SHARP®

LCD PROJECTOR   PROYECTOR DE LCD
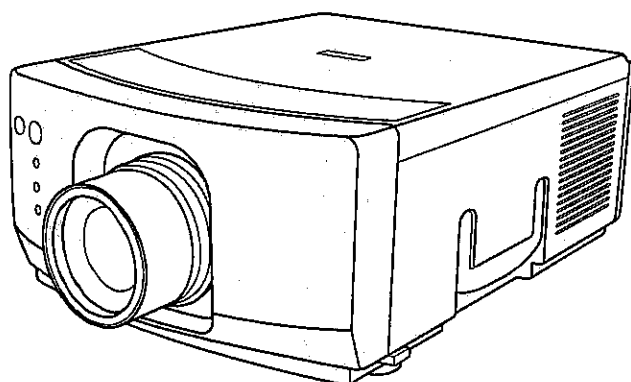LCD-PROJEKTOR   PROIETTORE LCD
PROJECTEUR LCD   LCD-PROJECTOR
VIDEOPROJEKTOR

OPERATION MANUAL
BEDIENUNGSANLEITUNG
MODE D'EMPLOI
BRUKSANVISNING
MANUAL DE MANEJO
MANUALE DI ISTRUZIONI
GEBRUIKSAANWIJZING

Model	Modelo
Modell	Modello
Modèle	Model
Modell	

XG-XV1E
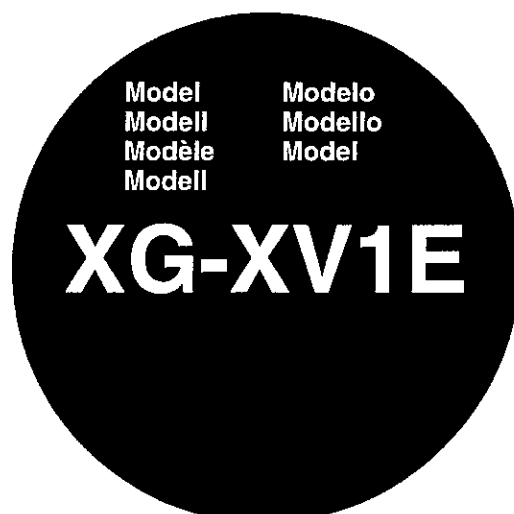
- ENGLISH   ⒼⒷ
- DEUTSCH   Ⓓ
- FRANÇAIS   Ⓕ
- SVENSKA   Ⓢ
- ESPAÑOL   Ⓔ
- ITALIANO   Ⓘ
- NEDERLANDS   ⓃⓁ

Dear SHARP Customer

Welcome to the SHARP Family. We are pleased that you are now the owner of a SHARP Colour LCD Projector built for outstanding quality, reliability and performance.
Every SHARP Colour LCD Projector is adjusted for a proper picture and has passed through the most stringent quality control tests at the factory. We have prepared this OPERATION MANUAL so that you have the ability to adjust the picture and colour to your personal viewing preference. We sincerely hope that you will be delighted with the quality and performance of your Colour LCD Projector for many years to come.
Please read the instructions carefully, and keep them handy for future reference.

IMPORTANT

For your assistance in reporting the loss or theft of your Colour LCD Projector, please record the Serial Number located on the rear of the projector and retain this information. The model number, power rating, and warnings are displayed on the rear of the unit.

Before disposing of the packaging, please be sure that you have checked the contents of the carton thoroughly against the "Supplied Accessories" listed in the operation manual on page 35.

Important Information

WARNING
INTENSE LIGHT SOURCE, DO NOT LOOK INTO THE BEAM OR VIEW IT DIRECTLY. BE ESPECIALLY CAREFUL THAT CHILDREN DO NOT LOOK DIRECTLY INTO THE BEAM.

WARNING:
TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO LIQUIDS.

CAUTION:
TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE CABINET. NO USER-SERVICEABLE PARTS ARE INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

Contents

Contents

Important Safeguards

ATTENTION: Please read all of these instructions before you operate your LCD Projector for the first time. Save these instructions for future reference.

For your own protection and prolonged operation of your LCD Projector, be sure to read the following "Important Safeguards" carefully, before use.
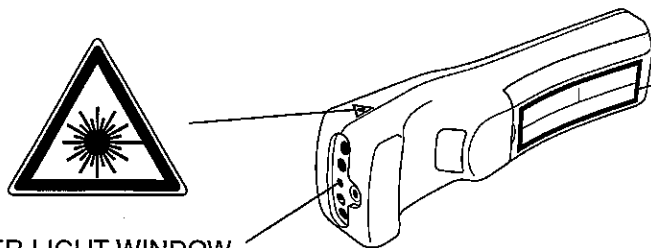This projector has been engineered and manufactured to ensure your personal safety. But IMPROPER USE CAN RESULT IN POTENTIAL ELECTRICAL SHOCK OR FIRE HAZARDS. In order not to defeat the safeguards incorporated into this LCD Projector, observe the following basic rules for its installation, use and servicing.

1 Unplug the LCD Projector from the wall outlet before cleaning.
2 Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
3 Do not use attachments not recommended by the LCD Projector manufacturer, as they may cause hazards.
4 Do not use the LCD Projector near water; for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, near a swimming pool, etc. Never spill liquid into the projector.
5 Do not place the LCD Projector on an unstable cart, stand, or table. The LCD Projector may fall, which may cause serious injury to a child or an adult, and/or serious damage to the unit.
6 Wall or Ceiling Mounting — The product should be mounted to a wall or ceiling only as recommended by the manufacturer.
7 LCD Projector equipment and cart combinations should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the equipment and cart combination to overturn.
8 To ensure reliable operation of the LCD Projector and to protect it from overheating, these openings must not be blocked or covered. Slots and openings in the cabinet back and bottom are provided for ventilation.
9 The openings should never be covered with cloth or other material. This LCD Projector should never be placed near or over a radiator or heating vent. The LCD Projector should not be placed in a built-in installation such as a bookcase unless proper ventilation is provided.
10 The LCD Projector should be operated only from the type of power source indicated on the back of the projector or in the specifications. If you are not sure of the type of power supplied to your home, consult your LCD Projector dealer or local power company.
11 Do not place the LCD Projector where the cord will be abused by persons walking on it.

12 Follow all warnings and instructions marked on the LCD Projector.
13 To prevent damage to the projector due to lightning and power-line surges, unplug the projector from the power outlet, when not in use.
14 Do not overload wall outlets and extension cords with too many products, because this can result in fire or electric shock.
15 Never push objects of any kind into the LCD Projector through the cabinet slots as they may touch high-voltage points or cause a short circuit. This could result in a fire or electric shock.
16 Do not attempt to service the LCD Projector yourself. Opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
17 Unplug the LCD Projector equipment from the wall outlet and refer servicing to qualified service personnel under the following conditions:
A. When the power cord or plug is damaged or frayed.
B. If liquid has been spilled into the LCD Projector.
C. If the LCD Projector has been exposed to rain or water.
D. If the LCD Projector does not operate normally when you follow the operating instructions. Adjust only those controls that are covered by the operating instructions, as improper adjustment of other controls may cause damage and will often require extensive work by a qualified technician to restore the LCD Projector to normal operation.
E. If the LCD Projector has been dropped or the cabinet has been damaged.
F. When the LCD Projector exhibits a distinct change in performance — this indicates a need for service.
18 When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer that have the same characteristics as the original parts. Unauthorised substitutions may result in fire, electric shock, or other hazards.

