

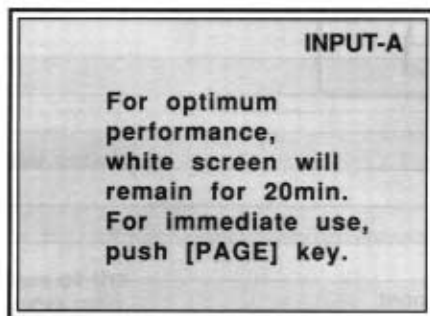
# Adjustment

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# Before Starting Adjustment

**Before you perform the registration adjustment, make sure to warm up the projector for 20 minutes after power ON.**

For optimum performance, the projector is designed with a warm-up period of about twenty minutes after you turn on the power. During this period, it displays a white screen with the message shown below. Thirty-five seconds after the warming up starts, the message will disappear temporarily and will be subsequently displayed at 30-second intervals for 5 seconds at a time.



If you want to see the picture input from the equipment connected to the projector at once after completing the adjustment, press the PAGE key. You may set the projector for a shorter warming up period or for immediate projection of the picture input. (See page 100.)

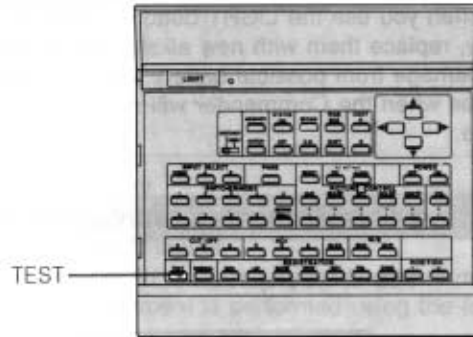
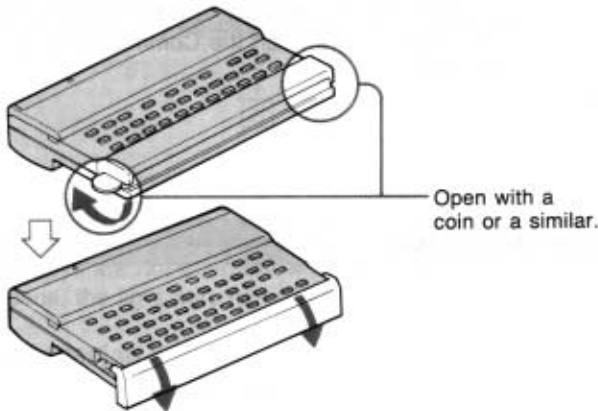
# Remote Control Operation

All of the adjustments except lens focus can be carried out by using the supplied RM-1271 Remote Commander. Normally, the adjustment keys on the Remote Commander are provided with a protection and are inoperable. Before making adjustments, cancel the protection.

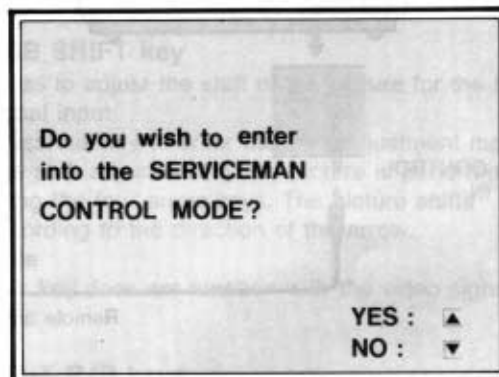
Since the RM-1271 is an infrared type, it can be used without a wire. However, in order to correctly control the projector, connecting the projector and the Remote Commander with the remote control cable supplied is recommended.

## Preparation

- 1** Insert three size AA (R6) batteries (supplied) with the polarity lined up correctly. (See page 48.)
- 2** Connect the Commander to the projector. (See page 48.)
- 3** Press the MAIN POWER switch on the projector and then press the POWER ON key on the Commander.
- 4** Remove the panel cover of the adjustment keys.



- 5** Keep pressing the TEST key for 5 seconds. The display will appear.

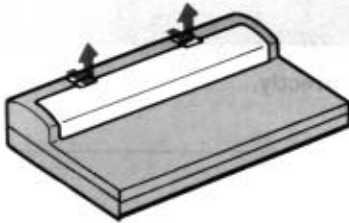


- 6** Press the ▲ key. The protection on the adjustment keys is cancelled and the adjustment keys will function. After adjustment, activate the protection again (see page 97).

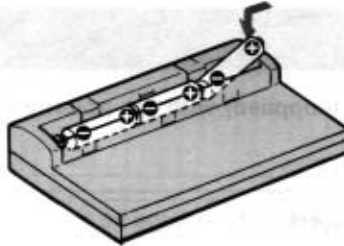
# Remote Control Operation

## Battery Installation

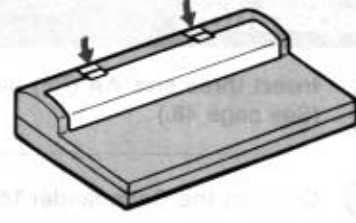
**1** Push to open the lid.



**2** Install three AA (R6) batteries with the correct polarity.



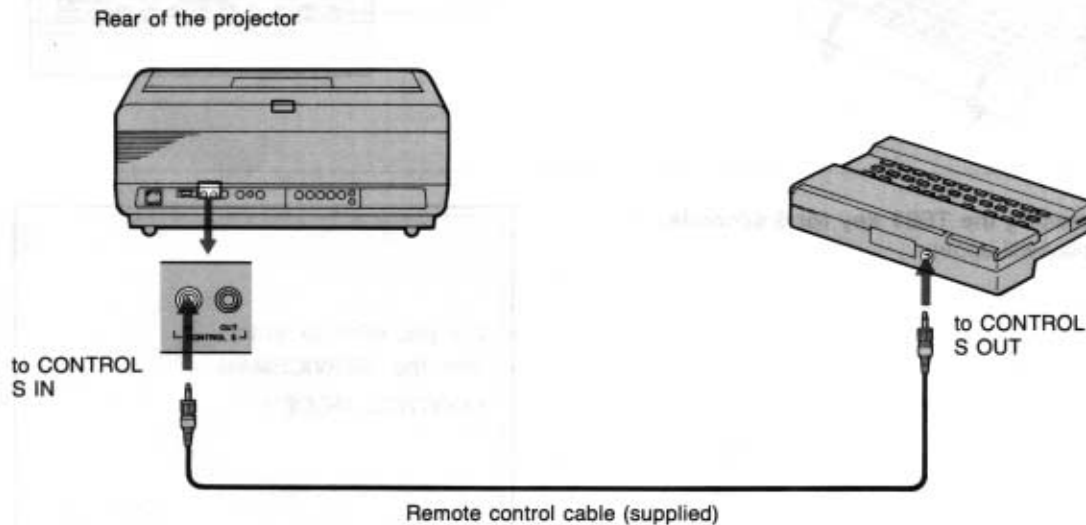
**3** Replace the lid.



- If the projector does not operate properly, the batteries might be worn out. Replace all three of them with new batteries.
- The life of the batteries depends on frequency of usage and how often you use the LIGHT button. If they wear out quickly, replace them with new alkaline batteries.
- To avoid damage from possible battery leakage, remove the batteries when the Commander will not be used for a long time.

- Be sure that there are no obstructions between the Commander and the projector.
- Operable range is limited. The shorter the distance between the Commander and the projector, the wider the angle within which the Commander can control the projector.

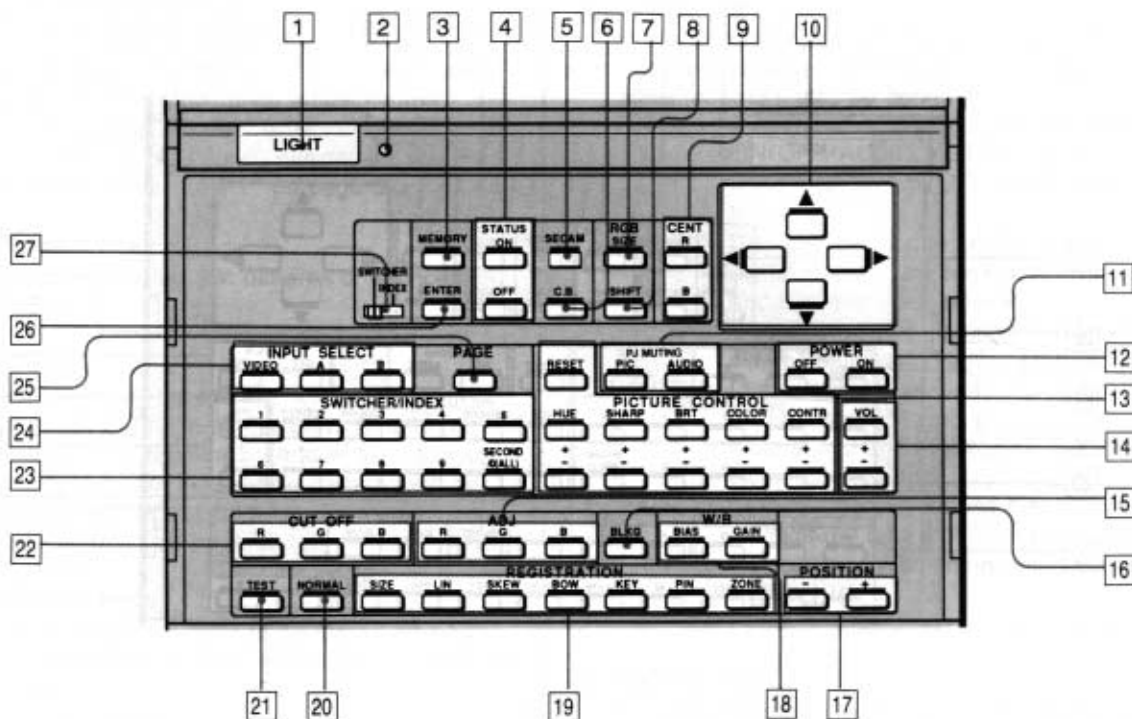
## Connecting the Remote Commander to the projector



### Note

When the above connection is made, the remote control detector of the projector does not function. For wireless operation, be sure to disconnect both plugs from the projector and the Commander.

## Keys on the Commander



### 1 LIGHT button

Press to light key indicators.  
If the keys are not operated within about 30 seconds, the light automatically goes out.

### 2 Transmission indicator

The light goes on each time a key is pressed.  
When the indicator does not light, replace the batteries.

### 3 MEMORY key

Press to store various adjustment data into memory.

### 4 STATUS ON/OFF key

Press **OFF** to eliminate the "On-Screen display".  
Press **ON** to restore the on-screen display.  
**Note:** The PAGE display appears even when the **OFF** key is pressed.

### 5 SECAM key

When SECAM signal is input to the projector and you cannot get normal color, press this key. Press again to switch over to the other standard system sources, NTSC or PAL.

### 6 C.B. (clear blue) key

Press to make the blue color clear in RGB mode.  
Press again to restore the normal condition.

### 7 RGB SIZE key

Press to adjust the size of the picture for the video and RGB signal inputs.  
Press this key to enter the size adjustment mode.  
The size adjustment is performed using the four arrow keys.

- ◀ . . . . to reduce the horizontal size
- ▶ . . . . to expand the horizontal size
- ▲ . . . . to expand the vertical size
- ▼ . . . . to reduce the vertical size

### 8 RGB SHIFT key

Press to adjust the shift of the picture for the RGB signal input.  
Press this key to enter the shift adjustment mode.  
The shift adjustment of the picture is performed using the four arrow keys. The picture shifts according to the direction of the arrow.

#### Note

This key does not function with the video signal input.

### 9 CENT R/B keys

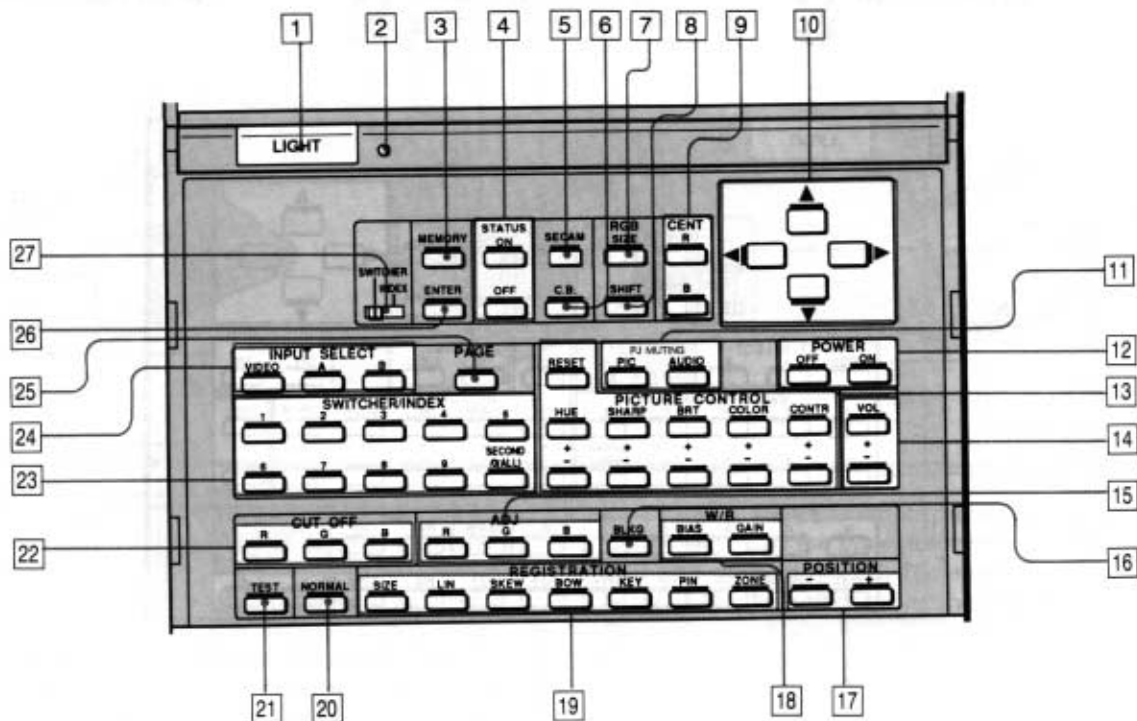
Press to enter the centering adjustment mode of the red and blue.

