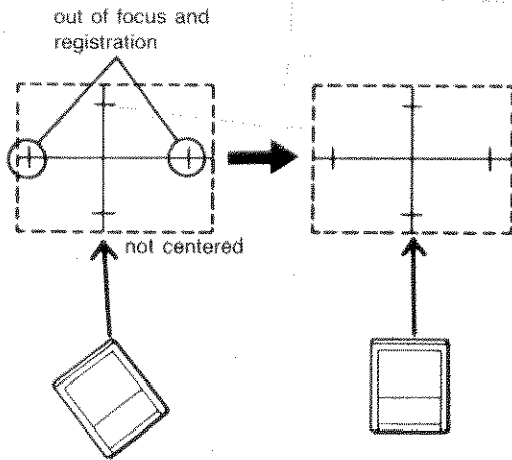
Turn both feet to adjust the angle.



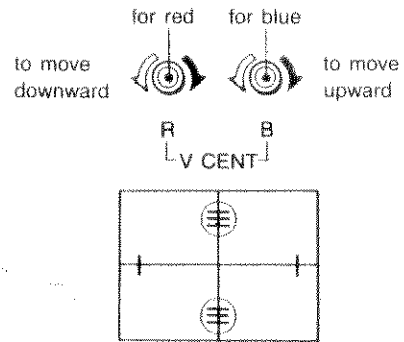
When the projector is installed on a desk or on the floor using the pedestal, it can be easily moved but it may be necessary to readjust the registration.



- 1 Depress the **POWER** switch (ON).
- 2 Depress the **PROJECTOR** switch (ON).  
When the remote controller is used, turn the **PROJECTOR** switch on the remote controller on. The green **POWER** lamp will light.
- 3 Set the **NORMAL/SECAM/TEST** selector to **TEST**.  
The built-in cross-hair pattern will be displayed.
- 4 Check the focus and centering.  
If the test pattern is not centered and focused on the screen, move the projector slightly so that the pattern is displayed clearly.



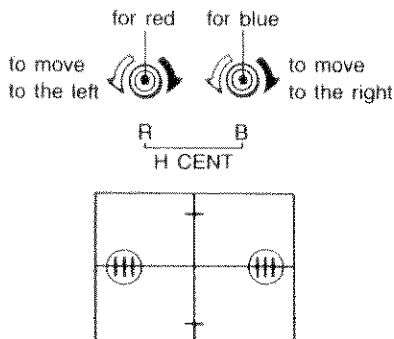
To move the red and blue horizontal lines



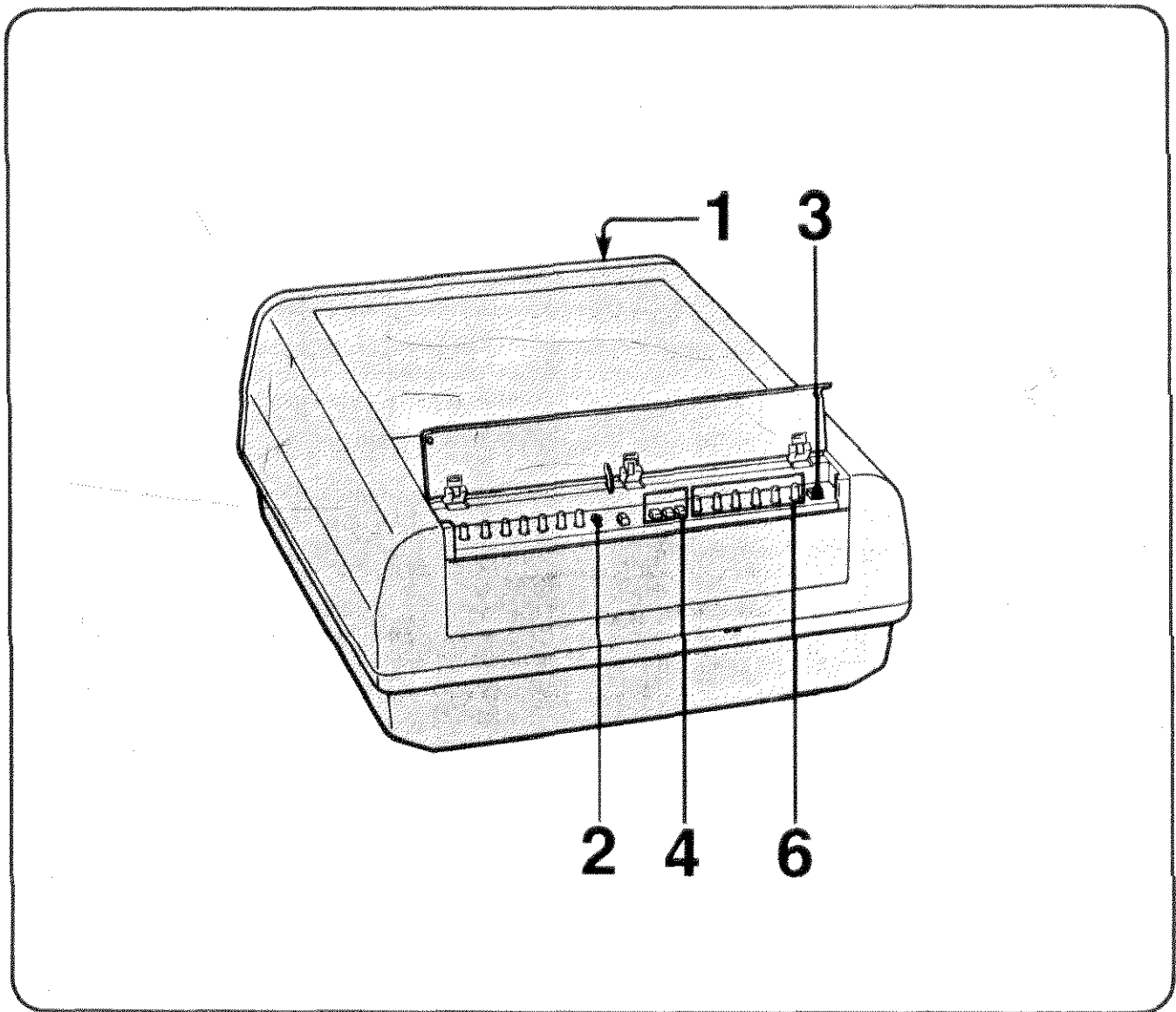
- 6 After the adjustment is complete, set the **NORMAL/SECAM/TEST** selector to **NORMAL**.

- 5 Check the convergence of red, green and blue.  
If the red and blue lines do not converge with the green line, adjust the R/B H CENT and R/B V CENT controls so that the three lines converge and the pattern is seen as white.

To move the red and blue vertical lines



For the appropriate distance between the projector and the screen, see pages 10 to 14.





## OPERATION

- 1 Depress the POWER switch (ON).
- 2 Make sure that the NORMAL/SECAM/TEST selector is set to NORMAL.
- 3 Depress the PROJECTOR switch (ON).
- 4 Select the program to be projected by pressing the appropriate INPUT SELECT button.
- 5 Turn on the connected equipment.  
The picture will be projected on the screen and the sound will be heard from the speaker.
- 6 Adjust the picture and sound to your preference.  
See below.

To turn off the projector  
Press the PROJECTOR switch again (OFF).