Cautions Concerning the Laser Pointer

LASER LIGHT WINDOW

LASER RADIATION DO NOT STARE INTO BEAM CLASS 2 LASER PRODUCT	RADIACION LASER NO MIRE AL RAYO PRODUCTO LASER CLASE 2
RAYONNEMENT LASER NE PAS REGARDER DANS LE FAISCEAU APPAREIL À LASER DE CLASSE 2	

LASERSTRAHLUNG NICHT IN DEN STRAHL DER LASERVORRICHTUNG DER KLASSE II BLICKEN	LASERSTRÅLAR TITTA INTE IN I LASERSTRÅLEN KLASS 2 LASER PRODUKT.
LASERSÄTEILYÄ ÄLÄKATSO SOURAAN SÄTEESEEN LUOKAN 2 LASERTUOTE	LASEROVÉ ZÁŘENÍ NEHLEĎTE DO PAPRSKU LASEROVÝ VÝROBEK TŘÍDY 2
LASEROVÉ ŽIARENIE NEPOZERAJTE SA DO LÚČA LASEROVÝ VÝROBOK TRIEDY 2	

Caution:
This product contains a low power laser device. To ensure continued safety do not remove any cover or attempt to gain access to the inside of the product. Refer all servicing to qualified personnel.

The remote control has a Laser pointer, which emits a Class II Laser beam from the Laser light window shown in the diagram. Do not stare directly into the beam, nor direct the beam at other people. The two marks above are cautions concerning the laser beam. Always use the laser pointer at temperatures between +5°C and +40°C.

(GB)-3

Notes on Operation

About the Temperature Monitor Function:

- If the projector starts to overheat due to set-up problems or a dirty air filter, "TEMP." will flash in the upper-left corner of the picture. If the temperature continues to rise, then the lamp will turn off, the TEMPERATURE WARNING indicator will flash, and after a 90-second cooling-off period the power will shut off. Refer to page 30, "Maintenance Indicators", when the "TEMP." warning appears in the picture.
- The cooling fan regulates the internal temperature, and its performance is automatically controlled. The sound of the fan may change during operation due to changes in the fan speed.
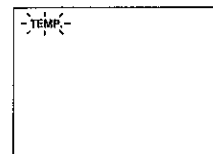
About the Lamp Monitor Function:

- When the projector is turned on after the lamp has been in use for more than 1,400 hours, the yellow "LAMP" display will flash on the screen for 60 seconds, as shown on the right. This is to alert you that it is time to replace the lamp. At this point, take your projector to the nearest Sharp Authorised LCD Projector Dealer or Service Centre to have the lamp replaced.
- If the lamp is used for more than 1,500 hours, the projector power will automatically turn off, and the projector will be in STANDBY mode.
- Refer to page 30, "Maintenance Indicators", when the "LAMP" display warning appears.
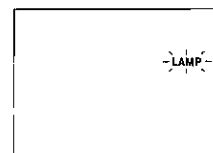
Caution:
If "LAMP" begins to flash on the screen, be sure to take your projector to the nearest Sharp Authorised LCD Projector Dealer or Service Centre to have the lamp replaced.

Outstanding Features
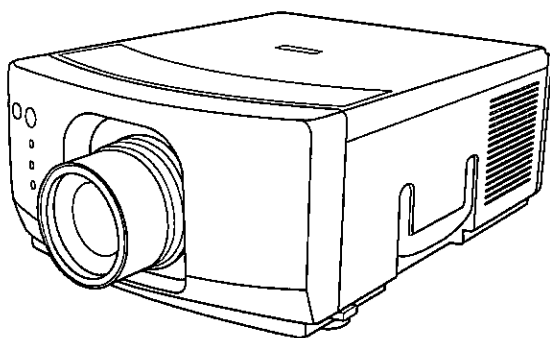
Allows easy projection of large screen, full-colour computer and video images.

- Can be projected directly onto a video screen or white wall.
- Lightweight, convergence-free system for easy installation.

DIRECT COMPUTER COMPATIBILITY

A multi-scan RGB Input accepts signals from SXGA (1,280 dots × 1,024 lines compressed), XGA (1,024 dots × 768 lines), SVGA (800 dots × 600 lines), VGA and Mac (1,024 dots × 768 lines maximum) compatible computers without the need for any additional hardware.

FLEXIBLE USE

In addition to the standard front projection mode, the menu driven functions can be used to instantly reverse the image for rear projection, and invert the image for ceiling mounting.

POWER ZOOM AND FOCUS

- Provides simple screen-size adjustments from either the projector or the remote control.
- Screen projection size adjusts from 40 to 500 inches.

LENS SHIFT

The lens can be easily raised and lowered to minimize or eliminate "Keystone" type effects.

HIGH PICTURE QUALITY

The three LCD panels contain 786,432 × RGB pixels to achieve exceptionally bright, high quality video images.

VERSATILE REMOTE CONTROL

- Built-in wireless mouse allows simultaneous operation of projector and computer.
- Built-in Laser Pointer for professional presentations.

BUILT-IN STEREO SPEAKERS

Built in 3 W + 3 W stereo amplifiers and speakers eliminate the need for external audio components.

USE WITH PLUG & PLAY

Enables use of Windows 95 Plug & Play. Compatible with VESA-standard DDC1/DDC2B.

GB-4

Location of Controls

FRONT VIEW

Speakers

Cooling fan
(Exhaust vent)

Carrying handle

Lamp cage cover
(Natural ventilation)

Cooling fan
(Intake vent)