**CENT R:** Press to enter the red centering adjustment mode.

**CENT B:** Press to enter the blue centering adjustment mode.

Centering adjustments are performed using the four arrow keys.

## Keys on the Commander



**10 Arrow keys**

The keys are used for various adjustment functions.

**11 PJ MUTING keys**

**PIC:** Press to cut off the picture. To restore the picture, press it again or CONTR +.  
**AUDIO:** Press to cut off the sound. To restore the sound, press it again or VOL +.

**12 POWER ON/OFF keys**

Press to turn on and off the projector.

**13 PICTURE CONTROL keys**

Press to adjust picture condition: hue, sharpness, brightness, color, and contrast. Press RESET to restore the standard levels.

**14 VOL (volume) +/- keys**

Press to adjust volume.  
 +: to increase volume  
 -: to decrease volume

**15 ADJ R/G/B (adjust red/green/blue) keys**

Press to select color to be adjusted when adjusting the registration.  
**R** . . . Red signal  
**G** . . . Green signal (Servicing only. If you change the green signal setting, perform the factory reset operation.) (page 94)  
**B** . . . Blue signal

**16 BLKG (blanking) key**

Press to enter the blanking adjustment mode. The adjustment can be performed using the four arrow keys. For details, see page 84.

**17 POSITION +/- keys**

Used for zone adjustment and the blanking adjustment. For details, see pages 82 and 84.

**18 W/B (white balance) key**

Press to enter the white balance adjustment mode.  
**BIAS:** For cut off adjustment  
**GAIN:** For drive adjustment



**19 REGISTRATION keys****SIZE/LIN/SKEW/BOW/KEY/PIN/ZONE**

Press to select the desired item for registration adjustment. The registration adjustment is performed using the four arrow keys, ADJ keys and POSITION +/- keys. For details, see "Registration Adjustment" on page 64.

**20 NORMAL key**

Press to cancel the test patterns or serviceman control mode.

**21 TEST key**

Press to display the internal test patterns. Each press of this button displays 8 patterns sequentially. In registration and white balance adjustment mode, appropriate patterns will be displayed for each adjustment. For details, see "Test Patterns" on page 56.

**22 CUT OFF keys**

Press to select the color to be turned off when adjusting the registration. Press again to turn on the color.

- R . . . Red signal
- G . . . Green signal
- B . . . Blue signal

**23 SWITCHER/INDEX keys****When the SWITCHER/INDEX select switch is set to SWITCHER**

When the PC-1271/1271M switcher is connected, select the input from the switcher. The SECOND key is used when two switchers are connected. To select the input from the second switcher (when the switcher's SINGLE/SECOND/OTHER switch is set to SECOND), press the number keys after pressing SECOND. Number key 9 does not operate.

**When the SWITCHER/INDEX select switch is set to INDEX**

These keys function when the IFB-101 interface board (not supplied) is attached and multiple projectors are connected. For details, refer to the instructions manual of the IFB-101.

**24 INPUT SELECT keys**

Press to select the input signal.

**VIDEO:** to select the signal input from the VIDEO IN (Y/C or VIDEO) connectors

**A:** to select the signal input from the RGB IN connectors

**B:** to select the signal input from the connectors of B section (when the optional interface board is attached)

**25 PAGE key**

Press to display and switch the following five on-screen displays. (On PAGE 1, 2, 3, and 5, adjustment can also be done.)

**PAGE 1:** Displays STATUS ON/OFF, PIC MUTING ON/OFF, AUDIO MUTING ON/OFF, CLEAR BLUE ON/OFF, and SECAM ON/OFF.

**PAGE 2:** Displays the picture conditions; contrast, color, brightness, sharpness and hue and volume level.

**PAGE 3:** Displays the color temperature level, clamp setting and vertical shift range.

**PAGE 4:** Displays the input signal conditions; fH, fV, H/C-sync, V-sync, Sync on Green, input signal and registration memory block assignment.

**PAGE 5:** Displays the current use time of each cathode-ray tube (CRT) and the baud rate setting for communicating via the RS-422.

For details, see "PAGE Displays" on page 52.

**26 ENTER key**

This key functions when the IFB-101 interface board (not supplied) is attached and multiple projectors are connected. For details, refer to the instructions manual of the IFB-101.

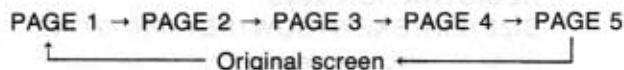
**27 SWITCHER/INDEX select switch**

Selects the SWITCHER/INDEX key function. When using as the switcher input selector, set to SWITCHER. When attaching the IFB-101 interface board at the rear of the projector and controlling multiple projectors, set to INDEX.

# Adjustment Displays and Test Patterns

## PAGE Displays

Press the PAGE key to display the following five on-screen displays. Adjustment can also be done on PAGE 1, 2, 3, and 5. The displays will switch as follows every time the PAGE key is pressed:



### PAGE 1

<b>PAGE 1</b>	<b>INPUT-A</b>
<b>USER PRESET</b>	
<b>STATUS:</b>	<b>ON</b>
<b>PIC MUTING:</b>	<b>OFF</b>
<b>AUDIO MUTING:</b>	<b>OFF</b>
<b>CLEAR BLUE:</b>	<b>OFF</b>
<b>SECAM:</b>	<b>---</b>
<b>NEXT: [PAGE]</b>	

**STATUS: ON/OFF**

The setting is stored even if the power is turned off. When on-screen display does not appear, check that STATUS ON is displayed.

**PIC MUTING: ON/OFF**

Whenever the power is turned on, PIC MUTING is set to OFF. When sound is heard but no picture is displayed, check if PIC MUTING is set to ON.

**AUDIO MUTING: ON/OFF**

Whenever the power is turned on, AUDIO MUTING is set to OFF. When the picture is seen but no sound is heard, check if AUDIO MUTING is set to ON.

**CLEAR BLUE: ON/OFF**

The setting can be changed for each input signal which differs in any of the items indicated in PAGE 4.

**SECAM: ON/OFF**

When the PAL color signal is projected with this item set to ON, the picture is displayed in black and white. Make sure to set to OFF when the SECAM color source is not connected.

"---" indicates that the control does not function with the current input signal.

To change the settings, adjust with appropriate keys.

### PAGE 2

<b>PAGE 2</b>	<b>INPUT-A</b>
<b>USER CONTROL</b>	
<b>CONTR:</b>	<b>80</b>
<b>COLOR:</b>	<b>--</b>
<b>BRT:</b>	<b>50</b>
<b>SHARP:</b>	<b>--</b>
<b>HUE:</b>	<b>--</b>
<b>VOL:</b>	<b>50</b>
<b>NEXT: [PAGE]</b>	

The picture conditions; contrast, color, brightness, sharpness, hue and volume level are displayed. The levels can be changed independently for the signal input from different input connectors. (You can check from the message displayed in the upper right corner of the screen). "--" indicates that the control does not function with the current input signal. (In this case, the input signal is RGB.)

To change the levels, adjust with the PICTURE CONTROL and VOL keys.



## PAGE 3

PAGE 3	INPUT-A		
SYSTEM PRESET			
COLOR TEMPERATURE:			
9300	6500	3200	PRESET
CLAMP: AUTO SonG H/C H.P			
V-SHIFT: WIDE NARROW			
SELECT: [RECALL]			
NEXT: [PAGE]			

The color temperature, clamp and V-shift adjustment mode settings are displayed.

The selected item blinks in green.

To change the setting, adjust by pressing ◀, ▶, ▲, and ▼ keys.

**COLOR TEMPERATURE: 9300/6500/3200/PRESET**

Normally, set to "6500". If you want to make white color bluish, set COLOR TEMPERATURE to 9300, and if you want to make white color reddish, set to 3200.

Select PRESET to adjust the white balance if you want to make the color of a particular input signal (ex. HDTV system picture) uniform to that of the color monitor connected to the projector. For details, see "White balance adjustment" on page 92.

The color temperature of the projector is preset to 6500 at the factory only for a video input signal.

**V-SHIFT: WIDE/NARROW**

Normally set to WIDE. When some particular RGB signal sources are connected, the picture may be distorted vertically. In such case, set to NARROW. Adjustable range in the lower direction will become narrow.

For details of the clamp setting, see "If the luminance of the picture is incorrect — clamp setting" on page 93.

**Note**

"CLAMP" and "V-SHIFT" are not displayed when the input mode is VIDEO.

## PAGE 4

PAGE 4	INPUT-A
INPUT INFO	
fH: 31.5kHz	
fV: 60.0Hz	
H/C-SYNC: POS	
V-SYNC: POS	
SYNC ON G: NEG	
INPUT SIGNAL: RGB	
REGI BLOCK: NO. 3	
NEXT: [PAGE]	

The signal input conditions are displayed.

fH: Horizontal frequency of the input signal

fV: Vertical frequency of the input signal

**H/C-SYNC:** Polarity of the H/C-SYNC

**V-SYNC:** Polarity of the V-SYNC

**SYNC ON G:** Polarity of the SYNC on the Green

POS: positive  
NEG: negative  
---: no input

When POS (NEG) is displayed in green:

The picture is being projected using its sync signal.

When POS (NEG) is displayed in white:

The picture is being projected without using its sync signal.

**INPUT SIGNAL:** Current input signal

**Y/C:** S video input signal from VIDEO IN

**RGB:** RGB input signal

**NTSC:** NTSC input signal from VIDEO IN

**PAL:** PAL input signal from VIDEO IN

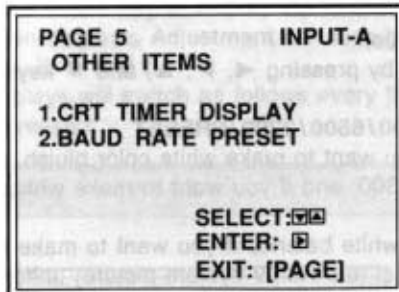
**SECAM:** SECAM input signal from VIDEO IN

**B & W:** Black and white input signal from VIDEO IN

**Internal oscillation:** Internal oscillation mode (No signal is input)

**REGI BLOCK:** The registration memory block number in which the input signal is assigned. (See the table on page 86.)

## PAGE 5

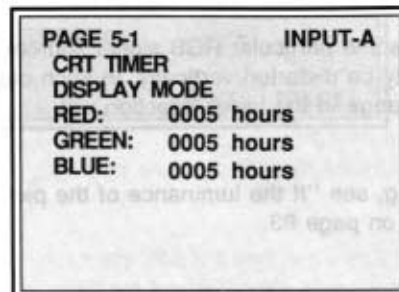


The two different pages, the current use time and the baud rate\* setting can be selected to display.

The selected item blinks in green. To display either page, select the item with the ▼ and ▲ keys, and then press the ► key.

\* The baud rate means the signaling speed when the RS-422 is connected to the projector. The baud rate of the projector should be set to a rate equal to that of the connected computer.

When the "1. CRT TIMER DISPLAY" is selected



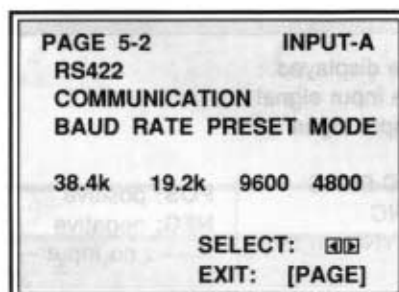
The use time of each cathode-ray tube is displayed in one-hour intervals.

**RED:** Use time of red CRT

**GREEN:** Use time of green CRT

**BLUE:** Use time of blue CRT

When the "2. BAUD RATE PRESET" is selected



The baud rate setting for interactive communication with the RS-422 is displayed.

The selected item blinks in green. To change the setting, press the ◀ and ▶ keys.

### Note

When using with the Sony VPX-010 projector auto set-up system, set to 38.4k.

## Messages on the screen

### Color of message

Four colors are used in the screen display.

Color	Meaning
Green	Function and condition, item being selected on PAGE display
Cyan	Operation guide and messages
Yellow	Caution and error messages
White	Item being adjusted, item not being selected on PAGE display

### Error message

When an error occurs, the following messages will be displayed.