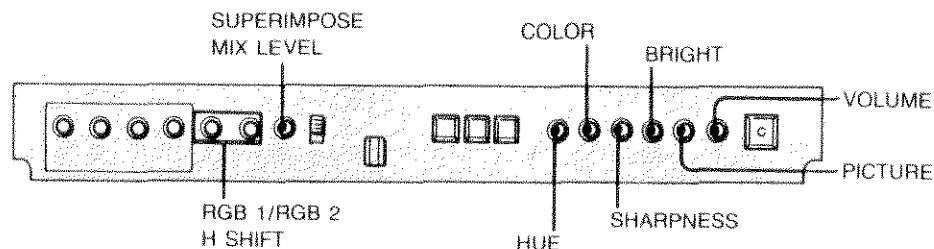
To turn off the power  
Press the POWER switch (OFF).

## OPERATION USING THE REMOTE CONTROLLER

When the optional Sony VPR-722 remote controller is connected to the TO VPR-722 connector, keep the POWER switch on the projector at ON and perform steps 3, 4 and 6 above on the controller. The controls on the projector do not function.

Note  
R/B V CENT, R/B H CENT, H SHIFT and SUPERIMPOSE MIX LEVEL control adjustments cannot be operated with the controller.

## PICTURE AND SOUND ADJUSTMENTS



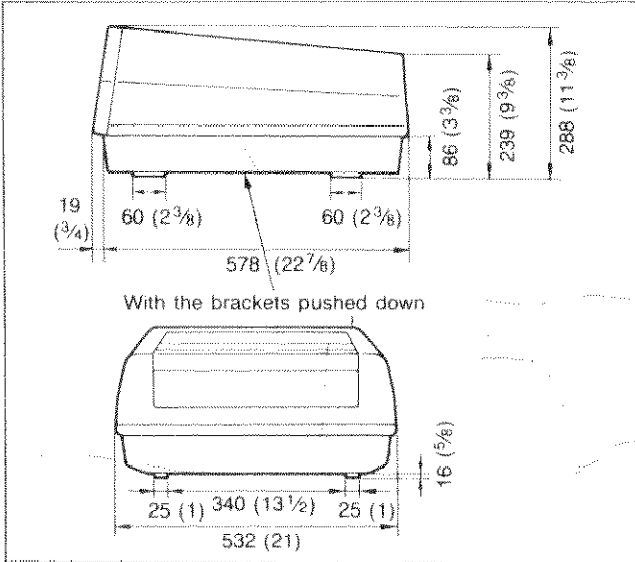
<b>VOLUME</b>	Turn toward MAX to increase volume, and toward MIN to decrease it.
<b>PICTURE</b>	Turn clockwise to increase picture contrast, color intensity and brightness in the proper ratio, and counterclockwise to decrease them.
<b>BRIGHT</b>	Turn clockwise for more brightness, and counterclockwise for less.
<b>SHARPNESS</b>	Turn clockwise for sharp picture, and counterclockwise for soft picture.
<b>COLOR</b>	Turn clockwise for more color intensity, and counterclockwise for less.

<b>HUE</b>	(Effective only for a program of the NTSC or NTSC4.43 color system) Turn clockwise to make the skin tones greenish, and counterclockwise to make them purplish.
<b>RGB1/RGB2 H SHIFT (horizontal shift) controls</b>	Adjust the horizontal position of the picture input from the RGB 1 connector and RGB 2 connector, if necessary. The RGB 2 H SHIFT control does not function when the NORMAL/SUPER selector is set to SUPER.
<b>SUPERIMPOSE MIX LEVEL control</b>	Adjusts the contrast of the superimposed picture connected to the RGB 2 connector.

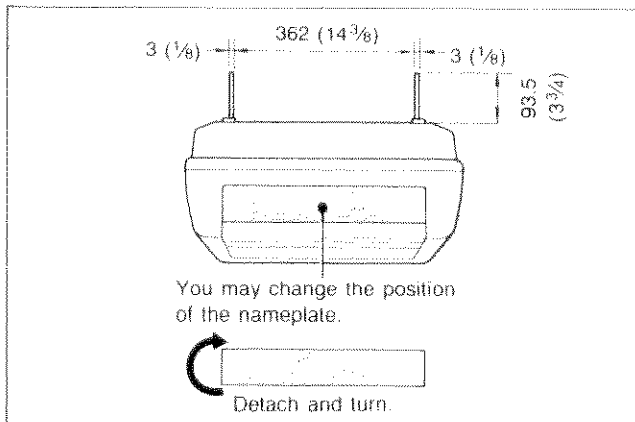
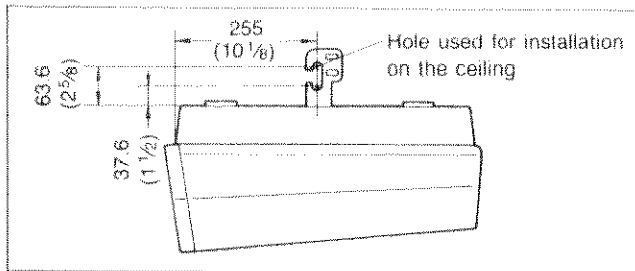
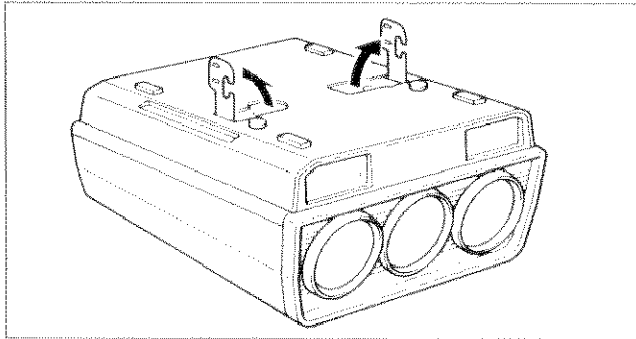


## PROJECTOR'S DIMENSIONS

Unit: mm (inches)

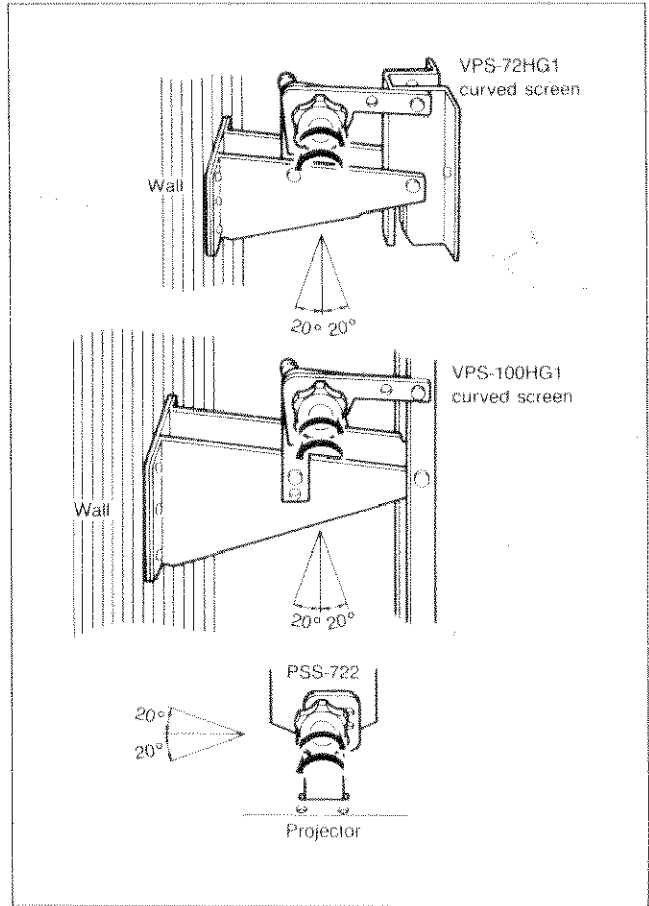


Raise the brackets when installing the projector on the ceiling or floor.