ON/OFF
ΦI

POWER ——— POWER ON/OFF button

——— Remote sensor
——— POWER indicator

LAMP ——— LAMP REPLACEMENT
indicator

TEMP. ——— TEMPERATURE WARNING
indicator
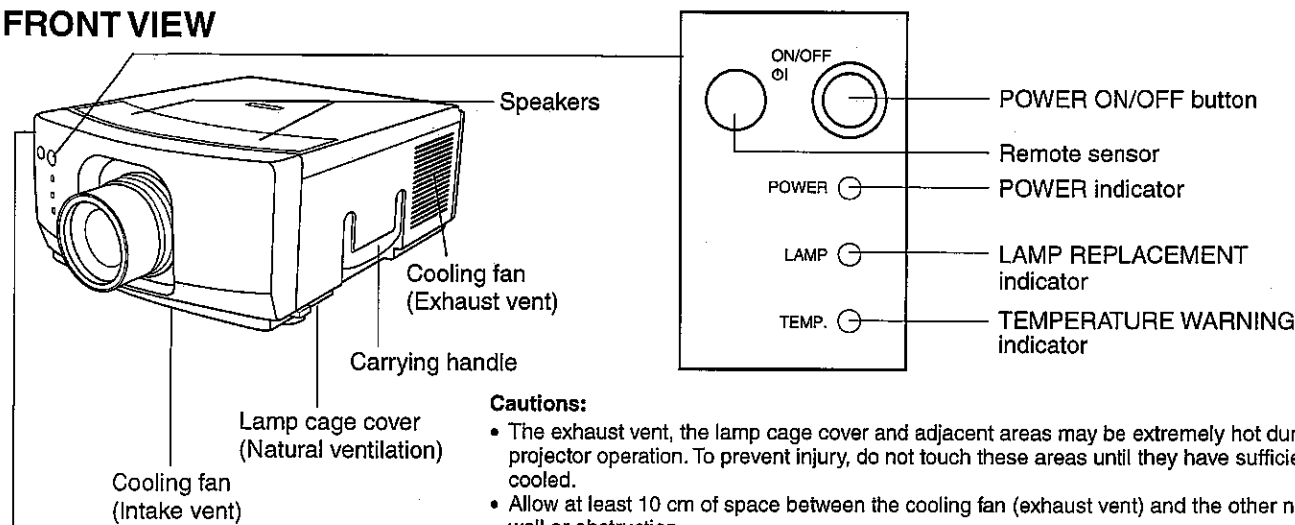
Cautions:
- The exhaust vent, the lamp cage cover and adjacent areas may be extremely hot during projector operation. To prevent injury, do not touch these areas until they have sufficiently cooled.
- Allow at least 10 cm of space between the cooling fan (exhaust vent) and the other nearest wall or obstruction.
- If the cooling fan becomes obstructed, a protection device will automatically turn off the projector lamp. This does not indicate a malfunction. Remove the projector plug from the wall outlet and wait 10 minutes. Then turn on the power by plugging the cord back in. This will return the projector to its normal mode.

OPERATION PANEL ON SIDE OF PROJECTOR

MENU	ENTER	▲ ADJ. ►	LENS	BLACK SCREEN	MUTE	VOLUME	INPUT SELECT
(MN)	(EN)	◄ ADJ. ►	(LN)	(B)	(X)	(– ◁ +)	(IN)

MENU button

ENTER button

ADJUSTMENT
(◄/►, ▼/▲) buttons

LENS button

BLACK SCREEN button

MUTE button

VOLUME UP-DOWN buttons

INPUT SELECT button

SIDE AND REAR VIEW

Cooling fan
(Intake vent)

RS-232C (D-sub 9-pin)
Use when controlling the projector from your personal computer.

MOUSE TERMINAL
Use when operating your personal computer with the wireless mouse remote control.
Left Terminal: D-sub 9-pin (for IBM/Mac)
Right Terminal: 9-pin mini DIN (for NEC in JAPAN)

WIRED REMOTE CONTROL INPUT
(3.5 mm Mono Minijack)

COMPUTER AUDIO INPUT
(3.5 mm Stereo Minijack)

AUDIO OUTPUT: RCA

DC 5V 1A OUTPUT

MAIN POWER switch

AC INLET

COMPUTER RGB OUTPUT connector (HD-15)

Filter ON/OFF switch

COMPUTER RGB INPUT 2: BNC
(R, G, B, H(C)-SYNC, V-SYNC)

COMPUTER RGB INPUT 1 connector (HD-15)

Notes:
- The DC 5V OUTPUT jack cannot supply a current of more than 1A.
- When connecting a Macintosh Series computer that outputs C-SYNC, connect the cable to the COMPUTER RGB 2 INPUT H-SYNC input terminal.

Operating the Wireless Mouse Remote Control

The functions of your personal computer's mouse have been built into the remote control enabling you to operate your projector and personal computer with only the remote control.

1. Slide the MAIN POWER switch on the side of the unit on.
2. Press the POWER ON button on the front panel of the remote control to turn the projector power on.
3. When using the remote control as a wireless mouse, move the MOUSE/ADJUSTMENT sliding switch to the MOUSE position. When using the remote control to operate the projector, move the MOUSE/ADJUSTMENT sliding switch to the ADJ. position. To activate the remote control key back-light feature, press the LIGHT button on the remote control. The colours of the buttons will change as shown in the table at the bottom of this page.

Wireless Mouse Remote Control

FRONT VIEW

TRANSMIT indicator

MUTE button

POWER ON/OFF buttons

BLACK SCREEN/ LENS button

RIGHT-CLICK/ENTER button

R-CLICK/ENTER

VOLUME UP-DOWN buttons

LASER POINTER/MENU button

MOUSE/ADJUSTMENT (◄/►), (▼/▲) buttons

INPUT SELECT/ buttons

INPUT CHECK button

MOUSE label

MOUSE/ADJUST- MENT switch

LIGHT button

SHARP
LCD PROJECTOR

ADJ. label

SIDE VIEW

MAIN POWER switch of remote control

Note:
When transporting the remote control, turn off the MAIN POWER switch to avoid draining the batteries.

LEFT-CLICK button

Remote control handling precautions

- The laser beam used in this product is harmless when directed onto the skin, however please be careful not to project the beam directly into the eyes. Do not stare into the beam using an optical instrument.
- Do not expose the remote control to shocks, liquids or high humidity.
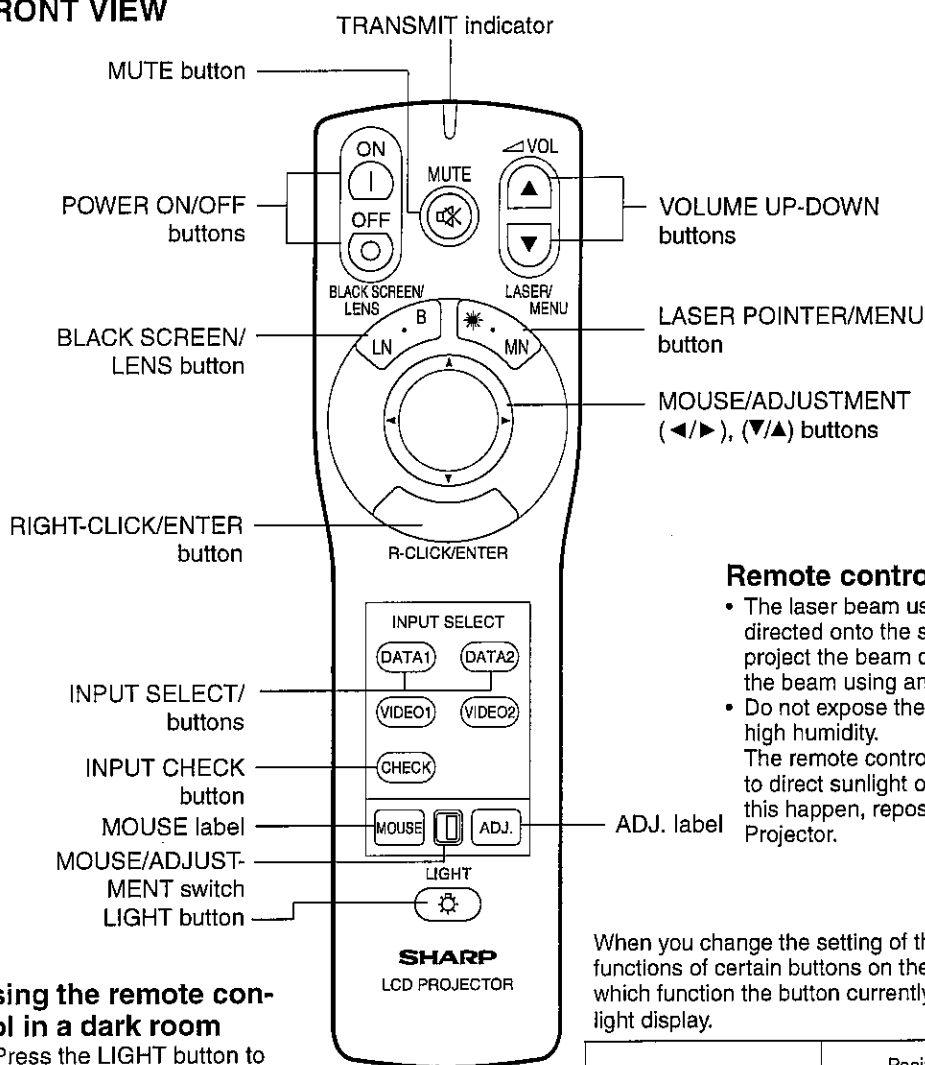 The remote control may not operate normally if exposed to direct sunlight or other intense light sources. Should this happen, reposition the light source or the LCD Projector.