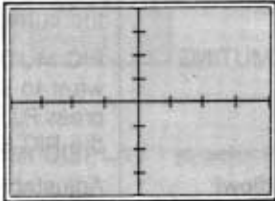
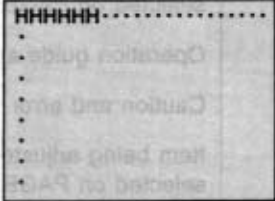
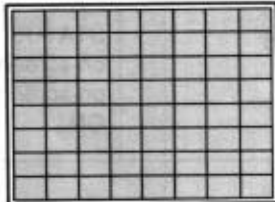

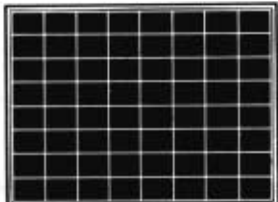
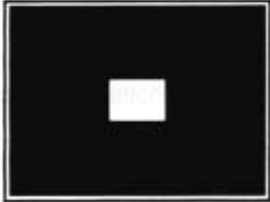
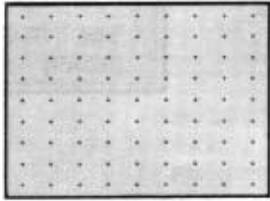
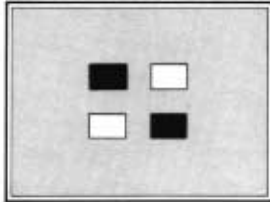
Message	Meaning
Not applicable!	The control does not function with the current input.
PIC MUTING	PIC MUTING is set to ON. If you want to adjust the picture controls, press PJ MUTING PIC key to cancel the PIC MUTING mode.
Overflow!	Adjustable range had reached its limit.
NO INPUT	No signal is input in the selected input mode.
OFF	STATUS is set to OFF to clear the on-screen display. To restore the on-screen display, press STATUS ON.

# Adjustment Displays and Test Patterns

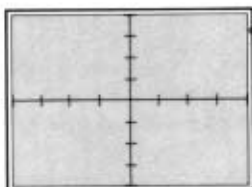
## Test Patterns

In each adjustment mode, an appropriate test pattern will be displayed. In addition, other test patterns can be displayed by pressing the TEST key.

### All the test patterns

<b>Cross hair</b> 	<b>H</b> 
<b>Hatch (9 x 9)</b> 	<b>White</b> 
<b>Hatch (reverse)</b> 	<b>Window</b> 
<b>Dot</b> 	<b>PLUGE*</b> 

\*PLUGE = Picture Line Up Generating Equipment.



The outside bold line stands for the edge of the screen.

## Test patterns in each mode

Mode		With one press of TEST key, test patterns change as follows.	
Normal			
Registration	SIZE LIN SKEW BOW	Cross hair ↔ Hatch (9 × 9)	Select the desired one.
	KEY PIN	Hatch (5 × 5) ↔ Hatch (9 × 9)	Select the desired one.
	ZONE	Hatch (9 × 9) + Cursor	
White balance	BIAS	PLUGE	
	GAIN	Window ↔ White	
BLKG		Hatch (9 × 9)	
CENT RGB		Cross hair ↔ Hatch (5 × 5)	Select the desired one.

# Adjustment Procedures

Perform each adjustment with the supplied Remote Commander, first with no input source connected. After the adjustment, save the data. Next, perform the fine adjustments for each input signal.

Follow the steps below.

**1** Prepare the Remote Commander. (page 47)



**2** Perform adjustments with no input. 

- Focus
- Registration



**3** Save the adjustment data as standard data.



**4** Perform the fine adjustments for each input signal. 

- Centering
- Registration
- RGB size and shift
- Blanking
- White balance



**5** Save the adjustment data.



**6** Activate the protection on the Remote Commander again.



**7** Adjust the picture.



# Lens Focus Adjustment

## Procedure

**1** Remove the top panel.

page 60



**2** Set the Remote Commander to the serviceman adjustment mode by removing the panel cover on the adjustment keys.

page 47



**3** Select the input with no input source connected.  
(NO INPUT mode)

page 60



**4** Display the H-pattern.

page 61



**5** Set both CONTR (contrast) and BRT (brightness) levels to 50.

page 61



**6** Adjust the green focus.

page 61



**7** Adjust the red focus.

page 62



**8** Adjust the blue focus.

page 62



**9** Adjust the electric focus.  
(If necessary)

page 63

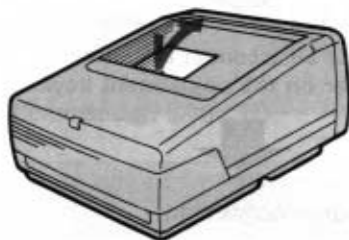


Proceed to the registration adjustment.

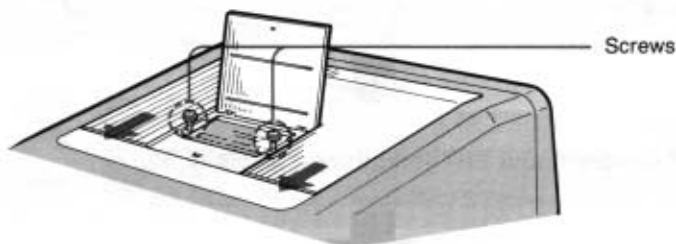
## Adjustment

### 1 Remove the top panel.

- ① Push the part marked "PUSH" on the control panel cover to open.



- ② Loosen two screws (black M4 x 16) of the control panel and slide the top panel in the direction of the arrow.

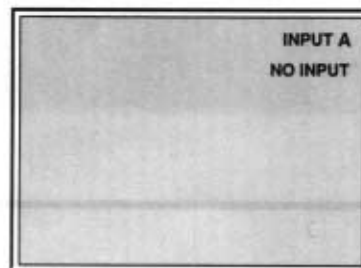


- ③ Open the top panel towards the lens section to detach.

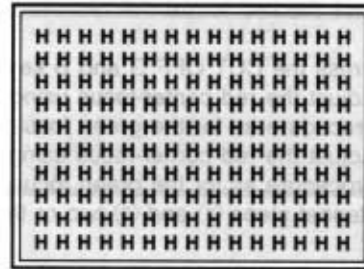


### 2 Make the adjustment keys on the Remote Commander operable. (See page 47.)

- 3 Select the input with no input source connected. (NO INPUT mode)**  
Press the INPUT SELECT A, B or VIDEO key. Or, set the SWITCHER/INDEX select switch to SWITCHER and then from among the number keys from 1 to 8, press a key with no input source connected.  
Make sure that "NO INPUT" is displayed on the screen.




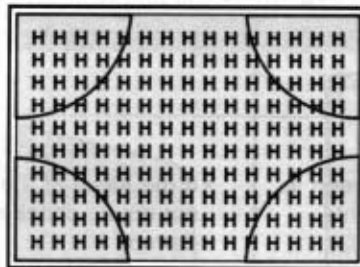
- 4** Press the TEST key on the Commander five times.  
An H-pattern will appear.



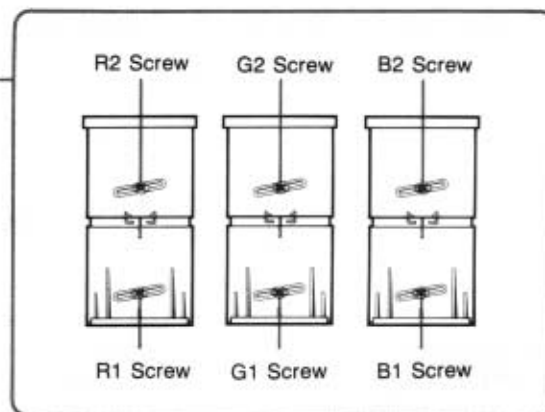
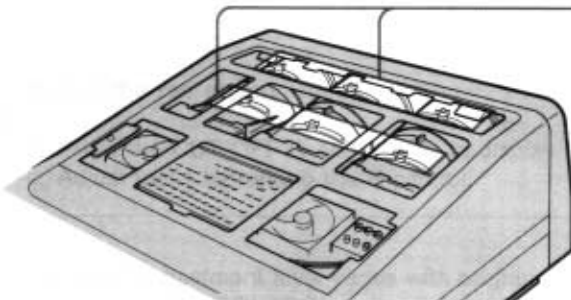
- 5** Press PICTURE CONTROL CONTR and BRT +/- keys to set their adjustment levels to 50.

- 6** Adjust the green focus.

- ① Press the CUT OFF R and B keys to display the green signal only.
- ② Adjust the center-focus.  
Loosen the G1 screw, slide it so that the letters H at the center of the screen is in optimum focus, and then tighten the screw.
- ③ Adjust the corner-focus.  
Loosen the G2 screw, slide it so that the letter H at the four corners (pay attention to the areas  in the illustration) are equally in focus, and then tighten the screw.



- ④ Repeat steps ② and ③ two or three times.



#### Lens focus adjustment hint

The letter H is made up of dots. If it is in focus, the dots will be clearly seen as in the illustration.



## 7 Adjust the red focus.

- ① Press the CUT OFF G and B keys to display the red signal only.
- ② Adjust the red center-focus using the R1 screw following the same procedure as for the green focus.
- ③ Adjust the red corner-focus using the R2 screw following the same procedure as for the green focus.
- ④ Repeat steps ② and ③ two or three times.

## 8 Adjust the blue focus.

- ① Press the CUT OFF G and R keys to display the blue signal only.
- ② Adjust the blue center-focus using the B1 screw following the same procedure as for the green focus.
- ③ Adjust the blue corner-focus using the B2 screw following the same procedure as for the green focus.
- ④ Repeat steps ② and ③ two or three times.

**The lens focus adjustment is complete.**  
Proceed to the registration adjustment. (page 64)

### Notes

- When you cannot see the letter H clearly as seen in, step 6 with the green and red focus adjustments, perform the electric focus adjustment. (page 63)
- If the focus of the upper, lower, left and right parts is not equal, check that the installation of the projector is correct.

## Electric Focus Adjustment

When you cannot obtain sharp focus with the lens focus adjustment, perform only the green and red electric focus adjustments using the controls as shown in the illustration.

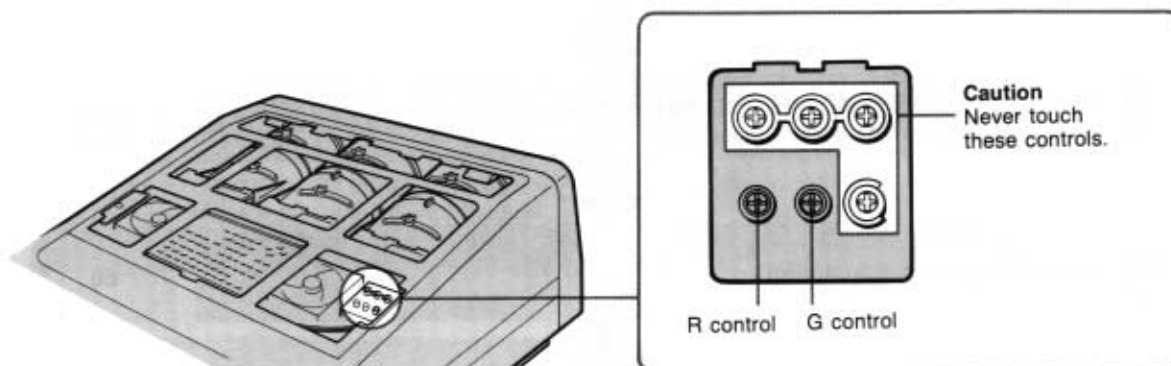
- 1** Remove the top panel.  
(See page 60.)

- 2** Press the TEST key five times to display the H-pattern.

- 3** Press the PICTURE CONTROL RESET key to reset the CONTR level to 80 and the BRT level to 50.

- 4** Adjust the green electric focus.

- ① Press the CUT OFF R and B keys to display the green signal only.
- ② Adjust focus by turning the G control.



- 5** Adjust the red electric focus.

- ① Press the CUT OFF G and B keys to display the red signal only.
- ② Adjust focus by turning the R control.

### Hint 1

Since the focus adjustment level varies with brightness of the screen, set PIC CONTROL to the factory preset levels.

### Hint 2

In the case of a high-resolution picture, when it is projected and the adjustment is made, even better focusing is possible. In this case, also, set PIC CONTROL to the factory preset levels.