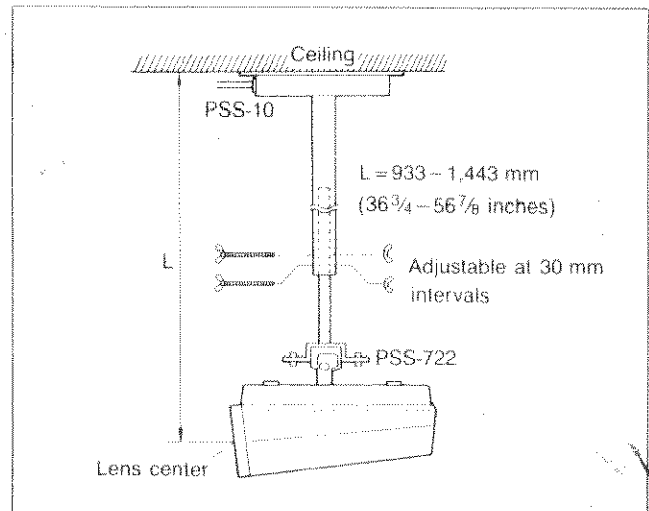


## TO ADJUST THE ANGLE OF THE SCREEN/PROJECTOR

Loosen the knobs, adjust the angle, then tighten the knobs down firmly.



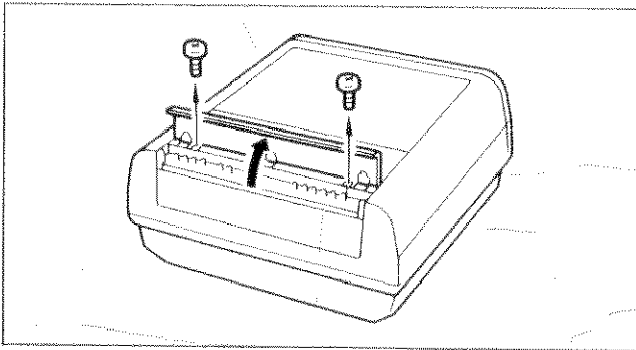
When the PSS-10 projector suspension support (optional) is used in combination with the PSS-722 The PSS-10 allows you to adjust the distance between the ceiling and the projector.



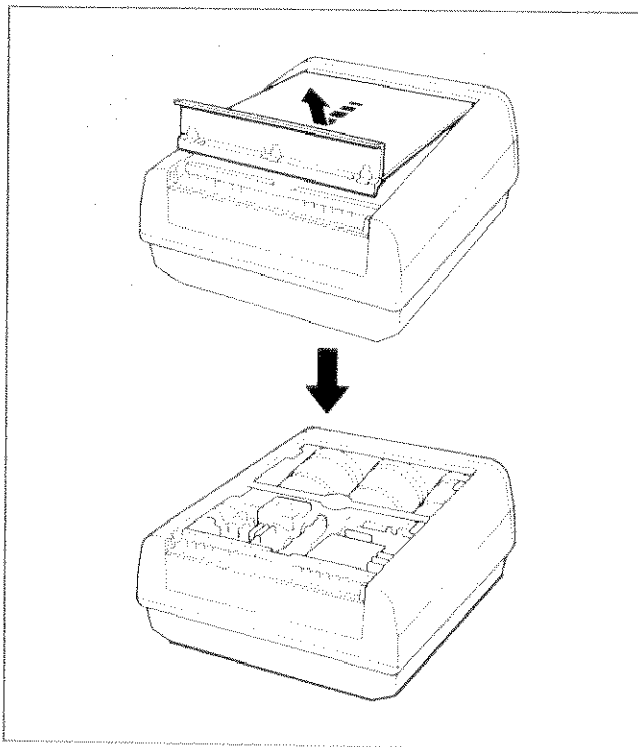
## TO OPEN THE TOP PANEL

You will need a medium size Phillips head screwdriver.

- 1 Open the control panel cover.
- 2 Remove the two screws.



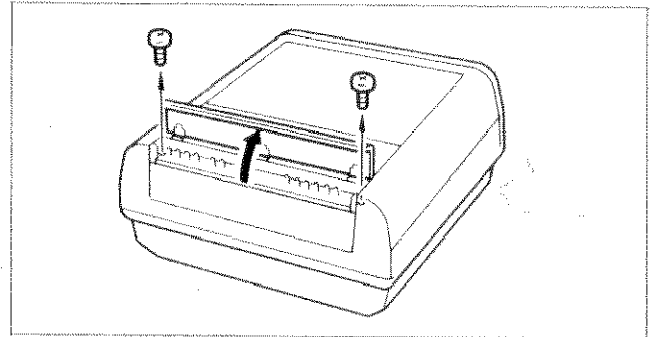
- 3 Pull the top panel slightly toward you and remove it.



## TO OPEN THE CABINET

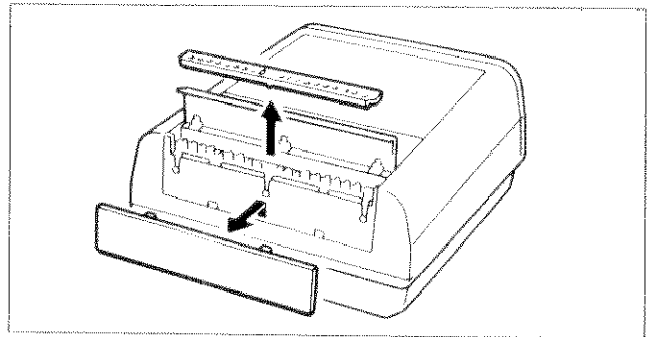
Open the cabinet when changing the polarity and when converting the unit for 72" or 200" projection.

- 1 Open the control panel cover.
- 2 Remove the two screws on the control panel.

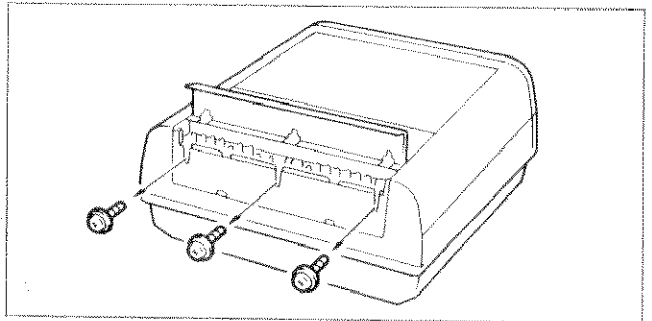


- 3 Slide the nameplate upward and pull it toward you to remove.