Using the remote control in a dark room

- Press the LIGHT button to turn on the back-lights for the operation buttons for about 5 seconds. The back-light colours are explained in the table to the right.

Note:
- If the MAIN POWER switch on the remote control is left on for more than 10 minutes without operation, the power will automatically turn off. To turn the power back on, press any button on the remote control for at least one second.

When you change the setting of the MOUSE/ADJUSTMENT switch, the functions of certain buttons on the remote control change. You can tell which function the button currently possesses by the colour of its back-light display.

Button name	Position of MOUSE/ADJUSTMENT switch	
	MOUSE	ADJ.
LASER POINTER/MENU	LASER POINTER (GREEN)	MENU (RED)
RIGHT-CLICK/ENTER	RIGHT-CLICK (GREEN)	ENTER (RED)
MOUSE/ADJUSTMENT	MOUSE (NOT LIT)	ADJ. ◄/► , ▼/▲ (NOT LIT)
LEFT-CLICK	ON (NOT LIT)	—
BLACK SCREEN/LENS	BLACK SCREEN (GREEN)	LENS (RED)
POWER ON/OFF	ON (RED)	
VOLUME UP-DOWN		
MUTE		
DATA 1		
DATA 2		
INPUT CHECK		

TOP VIEW

REMOTE CONTROL
SIGNAL TRANSMITTER

WIRED REMOTE CONTROL INPUT
(3.5 mm Mono Minijack)

LASER LIGHT WINDOW
Laser light shines out of
this window.

LASER RADIATION DO NOT STARE INTO BEAM CLASS 2 LASER PRODUCT	RADIACION LASER NO MIRE AL RAYO PRODUCTO LASER CLASE 2
RAYONNEMENT LASER NE PAS REGARDER DANS LE FAISCEAU APPAREIL À LASER DE CLASSE 2	

Using the optional cable with the remote control

• When the remote control cannot be used due to the range or positioning of the projector (rear projection, etc.), connect the optional cable from the Wired Remote Control Input jack on the remote control to the Wired Remote Input on the side of the projector.

Note:
• The signal transmitter does not function when the optional cable is connected to the remote control.

The laser pointer on the remote control emits a laser beam from the laser light window shown in the figure to the left. The laser emitted is a class II laser; therefore, do not look into the laser window or shine the laser beam on yourself or other people. The two marks to the left are the caution labels for the laser beam.
Always use the laser pointer at temperatures between +5°C and +40°C.

REAR VIEW

Press in and downward on the arrow mark and remove.

Insert the side tabs into their slots and press in the cover until properly seated.

Inserting the Batteries

Remove the battery cover as shown and insert four AA size batteries making sure their polarities match the (+) and (−) marks inside the battery compartment.

Notes:
Incorrect use of batteries may cause them to leak or burst.
• Insert the batteries with the (+) and (−) polarities as indicated.
• Remove the batteries if the remote control will not be operated for an extended period of time.
• Maintain the batteries in a clean condition.
• Do not mix different brands of batteries. The life expectancy of the new batteries will be shortened and the old batteries may leak.
• When the batteries have been used up, remove them immediately to prevent leakage and damage. Leaked battery fluid may irritate the skin. Remove any battery fluid by wiping with a cloth.
• Due to storage conditions and the shelf life of the supplied batteries, they may run out after a short time. If so, replace them with new batteries as soon as possible.

Remote control positioning

Use the remote control as shown in the figures on the left.

Note:
• The signal from the remote control can be reflected off the screen for easy operation. However, the effective distance of the signal may differ due to the screen material.

Transmission range	Reception range

30°   30°

Max. distance: 7 m

30°   45°

Wireless Mouse Functions

■ The wireless mouse functions and laser pointer on the remote control can help you create a more professional presentation.

•. By attaching the provided mouse cable to both the mouse terminal on your projector and the mouse terminal on your personal computer, you can use the wireless mouse built into the remote control, instead of the mouse equipped with your personal computer, to operate your personal computer. The wireless mouse functions will work with personal computers compatible with IBM PS/2, serial (RS-232C) or Apple ADB type mouse systems.

Connection Example

Projector

Personal computer

To mouse terminal

Supplied mouse cable (for IBM PS/2, serial and Apple ADB type mouse)

Functions and Operations

POWER ON/OFF buttons

LASER POINTER button

MOUSE buttons

RIGHT-CLICK button

MOUSE/ADJUSTMENT sliding switch

MAIN POWER switch of remote control

LEFT-CLICK button

• First, connect the units as shown above, and turn the projector power on.
• Second, turn the computer power on.
• Next, slide the MAIN POWER switch on the side of the remote control.
• When using the remote control as a wireless mouse, move the MOUSE/ADJUSTMENT sliding switch to the MOUSE position.

Notes:
• In some situations the wireless mouse may be inoperable if your computer port is not correctly set-up. Please refer to your computer owners manual for details on setting-up/installing the correct Mouse Driver.
• Do not connect or remove the mouse control cable to/from your computer while it is on. This may damage your computer.
• Do not connect the mouse input terminal for IBM/Mac and the mouse input terminal for PC98 simultaneously.

MOUSE buttons

By lightly pressing the up/down and right/left arrow buttons located on the front of the remote control, you can move the mouse cursor on your monitor screen.

Note: The amount of pressure applied to the MOUSE button determines the speed the mouse cursor travels. Pressing lightly on the periphery of the MOUSE button makes the mouse cursor move slowly. Pressing hard makes it move quickly.

Mouse cursor
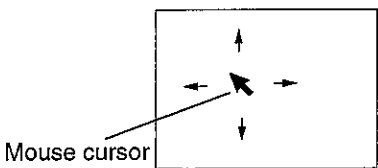
LEFT-CLICK button   The LEFT-CLICK button on the back of the remote control corresponds to the left button of the mouse on two-button mouse systems.

RIGHT-CLICK button   The RIGHT-CLICK button on the front of the remote control corresponds to the right button on two-button mouse systems.
Note: For one-button mouse systems use either the LEFT-CLICK or RIGHT-CLICK button.