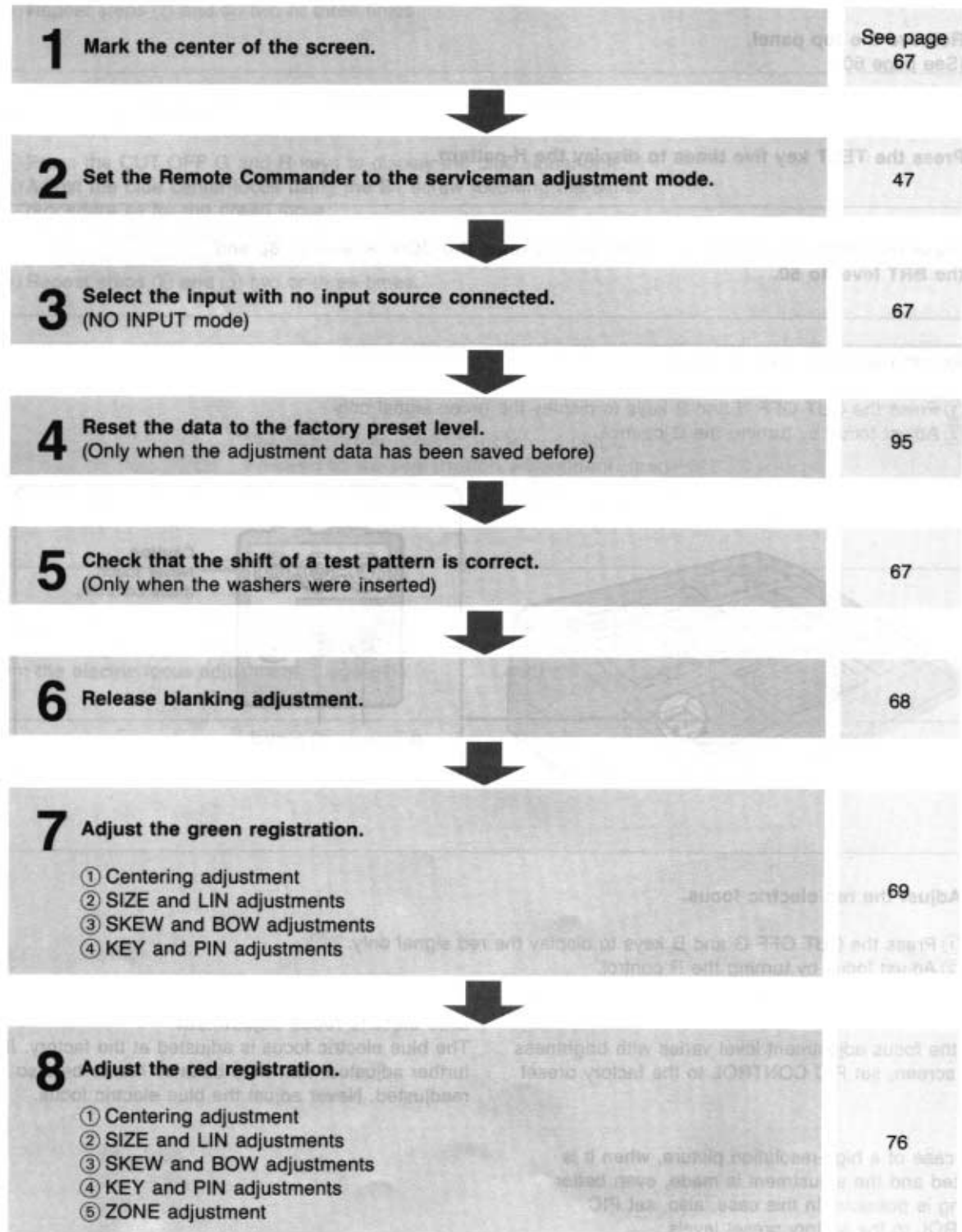
### Blue electric focus adjustment

The blue electric focus is adjusted at the factory. If it is further adjusted, the white balance has to be also readjusted. Never adjust the blue electric focus.

# Registration Adjustment

Display the test pattern on the screen and adjust the registration.  
Perform green, red and blue adjustments in this order to converge the three colors.

## Procedure





**9** Adjust the blue registration.

- ① Centering adjustment
- ② SIZE and LIN adjustments
- ③ SKEW and BOW adjustments
- ④ KEY and PIN adjustments
- ⑤ ZONE adjustment

See page  
83**10** Adjust blanking.

84

**11** Save the adjusted data as standard data.

85

**12** Perform fine adjustments for each input signal

- ① Adjustment of video input signal
- ② Adjustment of RGB input signal
- ③ White balance adjustment

88

**13** Activate the protection on the Remote Commander.

97

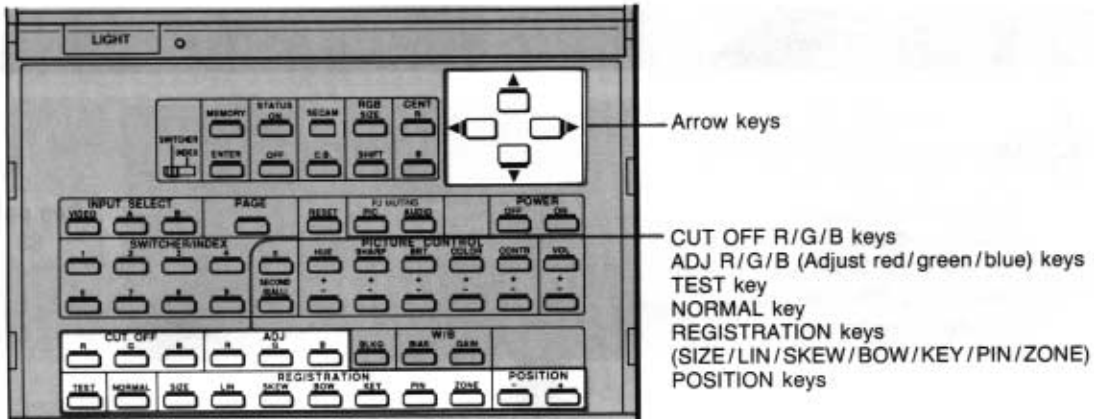
**14** Adjust the picture.

98

Complete.

# Registration Adjustment

## Keys for Registration Adjustment



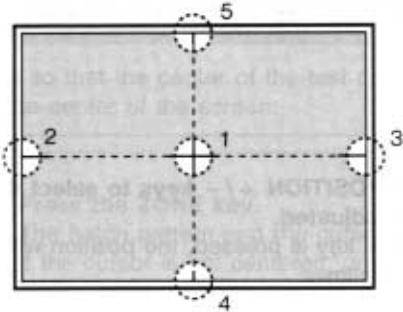
### Identifying the REGISTRATION keys

Indications on the Commander	Adjustment items
SIZE	size
LIN	linearity
SKEW	skew
BOW	bow
KEY	keystone
PIN	pincushion
ZONE	centering, zone

## Preparation

### 1 Mark the center of the screen.

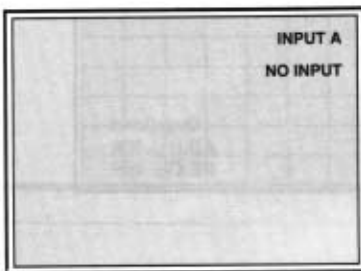
Measure the height and width of the screen to decide the center.  
Marking five points as illustrated with white tape will help you adjust registration.



### 2 Set the Remote Commander to the serviceman adjustment mode. (See page 47.)

### 3 Select the input with no input source connected. (NO INPUT mode)

Press the INPUT SELECT A, B or VIDEO key on the Remote Commander. Or, set the SWITCHER/INDEX select switch to SWITCHER and then from among the number keys from 1 to 8, press a key with no input source connected. Make sure "NO INPUT" is displayed on the screen.



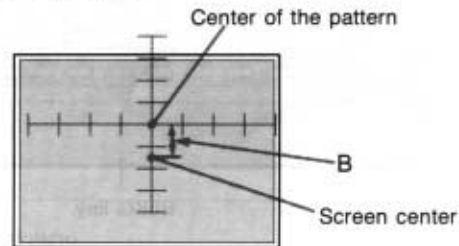
### 4 Reset the standard data.

(Only when the registration adjustment has been performed and the data has been saved before)  
See page 94 for how to reset the data.

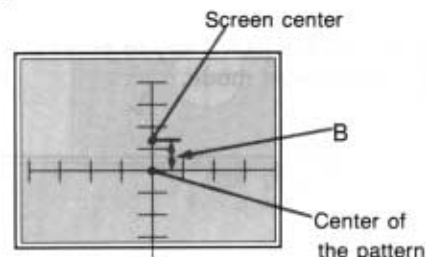
### 5 If you install the projector with the washer inserted, check that the distance between the center of the screen and the center of the cross hair pattern is appropriate.

- 1 Press the TEST key to display the cross hair pattern.
- 2 Press the ADJ G key.
- 3 Measure the distance (B) between the center of the screen and the center of the cross hair pattern. (See the illustrations below.)  
If the distance is nearly equivalent to that given in the "List of washers used for non-standard installation" on page 106, your installation and washer insertion are correctly performed.  
If the distance is not equivalent, adjust the angle of optical axis.

#### Floor installation



#### Ceiling installation



#### Notes

- The center of the screen and the center of the cross hair pattern can be aligned by performing the centering adjustment. (See page 69.)
- When the angle of optical axis is smaller, the hatch pattern becomes trapezoidal. Perform the keystone adjustment to correct the distortion. (See page 74.)

#### Floor installation



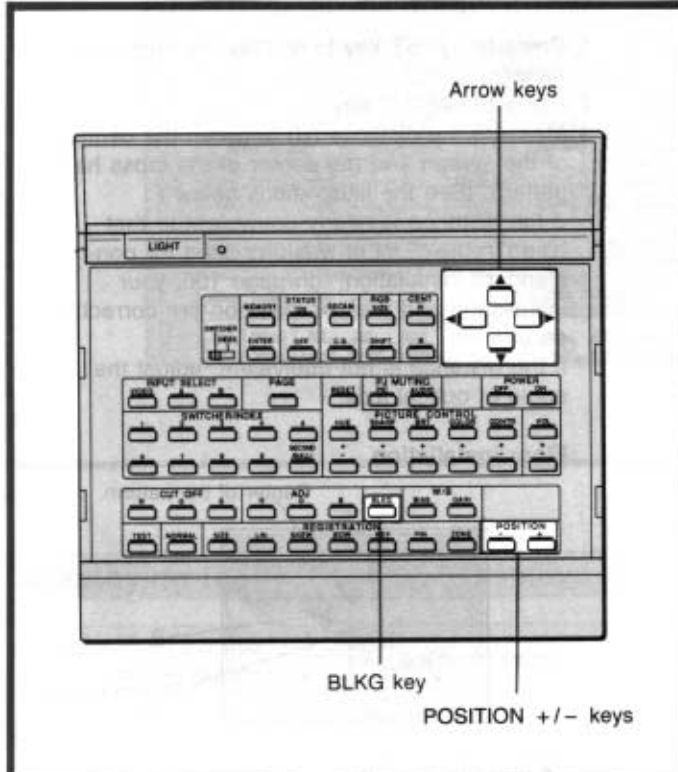
#### Ceiling installation



# Registration Adjustment

## Releasing Blanking Adjustment

The registration adjustment is difficult if the entire test pattern is not visible. Follow the steps below to make the whole test pattern visible.



**2** Press the TEST key to display the hatch pattern.

**3** Press the POSITION +/- keys to select the part to be adjusted. When the + key is pressed, the position will change as follows:

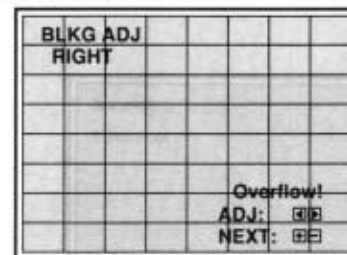
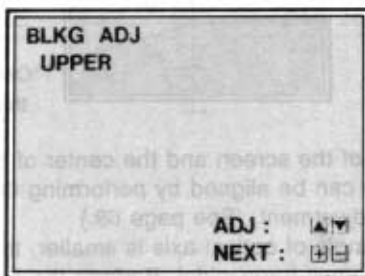
UPPER → LOWER → LEFT → RIGHT

When the - key is pressed, the position will change in the reverse of the above order.

**4** Press the arrow keys until "Overflow!" is displayed on the screen for each position.

▲: UPPER, ▼: LOWER, ◀: LEFT, ▶: RIGHT

**1** Press the BLKG key to enter the blanking adjustment mode.



### What is blanking?

Blanking is masking the picture. The picture size of this projector is adjusted at the factory to fit the 120-inch screen. According to the installation method, it is necessary to reduce or increase the masking to fit the picture to the screen. Here, reduce the masking to the minimum (the picture is projected at the largest size), and after the registration adjustment is complete, perform the blanking adjustment to fit the screen used.

### Note

There may be a rainbow-like vertical band on the right side or a diagonal line on the upper part of the screen. As they can be adjusted with the blanking adjustment later (see page 84), leave them alone for now.

## Green Registration Adjustment

**Be sure to adjust starting with the green test pattern.**

When adjusting green, do not perform the ZONE adjustment as far as possible. If the green ZONE adjustment is great, the adjustment of red and blue may be difficult.

### 1 Green centering adjustment

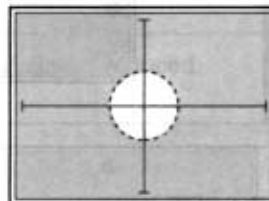
Adjust so that the center of the test pattern is aligned with the center of the screen.

- 1 Press the ZONE key.**  
The hatch pattern and the cursor are displayed.  
If the cursor is not centered, press the POSITION key to move it to the center of the screen.

- 2 Press the ADJ G key.**

- 3 Press the CUT OFF R and B keys to display green only.**

- 4 Press the arrow keys to align the center of the hatch pattern with the center of the screen.**



#### Notes

- At this time perform the ZONE adjustment only for the center zone.
- If the center of the test pattern is off the center of the screen by a large amount, check that the CRT spacers are correctly installed or the installation of the projector is correct.