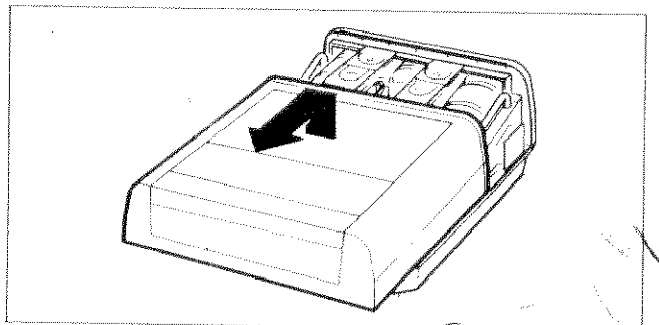
- 4 Remove the control panel.



- 5 Remove the three screws.



- 6 Slightly raise the cabinet and pull it toward you to remove.



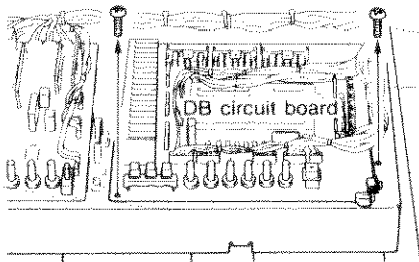
# POLARITY CHANGE

The projector is preadjusted at the factory for use on desk or floor with the bracket side down.

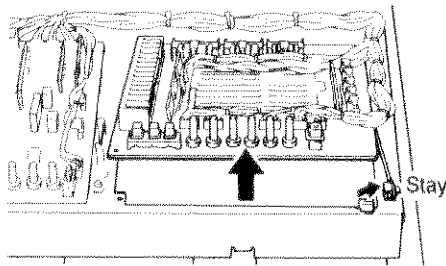
When the projector is installed on the ceiling with the bracket side up, the polarity should be changed.

- 1 Make sure that power is not connected.
- 2 Open the cabinet. (See page 11.)
- 3 Raise the DB circuit board to expose the DA circuit board.

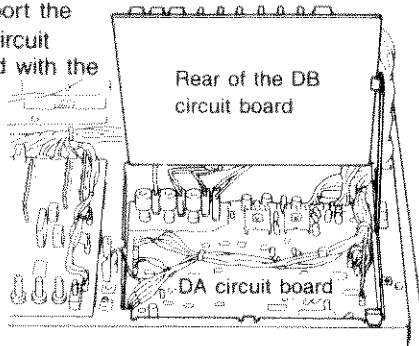
- 1 Loosen the two screws.



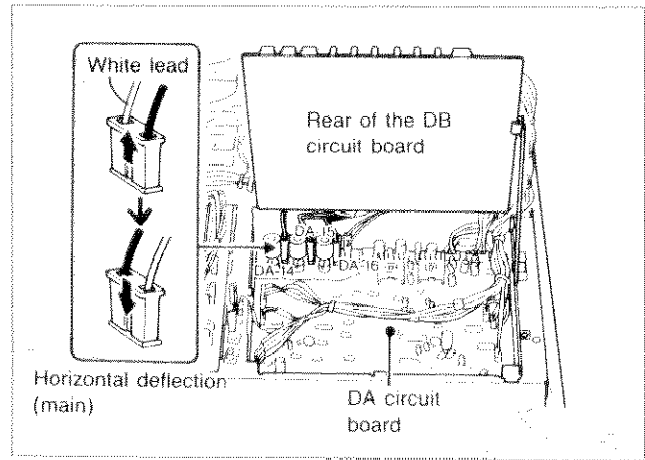
- 2 Pressing the stay to the right, raise the DB circuit board.



- 3 Support the DB circuit board with the stay.

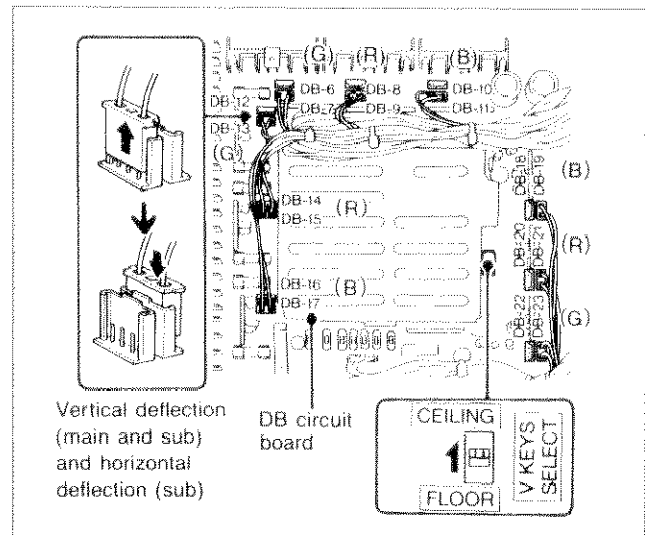


- 4 Reverse the polarity of connectors DA-14, 15 and 16.



- 5 Replace the DB circuit board.

- 6 Move the connectors from receptacles DB-7, 9, 11, 13, 15, 17, 19, 21 and 23 to receptacles 6, 8, 10, 12, 14, 16, 18, 20 and 22 respectively.



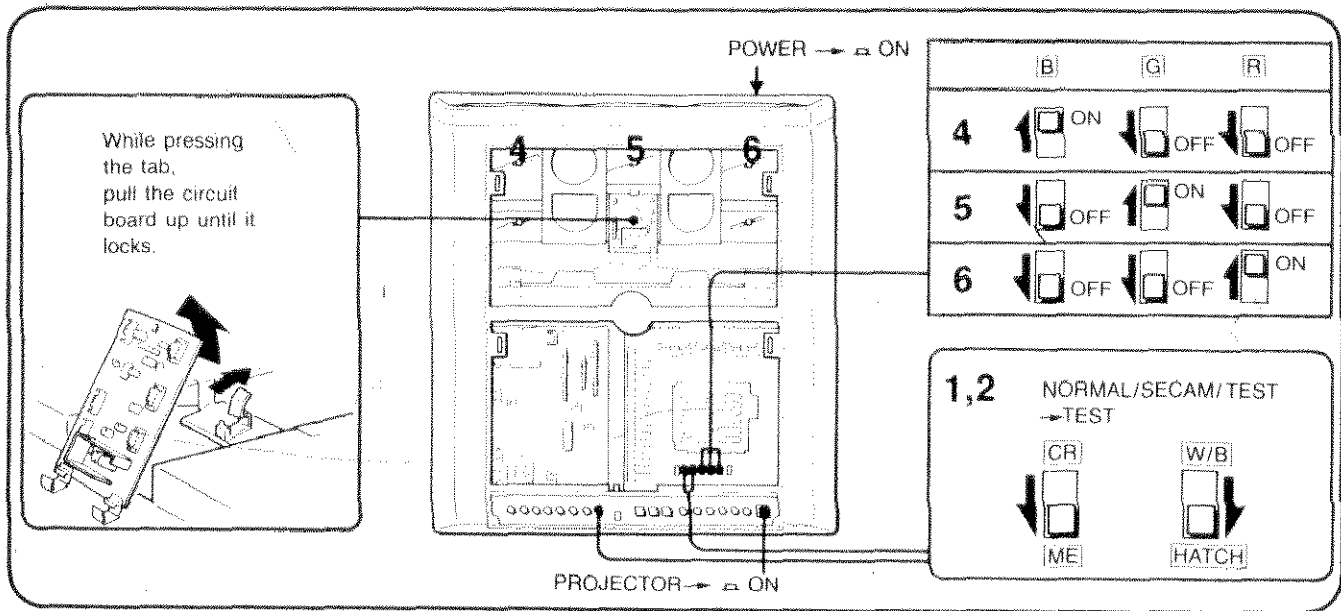
- 7 Set the V KEYS SELECT switch to the CEILING position.