LASER POINTER button   Press the LASER POINTER button to activate the laser pointer.
When the button is pressed, the light stays on; when the button is released, the light goes off. However, even when the button is pressed continuously, the light automatically goes off 1 minute after it goes on. To turn it on again press the laser pointer button one more time.

LASER RADIATION DO NOT STARE INTO BEAM CLASS 2 LASER PRODUCT	RADIACION LASER NO MIRE AL RAYO PRODUCTO LASER CLASE 2
RAYONNEMENT LASER NE PAS REGARDER DANS LE FAISCEAU APPAREIL À LASER DE CLASSE 2	

The laser pointer on the remote control emits a laser beam from the laser light window. The laser emitted is a class II laser; therefore, do not look into the laser window or shine the laser beam on yourself or other people. The two marks to the left are the caution labels for the laser beam. Always use the laser pointer at temperatures between +5°C and +40°C.
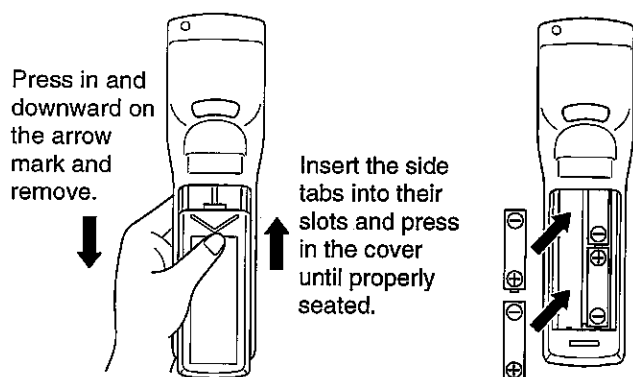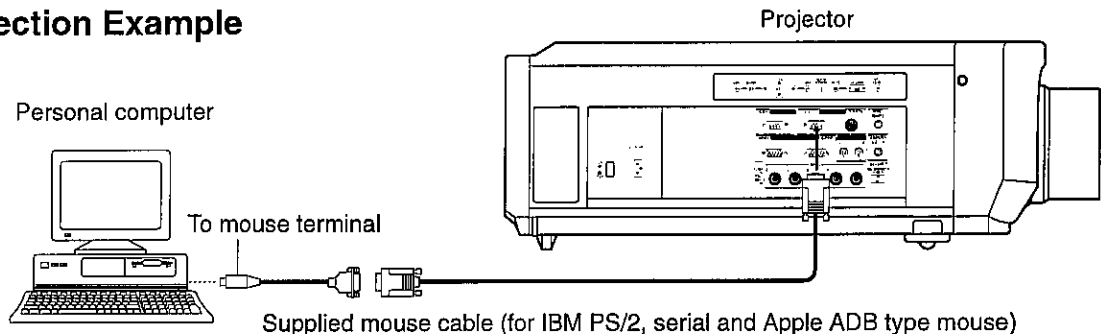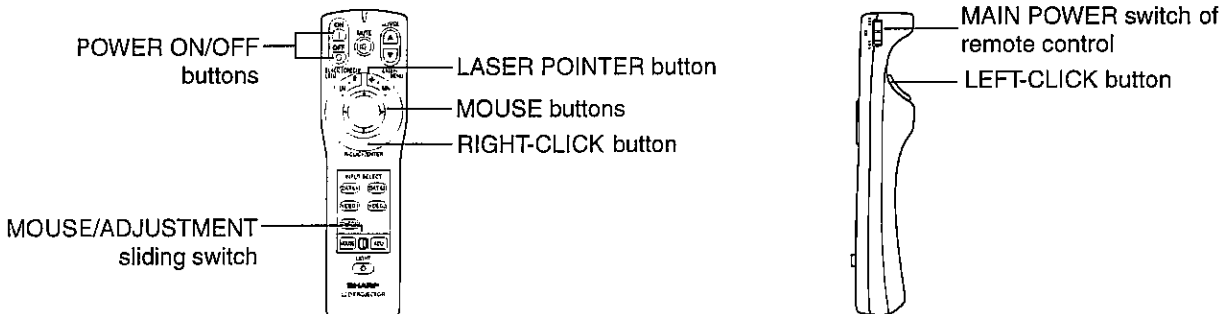
Setting Up the Projector

Using the Focus, Zoom and Lens Shift

• Lens Shift, Zoom, Focus and Reversed/Inverted Image mode functions broaden your options for projector placement.
• See pages 10, 12 and 13 for details on projector setup.

SIDE VIEW
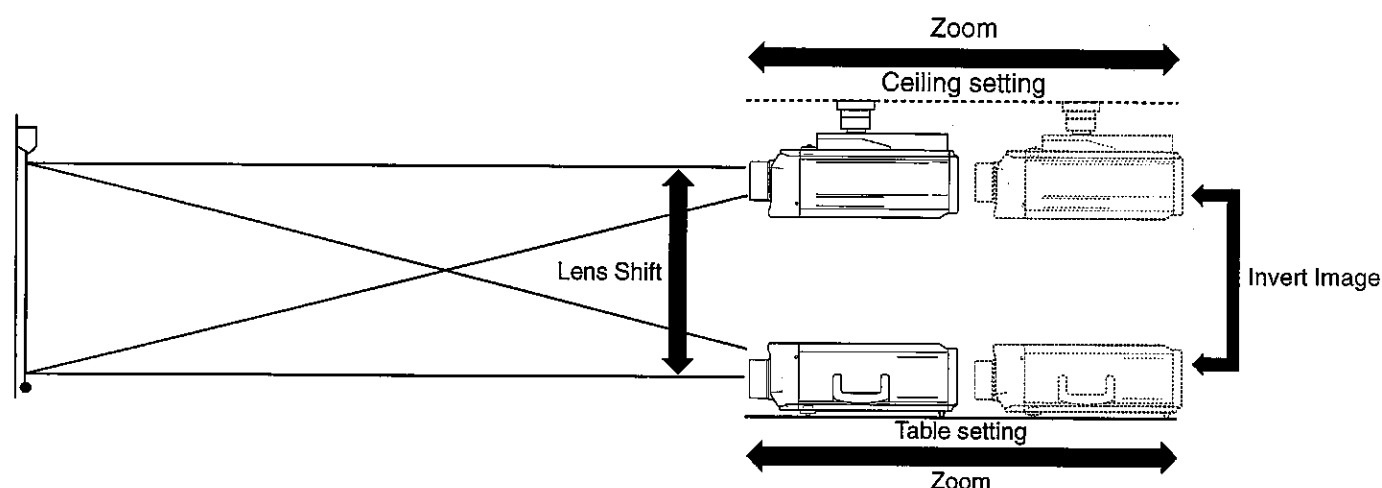
1. Turn on the MAIN POWER.

Turn on the MAIN POWER switch on the side of the projector.

2. Turn on the POWER.

Press the POWER ON/OFF button on the projector or the POWER ON button on the remote control to turn on the power.