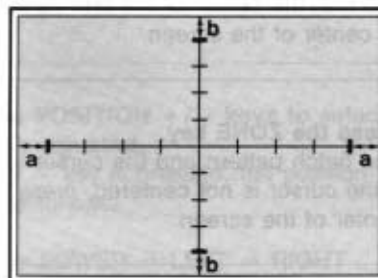
# Registration Adjustment

## 2 Green SIZE and LIN (linearity) adjustment

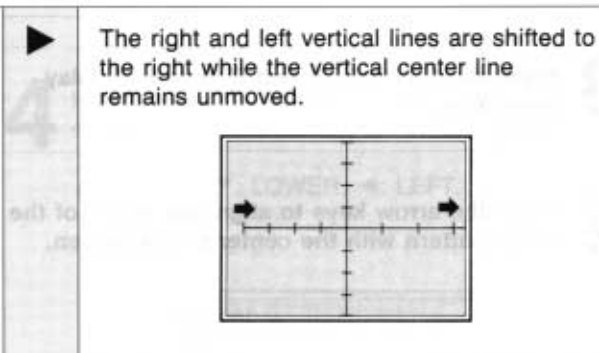
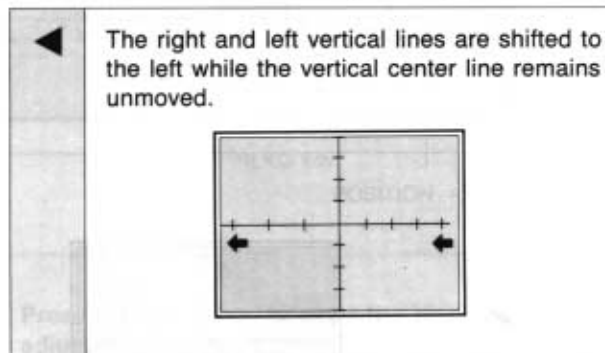
Adjust the size of the displayed picture with respect to the screen, and the picture's up, down, left and right balance.

**1** Press the LIN key.  
You can also change to the 9 × 9 hatch pattern by pressing the TEST key.

**2** Press the ADJ G key.  
Pay attention only to the bold lines (the ends of the vertical and horizontal lines).

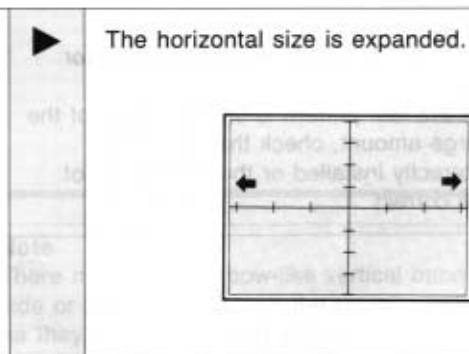
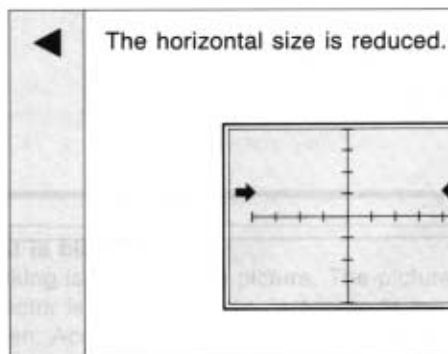


**3** Adjust with the ◀ and ▶ keys until parts (a) on the right and left are of equal length.



**4** Press the SIZE key.

**5** Adjust with the ◀ and ▶ keys until parts (a) on the right and left are 15 — 20 mm long.



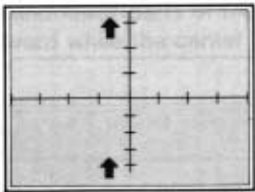
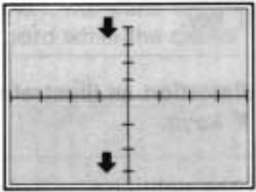
**6** If they are not aligned, press the LIN key and repeat steps 3 to 5.



- 7** If the center of the cross hair pattern is off-centered on the screen, perform the centering adjustment again and repeat steps 1 to 6 for the horizontal size adjustment.  
(See page 69 for the centering adjustment.)

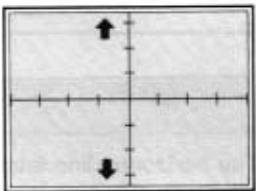
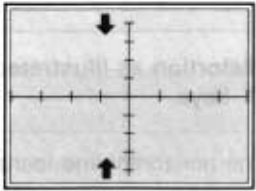
- 8** Press the LIN key.

- 9** Adjust with the ▲ and ▼ keys until parts (b) at the top and bottom are of equal length.

<p>▲ The upper and lower horizontal lines are shifted upward while the horizontal center line remains unmoved.</p> 	<p>▼ The upper and lower horizontal lines are shifted downward while the horizontal center line remains unmoved.</p> 
--	---

- 10** Press the SIZE key.

- 11** Adjust with the ▲ and ▼ keys until parts (b) at the top and bottom are about 15 – 20 mm long.

<p>▲ The vertical size is expanded.</p> 	<p>▼ The vertical size is reduced.</p> 
---	---

- 12** If they are not aligned, repeat steps 8 to 11.

- 13** If the center of the cross hair pattern is off-centered on the screen, perform the centering adjustment again and then repeat steps 3 to 12 for the vertical size adjustment.  
(See page 69 for the centering adjustment.)

- 14** After the adjustment is complete, press the MEMORY key to save the data.

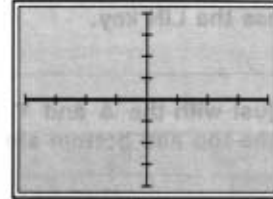
# Registration Adjustment

## 3 Green SKEW and BOW adjustments

Display the cross hair pattern and adjust the bow-like or skew distortion of the horizontal and vertical center lines to make them parallel to the screen edges.

### A. Horizontal line adjustment

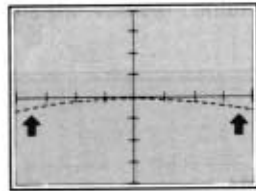
Pay attention only to the bold line (horizontal center line).



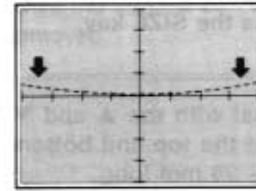
- 1 Press BOW key.**  
You can also change to the 9 × 9 hatch pattern by pressing the TEST key.

- 2 Adjust distortion as illustrated below with the ▲ and ▼ keys.**

▲ The right and left sides of the line are curved upward while the center remains unchanged.



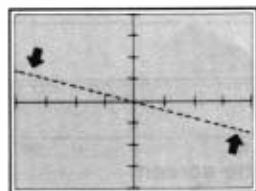
▼ The right and left sides of the line are curved downward while the center remains unchanged.



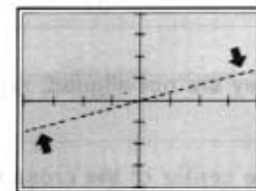
- 3 Press the SKEW key.**

- 4 Adjust distortion as illustrated below with the ▲ and ▼ keys.**

▲ The horizontal line leans toward upper right.



▼ The horizontal line leans toward lower right.

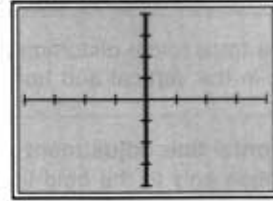


- 5 Repeat steps 1 to 4 until the horizontal lines become parallel to the screen edges.**

- 6 When the adjustment is complete, press the MEMORY key to save the adjustment data.**

**B. Vertical line adjustment**

Pay attention only to the bold line (vertical center line).



**1** Press BOW key.

**2** Adjust distortion as illustrated below with the ◀ and ▶ keys.

◀	<p>The upper and lower parts of the line are curved leftward while the center remains unchanged.</p>	▶	<p>The upper and lower parts of the line are curved rightward while the center remains unchanged.</p>
---	--	---	---

**3** Press the SKEW key.

**4** Adjust distortion as illustrated below with the ◀ and ▶ keys.

◀	<p>The vertical line leans leftward.</p>	▶	<p>The vertical line leans rightward.</p>
---	--	---	---

**5** Repeat steps 1 to 4 until the vertical line becomes parallel to the screen edges.

**6** When the adjustment is complete, press the MEMORY key to save the adjustment data.

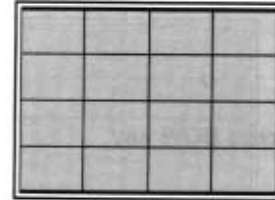
# Registration Adjustment

## 4 Green KEY (keystone) and PIN (pincushion) adjustments

Adjust the trapezoidal distortion and the pin-cushion distortion in the vertical and horizontal directions.

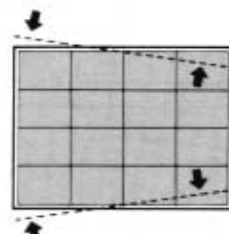
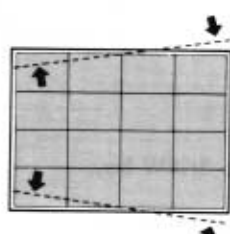
### A. Horizontal line adjustment

Pay attention only to the bold lines (top and bottom horizontal lines).



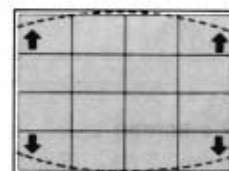
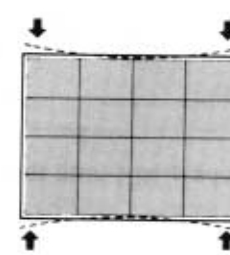
- 1 Press the KEY key.**  
You can also change to the 9 × 9 hatch pattern by pressing the TEST key.

- 2 Adjust distortion as illustrated below with the ▲ and ▼ keys.**

▲	The lines spread apart on the right side and come together on the left side. 	▼	The lines spread apart on the left side and come together on the right side. 
---	--	---	--

- 3 Press the PIN key.**

- 4 Adjust distortion as illustrated below with the ▲ and ▼ keys.**

▲	The ends of the top and bottom lines spread apart. 	▼	The ends of the top and bottom lines come together. 
---	---	---	--

- 5 Repeat steps 1 to 4 until the horizontal lines become parallel to the screen edges.**

- 6 When the adjustment is complete, press the MEMORY key to save the adjustment data.**

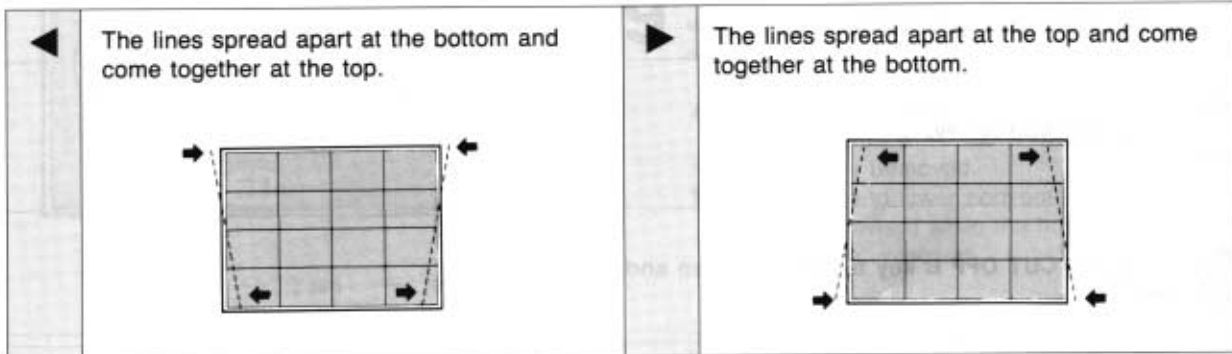
**B. Vertical line adjustment**

Pay attention only to the bold lines (right and left side vertical lines).



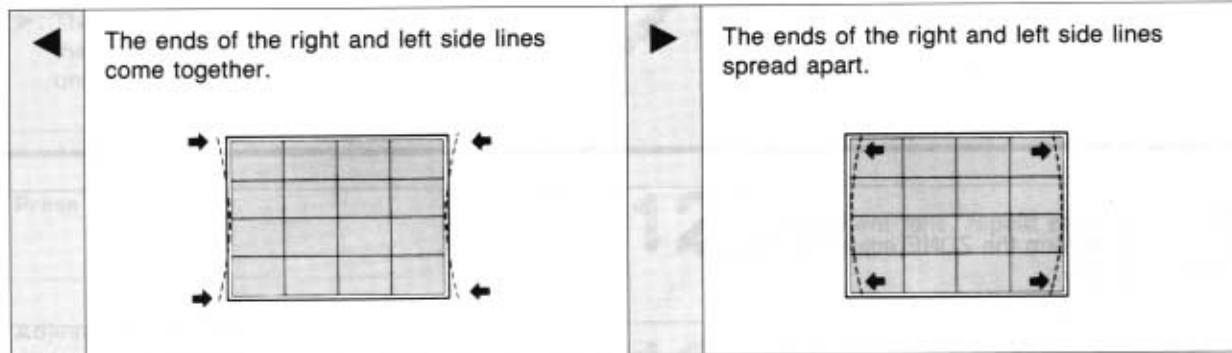
**1** Press the KEY key.

**2** Adjust distortion as illustrated below with the ◀ and ▶ keys.



**3** Press the PIN key.

**4** Adjust distortion as illustrated below with the ◀ and ▶ keys.



**5** Repeat steps 1 to 4 to make the vertical lines parallel to the screen edges.

**6** When the adjustment is complete, press the MEMORY key to save the adjustment data.

The green registration adjustment is complete.  
Proceed to the adjustment for the red signal.