### Note

Check that the connectors are inserted firmly, then proceed to lens focus adjustment with the projector's cabinet removed.

# LENS FOCUS ADJUSTMENT

The lens focus is preadjusted at the factory for 100" flat screen. For other type screens, the lens focus should be adjusted.

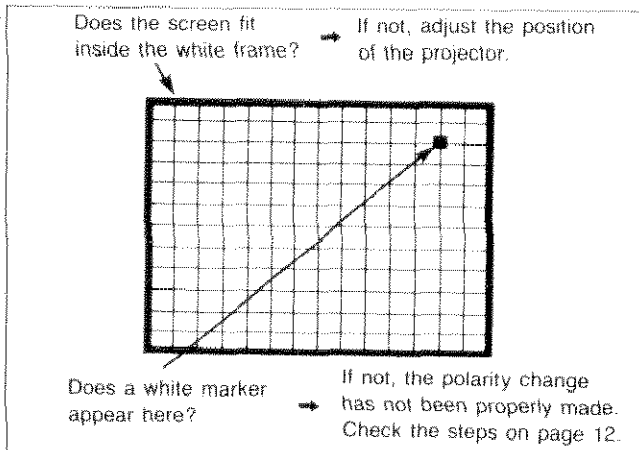


## Preparations

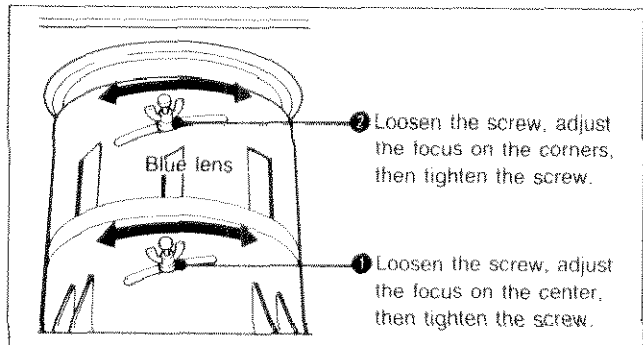
- Install the projector in the correct position on the floor or ceiling.
- Connect the supplied power cord to the AC IN socket and to an AC outlet, depress the POWER switch on the connector panel and the PROJECTOR switch. The green POWER lamp will light.
- Open the top panel. (See page 11.)

## Adjustment

- 1 Set the NORMAL/SECAM/TEST selector to TEST.
- 2 Set the HATCH/W/B switch to HATCH and CR/ME switch to ME (mesh). A cross hatch pattern will be displayed.
- 3 Check the following.



- 4 Set the G (green) and R (red) switches to OFF, then adjust the focus of the blue lens.



- 5 Set only the G switch to ON, and the R and B switches to OFF, then adjust the focus of the green lens.
- 6 Set only the R switch to ON, and the G and B switches to OFF, then adjust the focus of the red lens.
- 7 Replace the top panel. (Reverse the steps given on page 11.)

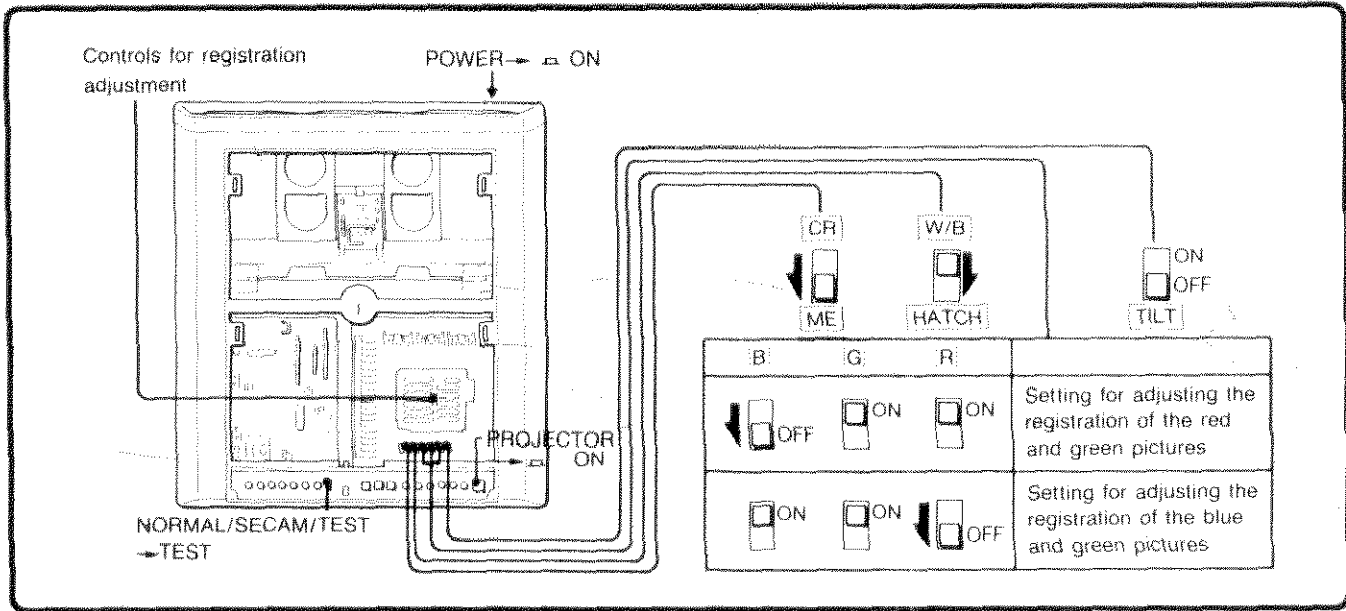
Proceed to registration adjustment.

## Caution

Take care not to touch portions of the projector other than those indicated above because dangerous high voltages are present. To change the polarity, first turn the POWER switch off.