2

POWER indicator

3
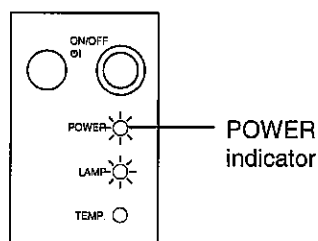
FOCUS
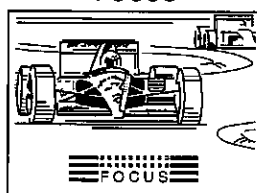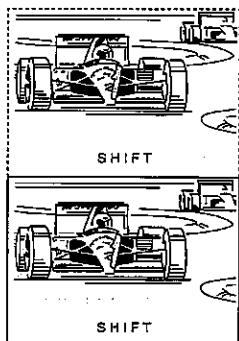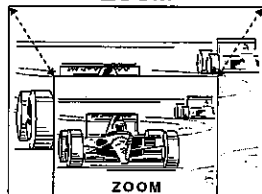
3. Press the LENS button.

• When using the remote control to adjust the picture, move the MOUSE/ADJUSTMENT sliding switch to the ADJUSTMENT position. When the LENS button on the remote control or on the projector is pressed, the LENS adjustment mode is indicated for about 8 seconds.
• If the LENS button is pressed while the mode is indicated on the screen, the picture adjustment mode changes as shown on the left.
• You can adjust the picture as shown on the left by pressing the ADJUSTMENT (◄) or (►) buttons for FOCUS and ZOOM or the ADJUSTMENT (▼) or (▲) buttons for SHIFT while in ADJUST mode.

Note:
• Do not attempt to adjust the lens by hand as it may damage the lens mechanism.

● Adjust the focus until the picture on the screen is sharp.

• The focus pattern appears on the screen.

• The picture can be adjusted to the desired size within the zoom lens range.

• The picture can be adjusted within the shift range of the lens.

Projector Distance and Picture Size Relationship

■ The motorised zoom lens allows adjustment to the image size within the projector's range.
■ The picture can be focused from a minimum of approximately 1.4 m to a maximum of 29.4 m from the screen. Please set up the projector within this range.

Distance from screen

Picture size: 254 cm (100 inches)

Picture size (diag.)	Projection distance (L)	
	Maximum projection distance	Minimum projection distance
1,270 cm (500 inches)	29.4 m	18.4 m
1,016 cm (400 inches)	23.5 m	14.7 m
762 cm (300 inches)	17.6 m	11.0 m
508 cm (200 inches)	11.7 m	7.3 m
381 cm (150 inches)	8.7 m	5.5 m
254 cm (100 inches)	5.8 m	3.6 m
203 cm (80 inches)	4.6 m	2.9 m
152 cm (60 inches)	3.4 m	2.1 m
102 cm (40 inches)	2.2 m	1.4 m

Diagram shows the lens shift position set at the factory.

Zoom adjustment range: 5.8 m–3.6 m

90° 90°

Minimum L: 3.6 m
Maximum L: 5.8 m
Distance between lens and screen: L
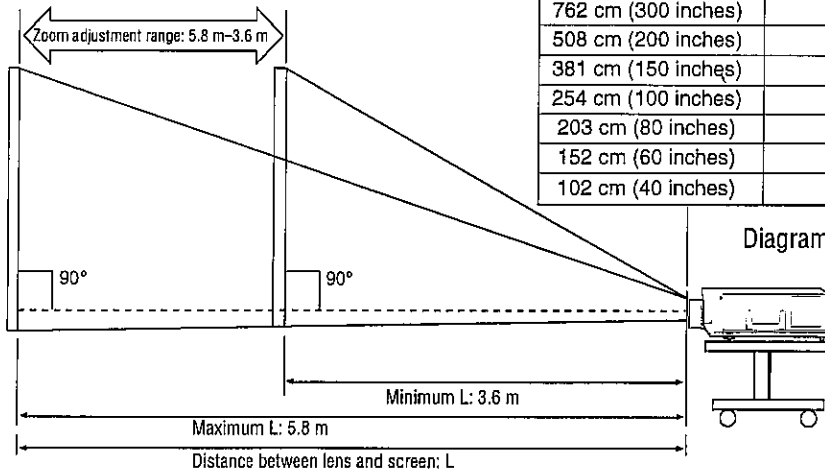
• Above is an illustration of maximum and minimum projection distances for the XG-XV1E with a picture size of 254 cm (100 inches). Move the projector forward or back if the edges of the image are distorted.

Height of Projector

■ This projector is equipped with a lens shift function that lets you adjust the projection height without moving the projector.
■ Adjust to match the setup configuration.

Picture size (diag.)	Distance from lens center to lower edge of screen (H)	
	Lower lens shift position	Upper lens shift position
1,270 cm (500 inches)	−64.6 cm	615.1 cm
1,016 cm (400 inches)	−51.7 cm	492.1 cm
762 cm (300 inches)	−38.8 cm	369.2 cm
508 cm (200 inches)	−25.8 cm	246.1 cm
381 cm (150 inches)	−19.4 cm	184.6 cm
254 cm (100 inches)	−12.9 cm	123.1 cm
203 cm (80 inches)	−10.3 cm	98.5 cm
152 cm (60 inches)	−7.8 cm	73.9 cm
102 cm (40 inches)	−5.2 cm	49.3 cm

Picture size: 254 cm (100 inches)

Screen
Lens centre

Upper lens shift portion H: 123.1 cm

Lower edge of screen (white portion) = Standard (0) point
Lens centre

Lower lens shift portion H: −12.9 cm

Upper lens shift position
(High mount setup)

Lower lens shift position
(Desktop setup)

−H
High edge of screen
90°
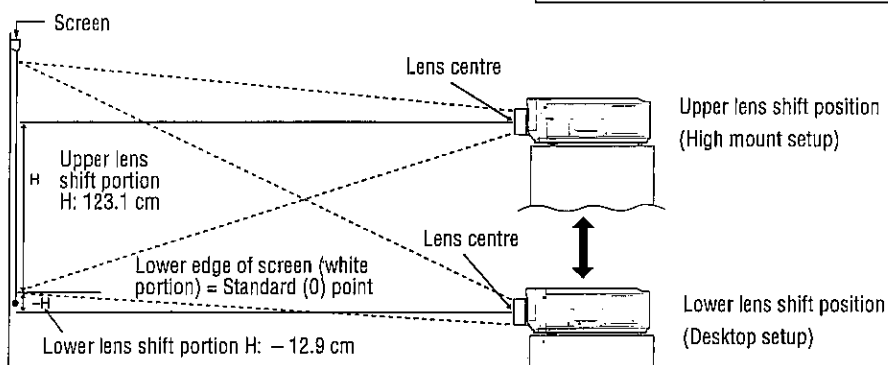
• Ceiling Mount

When the projector is in the inverted position, use the upper edge of the screen as the base line, and exchange the lower and upper lens shift values.

Note:
• Optimal image quality is produced with the projector positioned perpendicular to the screen with all feet flat and level. Tilting or angling the projector will reduce the effectiveness of the lens shift function.
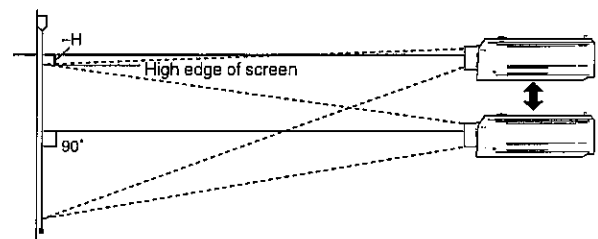
Using the Image Invert/Reverse Function

■ This projector is equipped with an image invert/reverse function. The projected image can be inverted or reversed by using the MENU button and the ADJUSTMENT ▼/▲ and ◄/► buttons.