# Registration Adjustment

## Red Registration Adjustment

Adjust the red signal so that it converges with the green signal and is seen as yellow.

### 5 Red centering adjustment

Adjust so that the center of the red test pattern is aligned with that of the green pattern.

- 1** Press the **ZONE** key.  
The hatch pattern and the cursor are displayed.  
If the cursor is not centered, press the **POSITION** key to move it to the center of the screen.
- 2** Press the **ADJ R** key.
- 3** Press the **CUT OFF B** key to display green and red.
- 4** Press the arrow keys to align the center of the red hatch pattern with that of the green pattern.

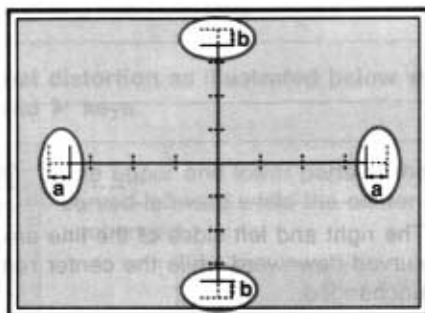
#### Note

At this time perform the **ZONE** adjustment for the center zone only.

## 6 Red SIZE and LIN (linearity) adjustments

- 1** Press the LIN key.  
You can also change to the 9 × 9 hatch pattern by pressing the TEST key.

- 2** Press the ADJ R key.  
Pay attention only to the encircled portions.



----: green    —: red

- 3** Move the red lines with the ◀ and ▶ keys until parts (a) on the right and left are of equal length.

- ◀: The right and left vertical lines are shifted to the left while the vertical center line remains unmoved.
- ▶: The right and left vertical lines are shifted to the right while the vertical center line remains unmoved.

- 4** Press the SIZE key.

- 5** Adjust with the ◀ and ▶ keys so that the red and green lines in the right and left encircled portions converge.

- ◀: The horizontal size is reduced.
- ▶: The horizontal size is expanded.

- 6** If adjustment fails, press the LIN key and then repeat steps 3 to 5.

- 7** If the center of the cross hair pattern is off-centered on the screen, perform the centering adjustment again and repeat steps 1 to 6 for horizontal size adjustment. (See page 76 for the centering adjustment.)

- 8** Press the LIN key.

- 9** Move the red lines with the ▲ and ▼ keys until parts (b) at the top and bottom are of equal length.

- ▲: The upper and lower horizontal lines are shifted upward while the horizontal center line remains unmoved.
- ▼: The upper and lower horizontal lines are shifted downward while the horizontal center line remains unmoved.

- 10** Press the SIZE key.

- 11** Adjust with the ▲ and ▼ keys so that the red and green lines at the top and bottom encircled portions converge.

- ▲: The vertical size is expanded.
- ▼: The vertical size is reduced.

- 12** If adjustment fails, repeat steps 8 to 11.

- 13** If the center of the cross hair pattern is off-centered on the screen, perform the centering adjustment again and repeat steps 8 to 12 for vertical size adjustment. (See page 76 for centering adjustment.)

- 14** After the adjustment is complete, press the MEMORY key to save the data.

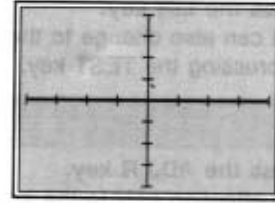


# Registration Adjustment

## 7 Red SKEW and BOW adjustments

### A. Horizontal line adjustment

Pay attention only to the bold line (horizontal center line).



- 1** Press the BOW key.  
You can also change to the 9 × 9 hatch pattern by pressing the TEST key.

- 2** Adjust distortion as illustrated below with the ▲ and ▼ keys.

----: red    —: green

<b>▲</b>	The right and left sides of the line are curved upward while the center remains unchanged.	<b>▼</b>	The right and left sides of the line are curved downward while the center remains unchanged.
----------	--	----------	--

- 3** Press the SKEW key.

- 4** Adjust distortion as illustrated below with the ▲ and ▼ keys.

----: red    —: green

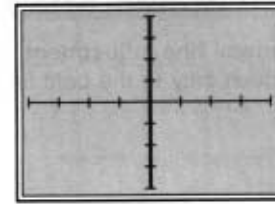
<b>▲</b>	The horizontal line leans toward upper right.	<b>▼</b>	The horizontal line leans toward lower right.
----------	---	----------	---

- 5** Repeat steps 1 to 4 until the red horizontal line converges with the green line.

- 6** When the adjustment is complete, press the MEMORY key to save the adjustment data.

**B. Vertical line adjustment**

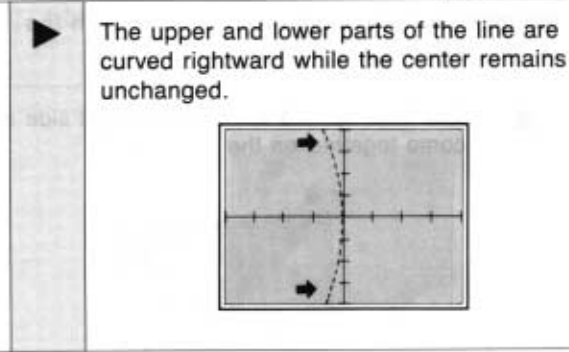
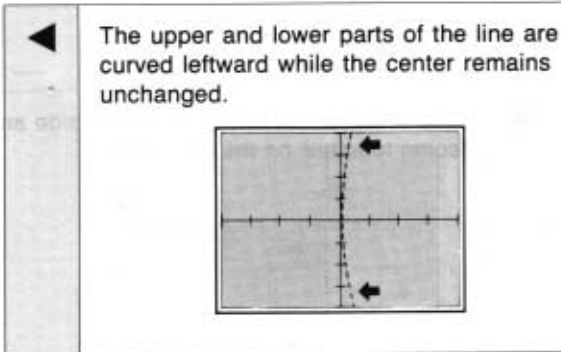
Pay attention only to the bold line (vertical center line).



- 1** Press the **BOW** key.  
You can also change to the 9 × 9 hatch pattern by pressing the **TEST** key.

- 2** Adjust distortion as illustrated below with the ◀ and ▶ keys.

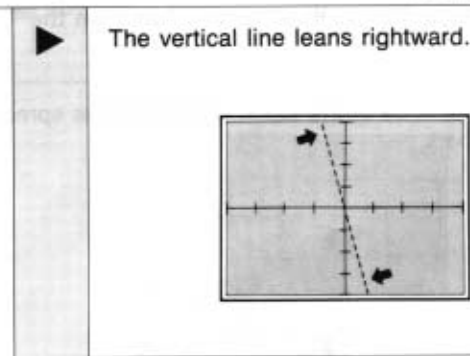
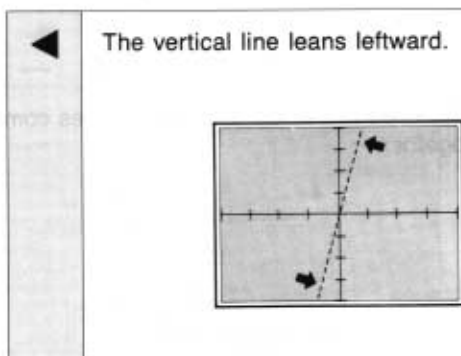
----: red —: green



- 3** Press the **SKEW** key.

- 4** Adjust distortion as illustrated below with the ◀ and ▶ keys.

----: red —: green



- 5** Repeat steps 1 to 4 until the red vertical line converges with the green line.

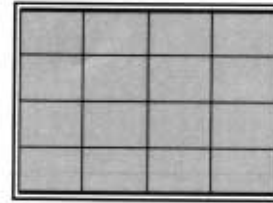
- 6** When the adjustment is complete, press the **MEMORY** key to save the data.

# Registration Adjustment

## 8 Red KEY (keystone) and PIN (pincushion) adjustments

### A. Horizontal line adjustment

Pay attention only to the bold lines (top and bottom lines).



- 1** Press the KEY key.  
You can also change to the 9 × 9 hatch pattern by pressing the TEST key.

- 2** Adjust distortion as illustrated below with the ▲ and ▼ keys.

-----: red    ———: green

<b>▲</b>	The lines spread apart on the right side and come together on the left side.	<b>▼</b>	The lines spread apart on the left side and come together on the right side.
----------	--	----------	--

- 3** Press the PIN key.

- 4** Adjust distortion as illustrated below with the ▲ and ▼ keys.

-----: red    ———: green

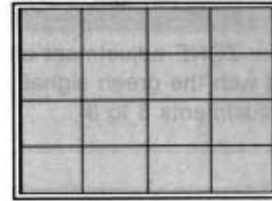
<b>▲</b>	The ends of the top and bottom lines spread apart.	<b>▼</b>	The ends of the top and bottom lines come together.
----------	--	----------	---

- 5** Repeat steps 1 to 4 until the red horizontal lines converge with the green lines.

- 6** When the adjustment is complete, press the MEMORY key to save the data.

**B. Vertical line adjustment**

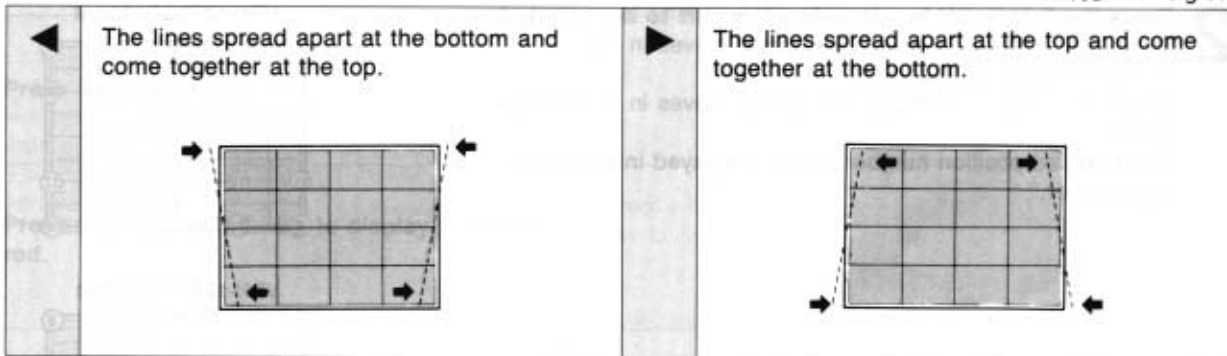
Pay attention only to the bold lines (right and left side lines).



- 1** Press the **KEY** key.  
You can also change to the 9 × 9 hatch pattern by pressing the **TEST** key.

- 2** Adjust distortion as illustrated below with the **◀** and **▶** keys.

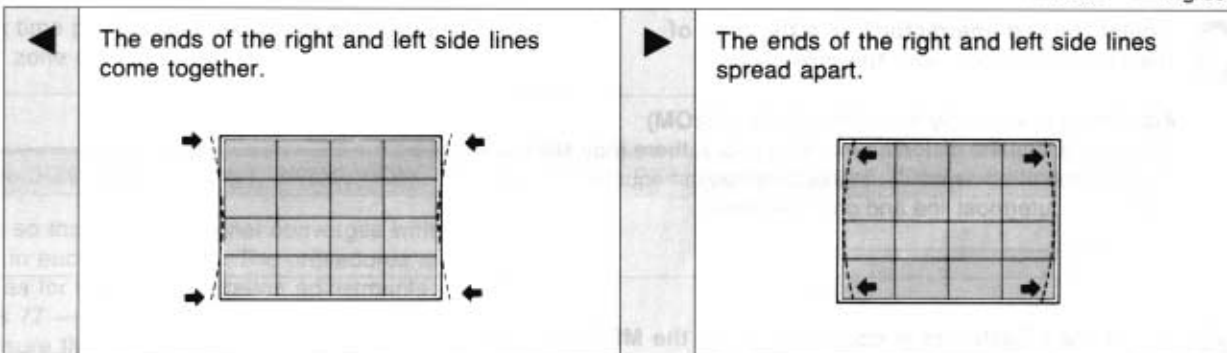
----: red —: green



- 3** Press the **PIN** key.

- 4** Adjust distortion as illustrated below with the **◀** and **▶** keys.

----: red —: green



- 5** Repeat steps 1 to 4 until the red vertical lines converge with the green lines.

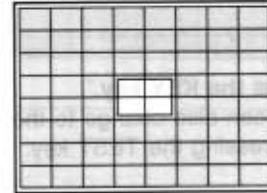
- 6** When the adjustment is complete, press the **MEMORY** key to save the data.

# Registration Adjustment

## 9 Red ZONE adjustment

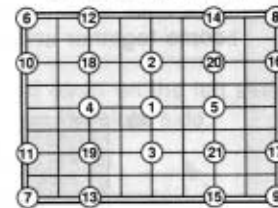
Perform the ZONE adjustment after the red signal has converged with the green signal as far as possible in the red adjustments 5 to 8.

- 1 Press the ZONE key.**  
The hatch pattern and the cursor are displayed.

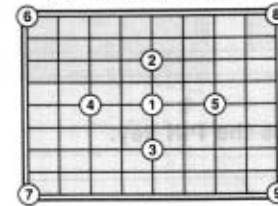


- 2 Press the POSITION key to select the part to be adjusted.**  
When the + key is pressed, the cursor moves in the numerical order as illustrated.  
When the - key is pressed, the cursor moves in the reverse order.  
The selected position number will be displayed in the upper right corner.