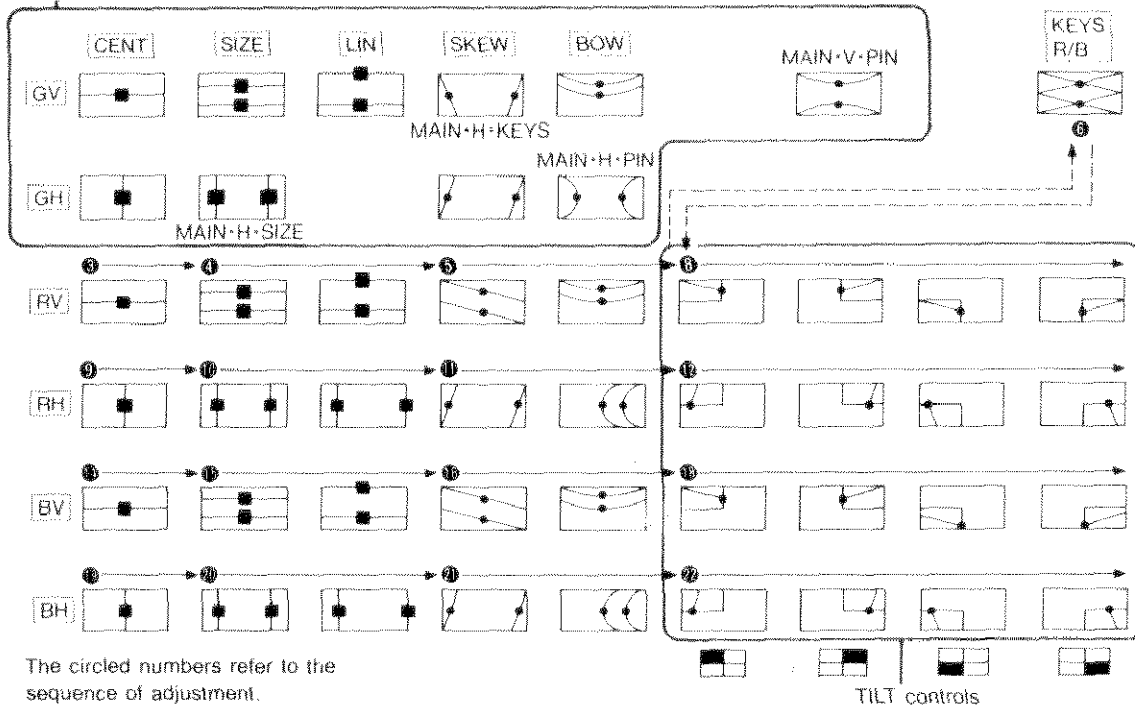
# REGISTRATION ADJUSTMENT

Use a small screwdriver to adjust the controls through the holes.



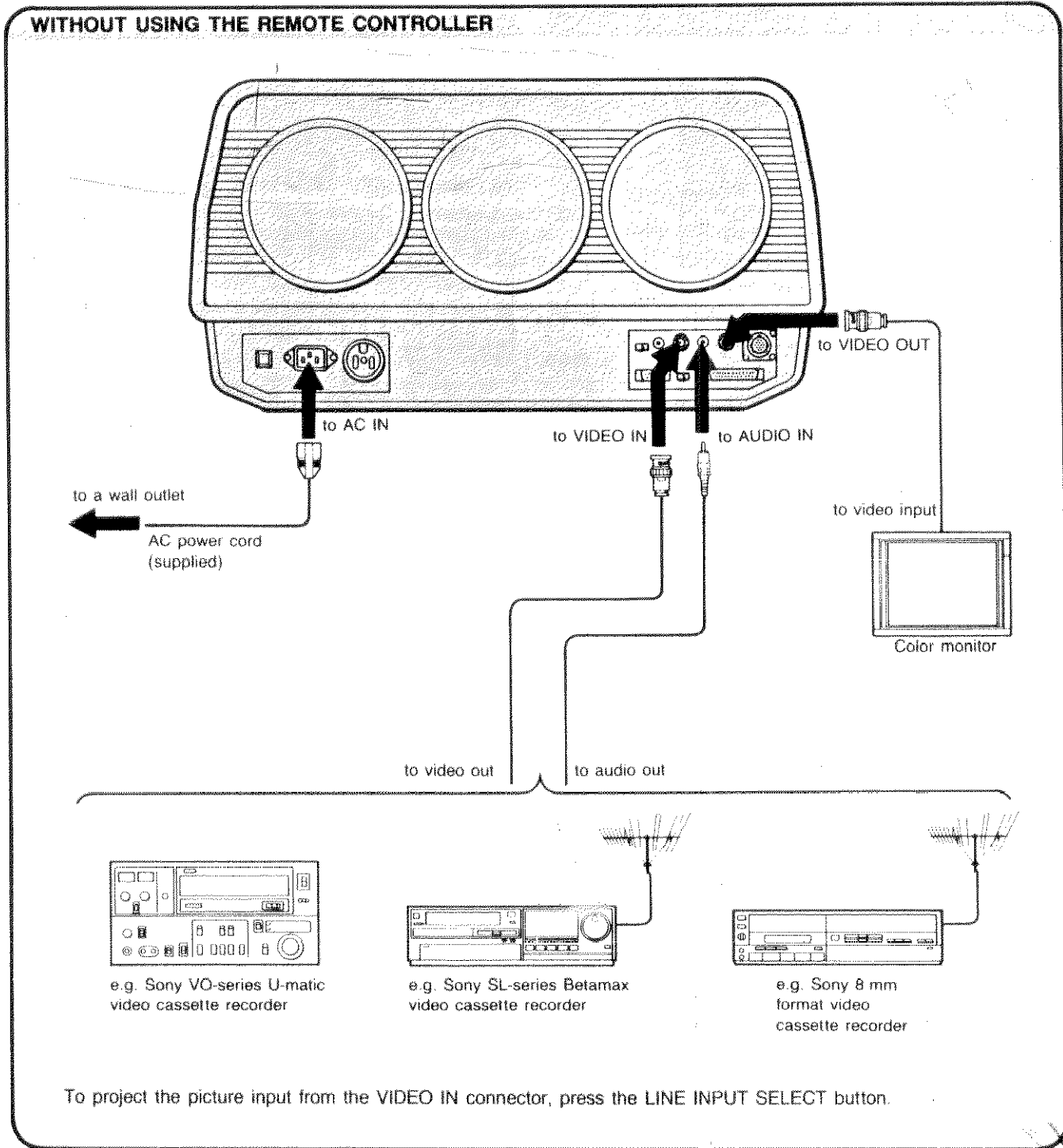
## Controls for registration adjustment

These controls are used for the reference green picture readjustment. If readjustment is necessary, consult the qualified Sony personnel.