1

```
┌─────────────────────────────────┐
│  ┌───────────────┐              │
│  │ IMAGE ADJ.    │              │
│                                  │
│  ┌───────────────┐              │
│  │ BLK SCRN DISP │  (OFF)       │
│  │ INPUT DISPLAY │  (OFF)       │
│  │ REVERSE       │  (OFF)       │
│  │ INVERT        │  (OFF)       │
│                                  │
│                                  │
│  ▲▼: SEL.                        │
│  ◄►: ADJ.    MENU: END          │
└─────────────────────────────────┘
```
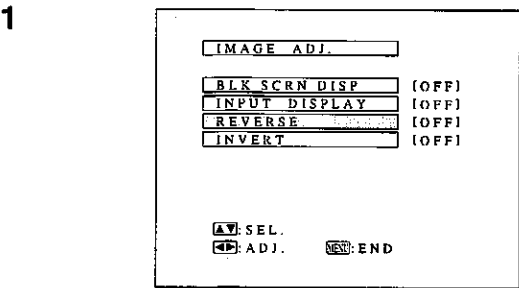
1. Press the MENU button.

With the MENU screen displayed, press the ADJUST-MENT ▼/▲ buttons to select "IMAGE ADJ". Then press the ENTER button to display the IMAGE ADJ. screen.
• The last MENU screen selected is indicated for about 30 seconds.

2

```
┌─────────────────────────────────┐
│  (reversed/mirrored screen image)│
└─────────────────────────────────┘
```
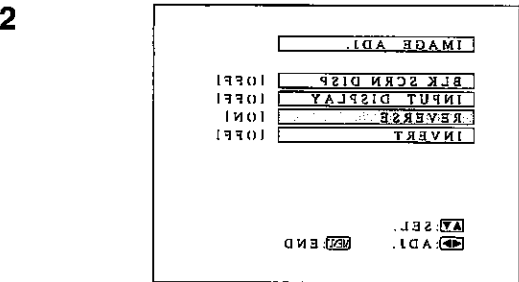
2. Reversed Image Mode

In the IMAGE ADJ. menu, press the ADJUSTMENT ▼/▲ buttons to select "REVERSE". Then press the ADJUST-MENT ◄/► buttons to select ON. The reversed image will appear.

3

```
┌─────────────────────────────────┐
│  (inverted screen image)         │
└─────────────────────────────────┘
```
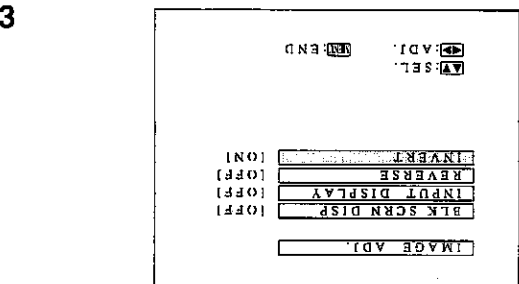
3. Inverted Image Mode

In the IMAGE ADJ. menu, press the ADJUSTMENT ▼/▲ buttons to select "INVERT". Then press the ADJUST-MENT ◄/► buttons to select ON. The inverted image will appear.

4

```
┌─────────────────────────────────┐
│  (reversed inverted screen image)│
└─────────────────────────────────┘
```
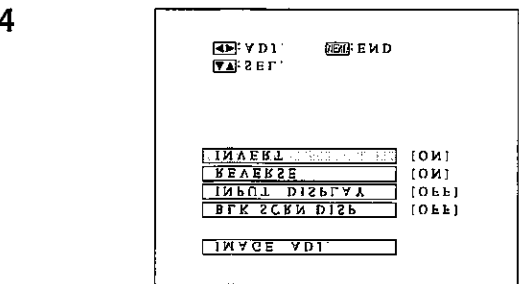
4. Reversed Inverted Image Mode

In the IMAGE ADJ. menu, set the REVERSE and INVERT functions to ON. The reversed inverted image will appear.

5. Press the MENU button anytime to exit IMAGE ADJ.

How to set up the projector and screen

Cautions: When setting up the projector
- For minimal servicing and to maintain high image quality, SHARP recommends that this projector be installed in an area free from humidity, dust and cigarette smoke. If the projector is used in these environments, the lens and filter will need to be cleaned (or the filter replaced) more often, and internal cleaning may become necessary. As long as the projector is regularly cleaned, use in these environments will not reduce the overall operation life of the unit. Internal cleaning should only be performed by a Sharp Authorised LCD Projector Dealer.
- Do not expose to extreme heat or cold.
  Operating temperature: +5°C to +40°C
  Storage temperature: −20°C to +60°C
- Do not tilt the projector more than 5°.

■ Position the screen so that it is not in direct sunlight or room light. Light falling directly onto the screen washes out colours, making viewing difficult. Close the curtains and dim the lights when using the screen in a bright or sunny room.

■ The best picture will be obtained when the projector is at a 90 degree angle to the screen. Position the projector and screen as shown.

Example of a standard setup

TOP VIEW
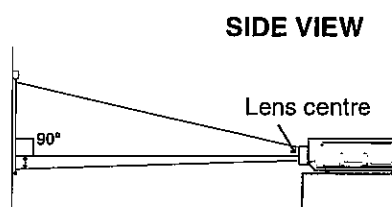
90°

Lens centre

The projector lens should be centred in the middle of the screen.

SIDE VIEW

Lens centre

90°

If the projector and screen are not centred properly, the picture will be distorted, making viewing difficult.

■ Using the horizontal reverse function makes the following setups possible.

Example of a reversed image setup
- By placing a mirror (normal flat type) in front of the lens and using the horizontal reverse function, the image reflected from the mirror can be projected onto the screen.
- Rear projection with a rear projection screen is also possible when using the horizontal reverse function.
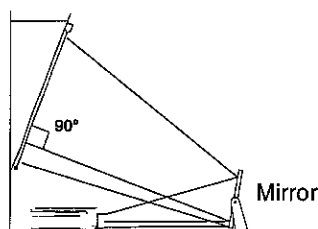
AUDIENCE SIDE

← →

90°

Mirror

Rear Projection

90°

The projector lens should be centred in the middle of the screen.
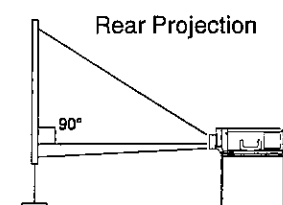
If the projector and screen are not centred properly, the picture will be distorted, making viewing difficult.

Example of a high-mount setup

• A high-mount setup makes projection from an elevated location possible, without ceiling modifications.