VPH-1272Q/1272QM



VPH-1252Q/1252QM



- 3 Adjust the red line distortion in the area of the cursor position with the arrow keys.**

### Adjustment hint (only for VPH-1252Q/1252QM)

After you adjust the distortion in zones 6 to 9, there may still be distortion at a line inside. In this case, adjust equally noting the outermost line and one line inside.

- 4 When the adjustment is complete, press the MEMORY key to save the data.**

The red registration adjustment is complete.  
Proceed to the registration adjustment of the blue signal.

## Blue Registration Adjustment

Adjust the blue signal so that it converges with the red signal which has been adjusted. When the blue and red test patterns converge, the pattern is seen as magenta.

### 10 Blue centering adjustment

Adjust so that the center of the blue test pattern is aligned with that of the red pattern.

- 1** Press the ZONE key.
- 2** Press the ADJ B key.
- 3** Press the CUT OFF G key to display blue and red.
- 4** Press the arrow keys until the center of the blue hatch pattern is aligned with that of the red pattern.

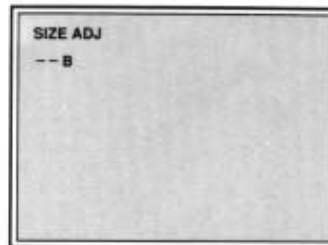
#### Note

At this time perform the ZONE adjustment for the center zone only.

### 11 Blue SIZE, LIN (linearity), SKEW, BOW, KEY (keystone), PIN (pincushion) and ZONE adjustments

Adjust so that the blue signal converges with the red signal in each adjustment. The procedures are the same as for the red registration adjustments (pages 77 — 82).

Make sure that "ADJ B" is displayed on the screen when adjusting the blue signal.



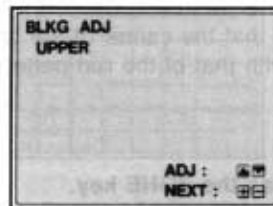
When the blue adjustment is complete, press the MEMORY key to save the adjustment data.

# Registration Adjustment

## Blanking Adjustment

After the registration adjustments, perform this adjustment to erase a rainbow-like vertical band at the right side or a diagonal line at the upper part of the screen.

- 1** Press the BLKG key.



- 2** Press the TEST key to display the hatch pattern.

- 3** Press the POSITION +/- key to select the part to be adjusted.  
When the + key is pressed, the position will change as follows:

UPPER → LOWER → LEFT → RIGHT

When the - key is pressed, the position will change in the reverse of the above order.

- 4** Adjust with the arrow keys.  
Press the ▲ and ▼ keys to adjust the UPPER and LOWER parts.  
A diagonal line at the upper part will be erased with the UPPER adjustment.  
Press the ◀ and ▶ keys to adjust the LEFT and RIGHT parts.  
A rainbow-like vertical band at the right side will be erased with the RIGHT adjustment.

- 5** When the adjustment is complete, press the MEMORY key to save the adjustment data.



## Saving the Standard Registration Data

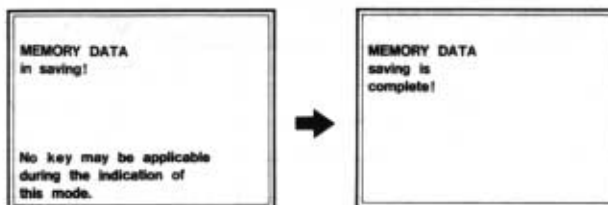
When the registration adjustments for the green, red and blue signals are complete, save the adjusted data as standard data.

### 1 Press the MEMORY key. (Do not keep this key pressed.)

The adjusted data is saved in the memory of an internal signal whose horizontal frequency is approximately 34 kHz.

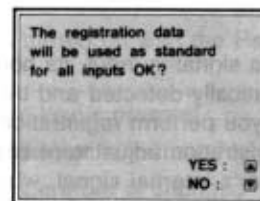
#### Note

During saving, other keys do not function.



### 2 Keep pressing the MEMORY key for more than 3 seconds.

The message appears and the projector enters the standard data saving mode.



### 3 Press the ▲ key (for YES).

All the registration data will be converted into the data of the internal signal and are saved as standard data.

#### Note

If the adjustment data are saved as standard data, the registration data with other horizontal frequencies will be converted into the standard data if they have not been saved before.

# Registration Adjustment

## Memory structure

This projector saves the adjustment data in one of eight (VPH-1272Q/1272QM) or six (VPH-1252Q/1252QM) memories according to the horizontal frequency of the input signal.

The acceptable horizontal frequency is divided into the following blocks with each block assigned to a different memory.

Registration memory block	Horizontal Frequency	
	VPH-1272Q/1272QM	VPH-1252Q/1252QM
1	fH = 15 kHz — 19 kHz	fH = 15 kHz — 19 kHz
2	fH = 19 kHz — 24 kHz	fH = 19 kHz — 24 kHz
3	fH = 24 kHz — 30 kHz	fH = 24 kHz — 30 kHz
4	fH = 30 kHz — 37 kHz	fH = 30 kHz — 37 kHz
5	fH = 37 kHz — 45 kHz	fH = 37 kHz — 45 kHz
6	fH = 45 kHz — 55 kHz	fH = 45 kHz — 61.5 kHz
7	fH = 55 kHz — 66 kHz	—
8	fH = 66 kHz — 93 kHz	—

When a signal is input, its horizontal frequency is automatically detected and the memory is selected.

When you perform registration adjustment with no input, the registration adjustment is performed with the projector's internal signal, whose horizontal frequency is approximately 34 kHz. So the adjustment data is saved in registration memory block 4.

If the adjustment data is saved as standard data, the factory preset data for all the memories will be calculated and changed to reflect the new registration information.

By this operation the standard data in that installation condition is saved, which makes the subsequent adjustment for each input signal easier.

Follow the two steps below.

- 1 After installation, perform registration adjustment with no input and save the adjustment data. Then save the adjusted data as standard data.**
- 2 Perform installation adjustment for each input signal and save the adjustment data.**

## For reference — Memory architecture

Memory Name	Memory Data	How the projector recognizes data	When data is memorized
Channel Memory	Picture control Video SIZE	Input connector	When the MEMORY key is pressed When the input connector is switched When the power is turned off with the Remote Commander
Status Memory	RGB SIZE, SHIFT Blanking SECAM ON/OFF CLEAR BLUE ON/OFF Color temperature (9300/6500/3200/Preset) V-SHIFT	Horizontal and vertical frequency Condition of sync signal Input connector	When the MEMORY key is pressed When the power is turned off with the Remote Commander
Registration Memory	Registration	Registration memory block (Horizontal frequency of the input signal)	When the MEMORY key is pressed When the input connector is switched When the horizontal frequency is changed When the power is turned off with the Remote Commander
Color Temperature Memory	W/B Bias and Gain	Color temperature (9300/6500/3200/Preset)	When the MEMORY key is pressed When the input connector is switched When the color temperature is changed When the power is turned off with the Remote Commander

- One projector has only one memory data each for the baud rate, CRT timer and STATUS ON/OFF.

### Note

When the adjustment is complete, be sure to press the MEMORY key or turn off the power with the Remote Commander.

# Fine Adjustment of Each Input Signal

After the registration adjustment is performed with no input source connected and the adjusted data are saved as standard data, next input an external signal and carry out the fine adjustment and other adjustments for each input signal.

## Fine Adjustment of the Video Input Signal

**1** **Connect the video signal source.**  
Connect to the VIDEO IN jack on the projector or to the PC-1271/1271M switcher with the IFB-1000 interface board installed.

**2** **Select the input to be adjusted.**  
Press the INPUT SELECT VIDEO key on the Remote Commander. Or, set the SWITCHER/INDEX select switch to SWITCHER and then from among the number keys from 1 to 8, press a key for a video input source.

**3** **Press the PAGE key four times.**  
Check that the horizontal frequency of the input signal ("fH") indicates 15.7 kHz.

## Fine registration adjustment

**1** Press the TEST key to display the hatch pattern.

**2** If necessary, perform the fine adjustment. See pages 69 to 83 for the adjustment procedures.

**3** When the fine adjustment is complete, press the MEMORY key to save the adjusted data. (Do not keep it pressed.) The adjusted value will be saved normally.

## SIZE adjustment

Adjust the size of the picture if it does not fit the screen.

**1** **Press the RGB SIZE key.**  
The video SIZE can be adjusted with the RGB SIZE key.

**2** **Adjust with the arrow keys.**

- ▲: The vertical size is expanded.
- ▼: The vertical size is reduced.
- ▶: The horizontal size is expanded.
- ◀: The horizontal size is reduced.

**3** **After the adjustment is complete, press the MEMORY key.**  
The adjusted data will be saved.

## Blanking Adjustment

If the displayed picture is bigger than the screen, cut off the excess parts.

**1** Press the **BLKG** key.

**2** Press the **POSITION +/-** key to select the part to be adjusted.  
When the **+** key is pressed, the position will change as follows:  
UPPER → LOWER → LEFT → RIGHT  
When the **-** key is pressed, the position will change in the reverse of the above order.

**3** Adjust with the arrow keys.  
Press the **▲** and **▼** keys to adjust the UPPER and LOWER positions.  
Press the **◀** and **▶** keys to adjust the LEFT and RIGHT positions.

**4** After the adjustment is complete, press the **MEMORY** key.  
The adjusted data will be saved.

### Note

When two or more video input sources are connected to the projector using the switcher, perform the **SIZE** and blanking adjustments for each signal input from different input connector.

## Fine Adjustment of the RGB Input Signal

**1** **Connect the RGB input source.**  
Connect to the RGB IN connector on the projector or to the PC-1271/1271M switcher with the optional interface board installed.

**2** **Select the input to be adjusted.**  
Press the **INPUT SELECT A** or **B** key on the Remote Commander. Or, set the **SWITCHER/INDEX** select switch to **SWITCHER** and then from among the number keys from 1 to 8, press a key for an RGB input source.

**3** **Press the PAGE key four times to check the horizontal frequency ("fH") of the input signal.**  
If "fH" indicates 30 — 37 kHz (the range of registration memory block 4), the fine adjustment is not necessary.  
For the input signals of other "fH", perform the fine adjustment.

# Fine Adjustment of Each Input Signal

## Fine registration adjustment

- 1** Press the **TEST** key to display the hatch pattern.
- 2** If necessary, perform the fine registration adjustment.  
See pages 69 — 83 for the adjustment procedures.
- 3** When two or more RGB input sources are connected, group them according to the horizontal frequency by checking the "fH" in PAGE 4 display.
- 4** Perform the fine registration adjustment for each group.  
After the adjustment is complete, press the **MEMORY** key.  
(Do not keep this key pressed.)  
The adjusted data will be saved.

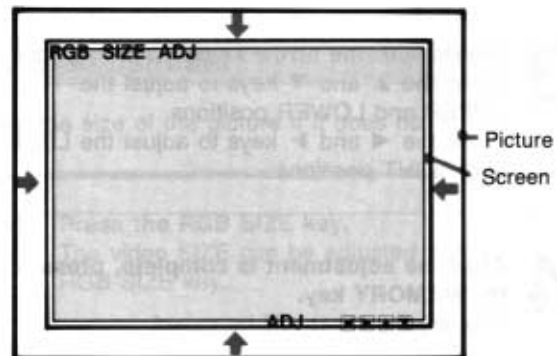
### Adjustment hint

The projector saves the registration adjustment data in one of eight (for VPH-1272Q/1272QM) or six (for VPH-1252Q/1252QM) registration memory blocks according to the horizontal frequency of the input signals. (See page 86 for details.) When two or more signals are input, you need to perform the fine adjustment for each block. If two or more input signals are grouped into the same memory block perform the adjustment for any one of them. You can check in which block the signal is grouped by displaying PAGE 4.

## RGB SIZE adjustment

If the size of the picture does not fit the screen, adjust the RGB SIZE adjustment.

- 1** Press the **RGB SIZE** key.
- 2** Adjust with the arrow keys so that the picture fits the screen.
  - ▲: The vertical size is expanded.
  - ▼: The vertical size is reduced.
  - ▶: The horizontal size is expanded.
  - ◀: The horizontal size is reduced.



- 3** When the adjustment is complete, press the **MEMORY** key.  
The adjusted data will be saved.

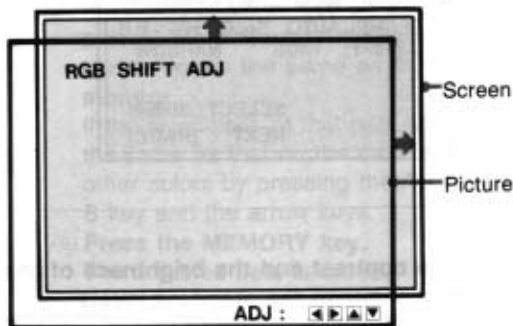
## RGB SHIFT Adjustment

If the picture needs to be shifted to fit the screen, adjust the RGB SHIFT adjustment.

**1** Press the RGB SHIFT key.

**2** Adjust with the arrow keys so that the picture fits the screen.

- ▲: The picture is shifted upward.
- ▼: The picture is shifted downward.
- ◀: The picture is shifted leftward.
- ▶: The picture is shifted rightward.



**3** When the adjustment is complete, press the MEMORY key.  
The adjusted data will be saved.

## Blanking Adjustment

If the displayed picture is bigger than the screen, cut off the excess parts.