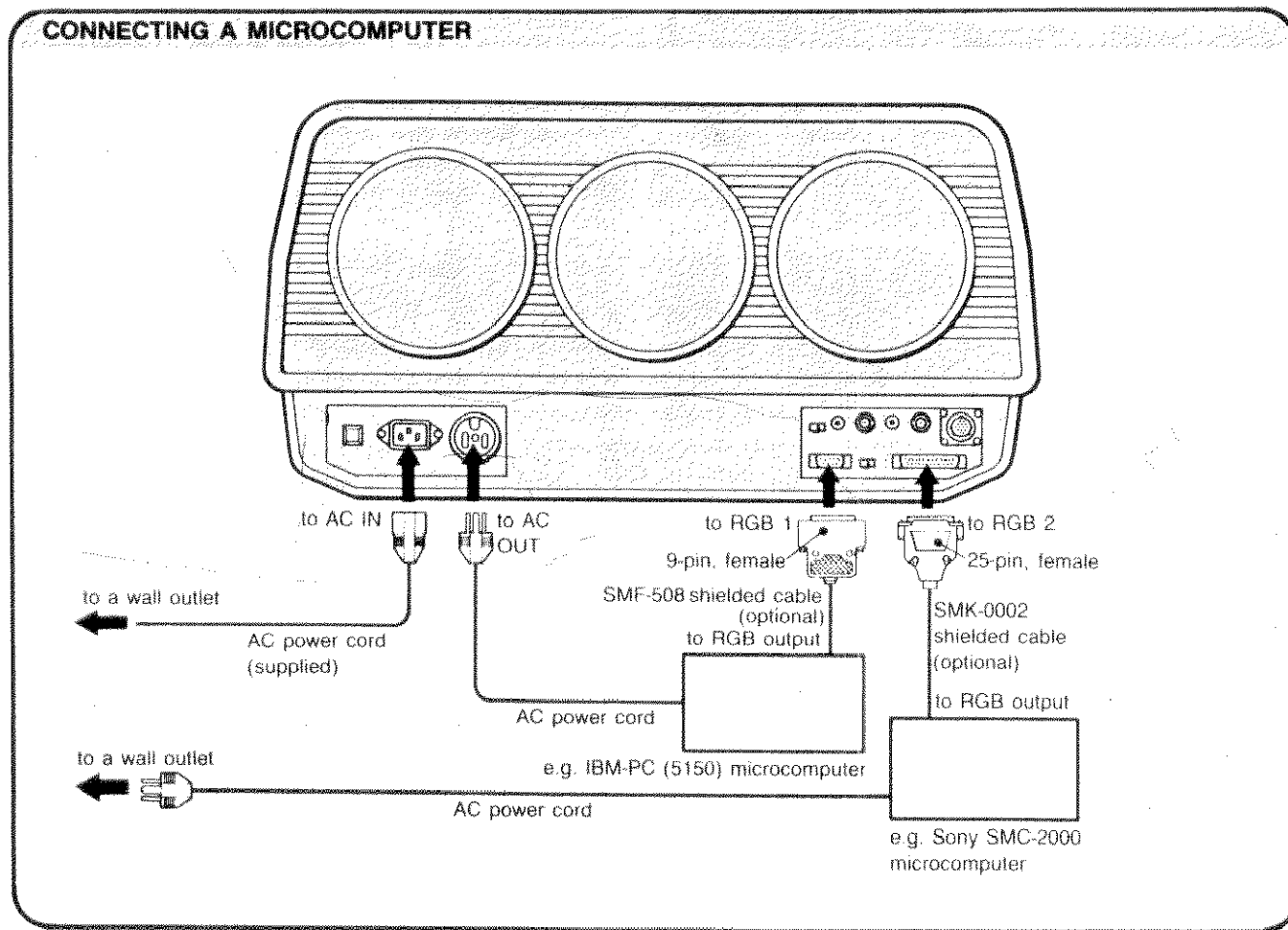


## Connecting notes

- First make sure that the power to each piece of equipment is turned off.
- The cable connectors should be fully inserted into the jacks. A loose connection may cause hum and noise.
- To disconnect the cable, pull it out by grasping the plug. Never pull the cable itself.
- Use suitable connecting cables according to the equipment to be connected.
- For connection to the VIDEO IN and TO VPR-722 connectors, the connecting cable may be extended to max. 50 m (164 feet 1/2 inch). If the connecting cable is too long (longer than 50 m), picture quality may be impaired somewhat.
- Read the instruction manual of the equipment to be connected.



CONNECTING A MICROCOMPUTER



- To project the picture input from the RGB 1 connector or RGB 2 connector, press the RGB 1 or RGB 2 INPUT SELECT button respectively. Adjust the horizontal position of the picture with the RGB 1/RGB 2 H SHIFT controls, if necessary.
- When the microcomputer connected to the RGB 1 connector is provided with the intensity output, set the DIGITAL selector to 1 for 16-color display.

- To perform superimposing of the data from the microcomputer connected to the RGB 2 connector, set the NORMAL/SUPER selector to SUPER. (The signal from the microcomputer should be processed for superimposition.) Adjust the contrast of the superimposed picture with the SUPERIMPOSE MIX LEVEL control, if necessary.

To avoid interference with radio or TV reception, always use the supplied AC power cord and the optional connecting cable as described in the connection configuration above. This is indispensable to comply FCC Rule Part 15 Subpart J, regulating to radio or TV reception caused by computing device.

- If your microcomputer is equipped with a composite video output, connect it to the VIDEO IN (LINE) connector on the projector.
- If necessary, connect an audio source to the RGB AUDIO IN jack.

**Note**  
Do not leave a still picture from a microcomputer or video disc player projected for more than one hour.

**BNC connector**

- 1 Turn clockwise.



- 2 Align and insert.

**9-pin connector**

- 1 Insert.



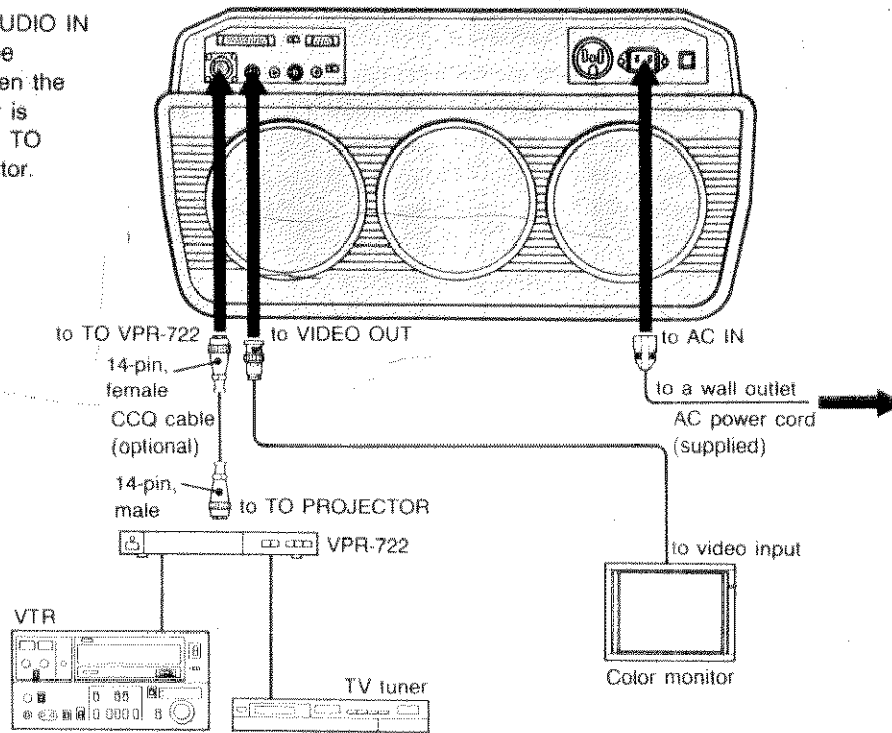
- 2 Tighten the screws.



## USING THE REMOTE CONTROLLER

Use the optional VPR-722 remote controller when the projector is installed on the ceiling or at a distance from your seat. Power ON/OFF, program selection and picture adjustments can be remotely controlled.

The VIDEO IN/AUDIO IN connectors will be disconnected when the remote controller is connected to the TO VPR-722 connector.



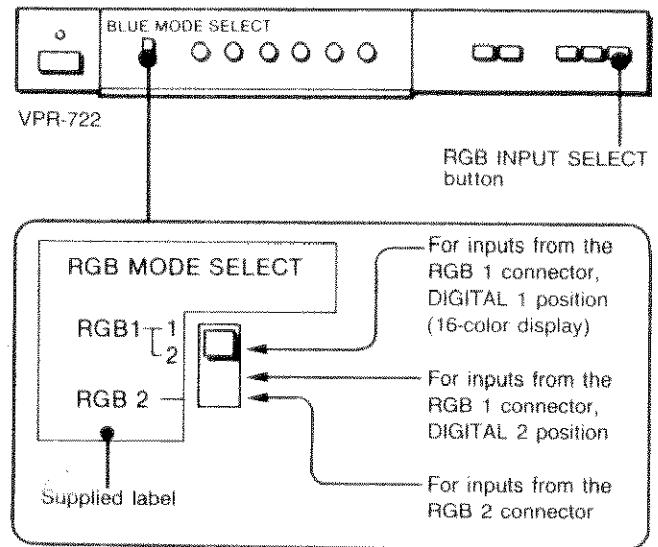
For detail on the connections, see the instruction manual of the VPR-722.