**1** Press the BLKG key.

**2** Press the POSITION +/- key to select the part to be adjusted.  
When the + key is pressed, the position will change as follows:  
UPPER → LOWER → LEFT → RIGHT  
When the - key is pressed, the position will change in the reverse of the above order.

**3** Adjust with the arrow keys.  
Press the ▲ and ▼ keys to adjust the UPPER and LOWER positions.  
Press the ◀ and ▶ keys to adjust the LEFT and RIGHT positions.

**4** When the adjustment is complete, press the MEMORY key.  
The adjusted data will be saved.

### Note

When two or more RGB input sources are connected to the projector, perform the size, shift and blanking adjustments for each RGB signal which has any item different from each other in the signal input conditions displayed in PAGE 4.



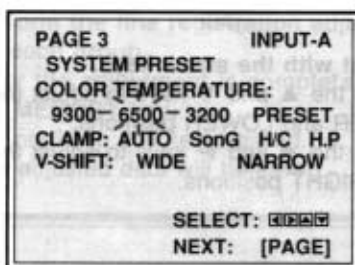
# Fine Adjustment of Each Input Signal

## White Balance Adjustment

The color temperatures are preset at the factory to 9300K, 6500K and 3200K. However, if you want to set a color temperature other than the factory-preset levels, you can adjust the white balance and save it in the memory. You can also change the factory-preset levels.

### Setting the white balance

- 1 Display the same input signal on the projector and the color monitor.
- 2 Press the PAGE key three times to display PAGE 3.



- 3 Press the arrow keys to select 9300, 6500 or 3200, the nearest color temperature to that of the color monitor or the desired one.  
Normally set to 6500. Set to 9300 to make white color bluish and select 3200 to make it reddish.

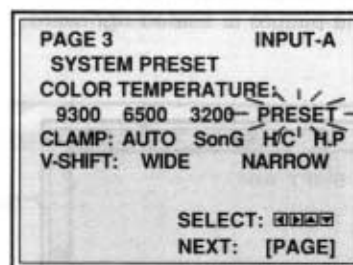
- 4 Press the MEMORY key.

### Adjusting the white balance

If you want to make the color of a particular input signal (ex. HDTV system picture) uniform to that of the color monitor, you can adjust the white balance.

Display the same input signal on the projector and the monitor.

- 1 Press the PAGE key three times to display PAGE 3.
- 2 Set COLOR TEMPERATURE to PRESET with the arrow keys.



- 3 Set the contrast and the brightness of the color monitor to the standard levels.
- 4 Adjust the black level.
  - 1 Press the W/B BIAS key.  
The PLUGE pattern is displayed.  
The contrast and the brightness levels of the projector are automatically set to 80 and 50 respectively.
  - 2 Keep pressing the TEST key for more than 5 seconds.  
The picture of the input signal is displayed.
  - 3 Press the ADJ R, G or B key to select the color to be adjusted.  
In selecting the color, pay attention to the black part of the picture displayed on the projector screen and note which color stands out compared with the same part displayed on the color monitor.
  - 4 Press the ◀ or ▶ key so that the black color of the picture on the projector looks the same as that on the monitor.  
If the brightness of that part does not look the same as that on the monitor, adjust other colors by pressing the ADJ R, G or B key and arrow keys.
  - 5 Press the MEMORY key.  
The adjusted data is saved.

## 5 Adjust the white level.

- ① **Press the W/B GAIN key.**  
The window pattern is displayed.  
The contrast and the brightness levels of the projector are automatically set to 80 and 50, respectively.
- ② **Keep pressing the TEST key for more than 5 seconds.**  
The picture of the input signal is displayed.
- ③ **Press the ADJ R, G or B key to select the color to be adjusted.**  
In selecting the color, pay attention to the white part of the picture displayed on the projector screen and note which color stands out compared with the same part displayed on the color monitor.
- ④ **Press the ◀ or ▶ key so that the white part of the picture on the projector screen looks the same as that on the monitor.**  
If the brightness of that part does not look the same as that on the monitor, adjust other colors by pressing the ADJ R, G or B key and the arrow keys.
- ⑤ **Press the MEMORY key.**  
The adjusted data is saved.

### When multiple projectors are used

Input the same signal to the based projector and the projector to be adjusted.  
Set COLOR TEMPERATURE on PAGE 3 to the same position on both projectors and then follow steps 4 and 5 in the above procedures to make the black and white colors uniform between the based projector and the other.

#### Note

You can adjust more easily if you set the COLOR level to MIN to display the black and white picture.

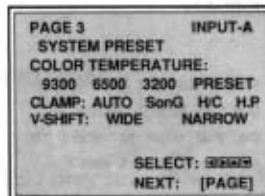
## If the Luminance of the Picture is Incorrect — Clamp Setting

Clamp is used as a standard for setting the black level of the picture correctly. The standard position of the clamp depends on the kind of the sync signal. Normally the CPU may judge the signal and sets the clamp position automatically.

However, the CPU may misjudge the signal because of noise. If the luminance of the picture seems to be incorrect (too dark, the black color is too light, or the luminance is unstable), the clamp position may need to be changed.

In such case, change the clamp position following the procedure below.

### 1 Press the PAGE key 3 times.



### 2 Select the clamp position by pressing ◀, ▶, ▲ and ▼ keys.

- AUTO : Automatic setting mode. Normally, set to this position.
- S on G : If the black color is too light or seems to be green, set to this position.
- H/C : If the picture is too dark or the luminance is unstable, set to this position.
- H.P : If the luminance is still incorrect after changing the clamp setting to "S on G" or "H/C", set to this position and perform H-SHIFT adjustment.

### 3 Press the MEMORY key to save the data.

#### If the luminance is still incorrect after changing the clamp setting

There may be other problems with the input signal or connection. Check the input signal.

# Data Reset

There are two possibilities for data reset, the data reset and factory reset.

## Previous data reset

The data are reset to the previously saved data (the data before the adjustment).

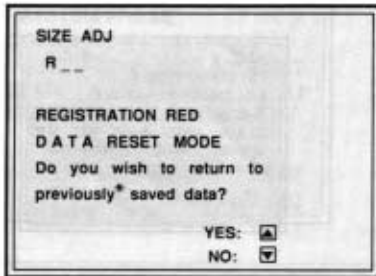
## Factory reset

The data are reset to the factory preset level. The factory reset can be performed after the previous data reset.

## How to Reset the Data

**1** Select the adjustment mode to be reset.

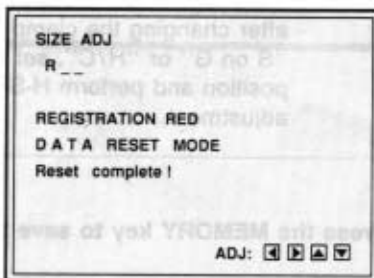
**2** Press the ◀ and ▶ keys simultaneously.  
The following display appears.



\* Check that "previously" is displayed here.

(ex. To reset all the red registration adjustment data to the previously saved data)

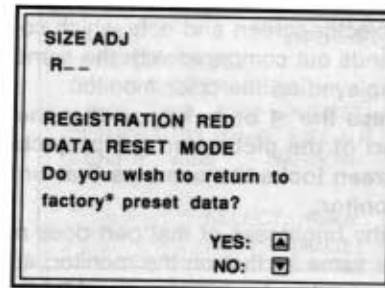
**3** Press the ▲ key.



All the red registration adjustment data will be reset to the previously saved data.  
(Previous data reset)

**4** Press the ◀ and ▶ keys simultaneously again.

The following display appears.



\* Check that "factory" is displayed here.

(ex. To reset all the red registration adjustment data to the factory preset level)

**5** Press the ▲ key.  
All the red registration adjustment data will be reset to the factory preset level.  
(Factory reset)

## Resetting the Registration Standard Data to the Factory Preset Levels

If the registration data were adjusted and saved, you need reset the data to the factory preset levels before starting the registration adjustment.

<p><b>1</b> Press the <b>CENT R</b> and <b>B</b> keys simultaneously to enter the green centering adjustment mode.</p>	<p><b>5</b> Press the <b>ADJ R</b> key and then perform the factory reset operation. The <b>SIZE</b>, <b>LIN</b>, <b>SKEW</b>, <b>BOW</b>, <b>KEY</b>, <b>PIN</b> and <b>ZONE</b> adjustment data are reset to the factory preset levels.</p>
<p><b>2</b> Follow steps 2 to 5 on page 94. The centering adjustment data of the red, green and blue signals are reset to the factory preset levels.</p>	<p><b>6</b> Press the <b>ADJ B</b> key and then perform the factory reset operation. The <b>SIZE</b>, <b>LIN</b>, <b>SKEW</b>, <b>BOW</b>, <b>KEY</b>, <b>PIN</b> and <b>ZONE</b> adjustment data are reset to the factory preset levels.</p>
<p><b>3</b> Press the <b>SIZE</b> key.</p>	<p><b>7</b> Press the <b>BLKG</b> key.</p>
<p><b>4</b> Press the <b>ADJ G</b> key and then perform the factory reset operation. The <b>SIZE</b>, <b>LIN</b>, <b>SKEW</b>, <b>BOW</b>, <b>KEY</b>, <b>PIN</b> and <b>ZONE</b> adjustment data are reset to the factory preset levels.</p>	<p><b>8</b> Press the <b>TEST</b> key and then perform the factory reset operation. The <b>UPPER</b>, <b>LOWER</b>, <b>LEFT</b> and <b>RIGHT</b> blanking adjustment data are reset.</p>

The resetting of the standard data to the factory preset levels is complete.  
Then start the registration adjustment.

## For reference — Mode and data reset correspondence

Mode	Data to be reset
RGB Size	H-size and V-size
RGB Shift	H-shift and V-shift
G-centering	Centering data for all colors
R-centering	Not applicable
B-centering	Not applicable
Size, Linearity Skew, Bow Keystone Pincushion	All the registration data for the selected color (including the Zone data)
Zone	Zone data for the selected color is set to the middle adjustment level (128).
Blanking	UPPER/LOWER/LEFT/RIGHT side blanking data
Gain, Bias	All the Bias and Gain data for all colors at the current color temperature

### ZONE data reset

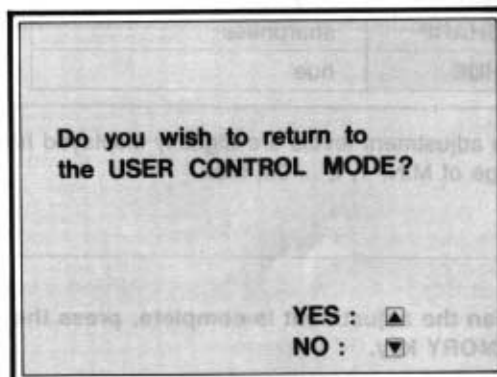
The ZONE data reset allows to set the ZONE data of all the positions to 128, middle adjustment level. Perform the ZONE data reset if wavelike distortion occurs with the outermost line of the hatch pattern or the red and blue lines do not converge when adjusting registration (only when the projector is not installed on the floor using the 120-inch front type screen). After the ZONE data reset, start with the KEY and PIN adjustments and then perform the ZONE adjustment again.

# To Activate the Protection on the Remote Commander

When you turn off the projector with the Remote Commander, the adjustment keys become inoperable in order to prevent the users from changing the registration adjustments.

It is also possible to make the keys inoperable while the power is on in the following way.

- 1** Keep pressing the **NORMAL** key for at least 3 seconds.



- 2** Press the **▲** key.  
The adjustment keys are now inoperable.

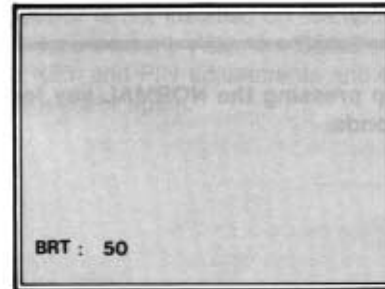
# Picture Adjustment

Adjust the picture for your preference. The adjusted data can be saved in the memory.

## 1 Adjust with the PICTURE CONTROL +/- keys.

<b>CONTR</b>	picture contrast
<b>COLOR</b>	color intensity
<b>BRT</b>	brightness
<b>SHARP</b>	sharpness
<b>HUE</b>	hue

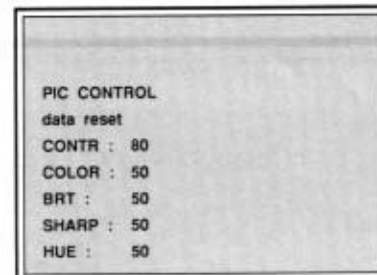
The adjustment levels are digitally displayed having a range of MIN, 1, 2 ... 99, Max.



## 2 When the adjustment is complete, press the MEMORY key.

### To restore the factory preset levels

Press the RESET key.  
The factory preset levels are displayed on the screen.



#### Notes

- The COLOR, SHARP and HUE keys do not function on the pictures input from the RGB IN connectors.
- The HUE and COLOR keys do not function if the input signal is black and white.
- The HUE key does not function with the PAL or SECAM color source.

#### Dynamic picture mode (only for the video input pictures)

You can obtain the picture of high quality contrast by setting the DYNAMIC PIC SW to ON inside the projector. See "Dynamic picture setting" on page 34.