When the remote controller is connected, the PROJECTOR switch, INPUT SELECT buttons and controls for picture adjustments on this unit do not function. Keep the POWER switch on the projector ON and operate these functions with the remote controller.

### Note on the BLUE MODE SELECT switch

When the VPR-722 is connected to this unit, the BLUE MODE SELECT switch on the VPR-722 functions as the RGB MODE SELECT switch. Attach the label supplied with this unit to the BLUE MODE SELECT switch.

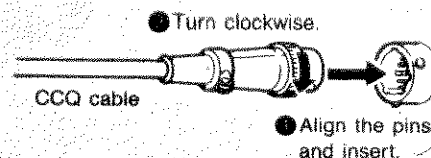
To project the signals connected to the RGB 1 or RGB 2 connector, first press the RGB INPUT SELECT button and set the RGB MODE SELECT switch as follows.



### Notes

- When the remote controller is connected to the TO VPR-722 connector:
- the VIDEO IN/AUDIO IN (LINE) connectors are disconnected automatically.
  - the PROJECTOR switch, INPUT SELECT buttons, RGB BLUE MODE SELECT switch and the controls for picture and sound adjustments (except H SHIFT and V HOLD) do not function.

### 14-pin connector



## Optical

Projection system 3 picture tubes, 3 lenses, direct projection system

Picture tube 5.5-inch high-brightness monochrome tubes, with coolant sealed

Projection lens High-performance hybrid lenses  
F 1.0/130 mm

Projected picture size 67–250 inches measured diagonally  
Factory-adjusted to 100 inches measured diagonally

Light output 300 lm

## General

Color system NTSC, PAL, SECAM and NTSC<sub>4.43</sub> systems, switched automatically

Resolution 1100 TV lines (RGB inputs)  
650 TV lines (video input)

RGB inputs Character display capacity:  
4050 characters at 24 kHz  
(5 × 7 dots, 90 letters × 45 lines)  
Graphic display capacity:  
1024 × 500 dots

Horizontal frequency:  
15 kHz to 36 kHz

Vertical frequency:  
40 Hz to 150 Hz

Test signal Cross-hair test pattern generator is incorporated.

Speaker 8 cm (3 1/8 inches) dia., 2 units, total 3 W

Inputs

### LINE

VIDEO IN: BNC connector  
Composite video input,  
1 V<sub>p-p</sub> ± 2 dB, sync negative,  
75 ohms terminated

AUDIO IN: phono jack  
–5 dBs (436 mVrms)  
Impedance: more than  
47 k ohms

### RGB 1

RGB 1: D-sub 9-pin connector  
Digital signal (TTL level)  
See "Pin assignment".

AUDIO IN: phono jack  
–5 dBs (436 mVrms)  
Impedance: more than  
47 k ohms

### RGB 2

RGB 2: D-sub 25-pin connector  
See "Pin assignment".

Output VIDEO OUT: BNC connector  
Composite video output,  
1 V<sub>p-p</sub> ± 2 dB, impedance  
75 ohms, selected video output  
With the remote controller:  
video signal from the  
controller  
Without the remote controller:  
video signal from the  
VIDEO IN connector

TO VPR-722 connector 14-pin connector  
See "Pin assignment".

Power requirements 120 V AC, 50/60 Hz

Power consumption 215 W max, 2.9 A max

Dimensions Approx. 532 × 280 × 597 mm  
(w/h/d)  
(21 × 11 1/8 × 23 5/8 inches)  
with the brackets pushed down,  
incl. projecting parts and controls

Weight Approx. 38 kg (83 lb 12 oz)

Accessories supplied AC power cord (1)  
Spacer for 72" projection  
Spacer for 200" projection  
Label of the RGB MODE SELECT  
switch for the VPR-722 (1)

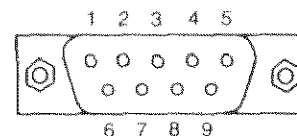
Design and specifications subject to change without notice.

## OPTIONAL ACCESSORIES

Remote controller VPR-722  
Projector pedestal SU-722  
Projector suspension support PSS-722, PSS-10  
Screen VPS-100F1 (100" flat)  
VPS-72HG1 (72" curved)  
VPS-100HG1 (100" curved)  
Carrying case VLC-1040  
CCQ cables  
Shielded cable SMF-0002, SMF-508

## Signal assignment

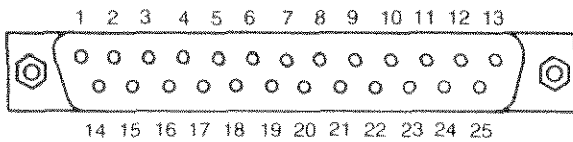
RGB 1 connector  
(D-sub 9-pin)



Digital signal (TTL level)

Pin No.	Signal assignment
1	Ground
2	Ground
3	Red input
4	Green input
5	Blue input
6	Intensity input
7	No connection
8	H. sync or composite sync input (positive/negative)
9	V. sync input (positive/negative)

RGB 2 connector (D-sub 25-pin)



Pin No.	Signal	Signal level
1*	IBM select	High state (5V): IBM mode Low state (ground): 3 Bit normal mode
2	Audio select	High state (5 V or open): Audio input from pin 13 Low state (ground): Audio inputs from the AUDIO IN jack (LINE mode)
3	H.sync or composite sync input	Open state is selected at pin 9: Analog signal (1 Vp-p, 75 ohms terminated, Negative) Low state is selected at pin 9: Digital signal (TTL level, Positive/Negative acceptable)
4	Blue input	High state is selected at pin 9: Analog signal (0.7 Vp-p, 75 ohms terminated, Positive) Low state is selected at pin 9: Digital signal (TTL level, Positive)
5	Green input	High state is selected at pin 9: Analog signal (Green signal: 0.7 Vp-p, 75 ohms terminated, Positive/Green with sync signal: 1 Vp-p, 75 ohms terminated, Positive) Low state is selected at pin 9 Digital signal (TTL level Positive)
6	Red input	(Same as Pin 4)
7, 8	Not used	
9*	Analog/digital mode select	High state (open): Analog mode Low state (ground): Digital mode
10	RGB/VIDEO mode select	High state (5 V or open): RGB input from microcomputer Low state (ground): Composite video signal from VIDEO IN connector
11	V.sync input	Positive/Negative: Digital signal (TTL level)

Pin No.	Signal	Signal level
12	Blanking input	High state (5 V or open): RGB inputs from a microcomputer only Low state (ground): Composite video input from VIDEO IN connector This control signal makes it possible to superimpose. You can select two switches (NORMAL/SUPER). By selecting SUPER mode, superimposition can be made.
13	Audio input	Input level -5 dBs, input impedance more than 47 k ohms
14	Sync mode select	High state (open): Sync signal input from RGB 2 connector Low state (ground): Sync signal input from the VIDEO IN connector
15-24	Ground	
25*	Luminance signal	Digital signal (TTL level, Positive)

\*Examples for microcomputer connections

Pin No.	1	9	25
Microcomputer			
SMC-70/SMC-70G	—	High state	—
IBM computer	High state	Low state	IBM luminance signal
TTL 3BIT computer	Low state	Low state	—