TOP VIEW

SIDE VIEW

90°

Lens centre

90°

Lens centre
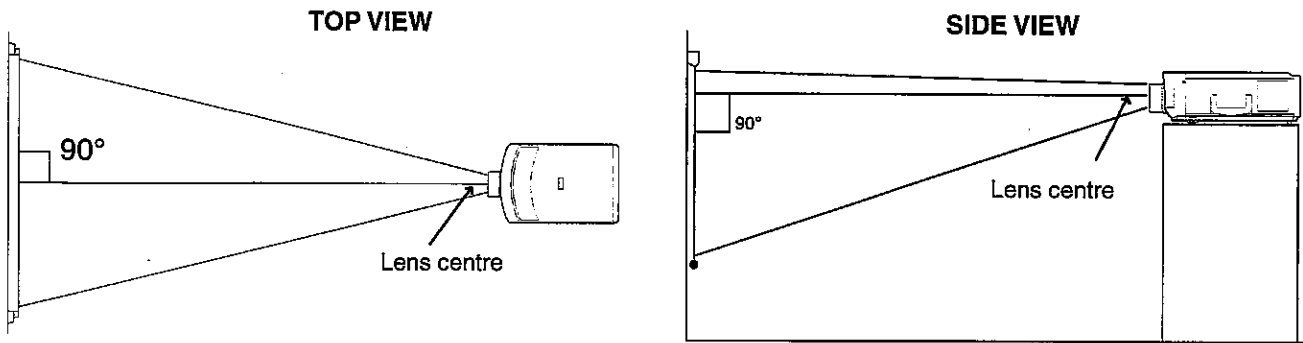
Example of a ceiling-mount setup

Before mounting the projector, be sure to contact your nearest Sharp Authorised LCD Projector Dealer to obtain the manufacturer recommended ceiling mount bracket (sold separately). (AN-SV1T Ceiling Mount Bracket, AN-TK201/AN-TK202 Extension Tube).

TOP VIEW

SIDE VIEW

90°

Lens centre

90°

Lens centre
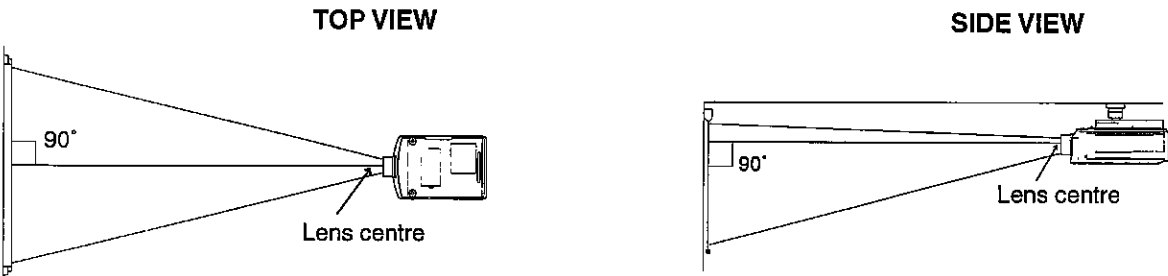
• If the relative positions of the projector and the screen are not properly adjusted, the picture will be distorted.

Inverted Labeling for Ceiling Mount

• When ceiling mounting the projector, attach the supplied inverted label as shown.

Front
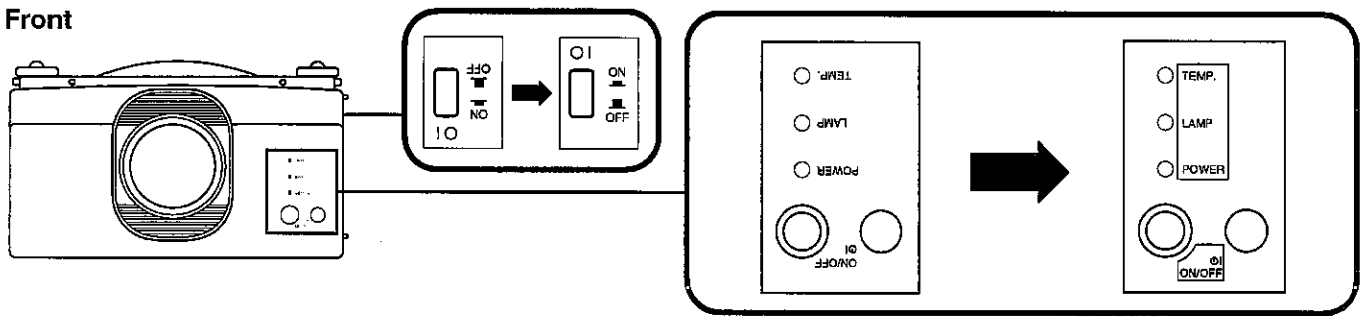
Terminal Cover

• When the projector is ceiling mounted, attach the terminal cover (supplied) to hide the connecting cables.
• Use the terminal cover to hide the connecting cables when the projector is used on a desktop or high mounted.
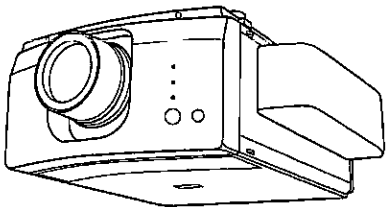
Adjusting the Height of the Picture

■ When adjustments for the projector position cannot be made using the Lens Shift alone, or when the projector stand is on an angle, use the adjuster release to adjust the vertical angle of the projector. Minor adjustments can be made with the adjusters.

Adjuster release
Adjusters

1

2

3
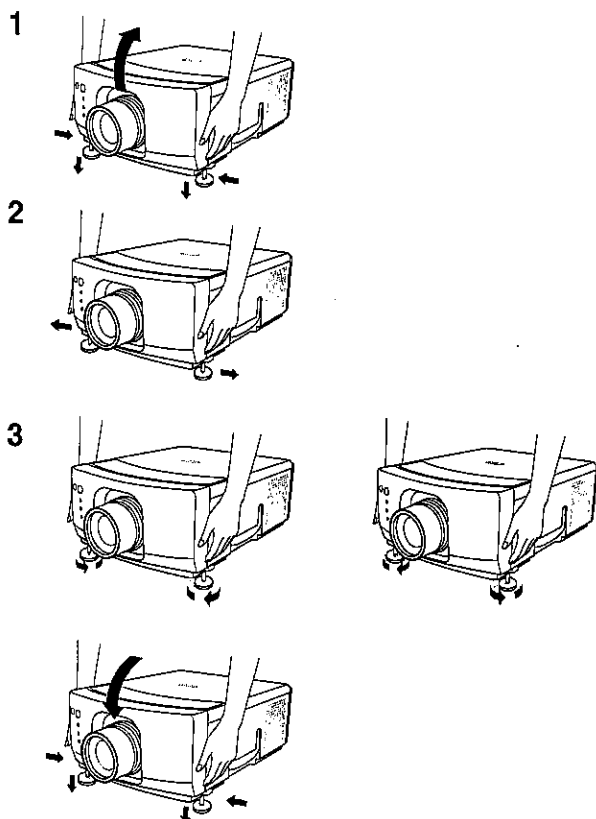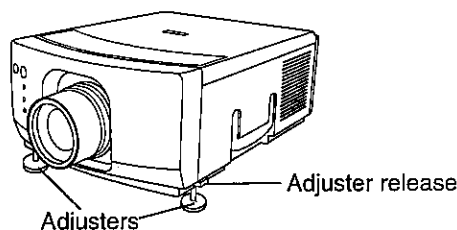
1. Press the adjuster release and lift the projector to the desired angle with both hands.

• The adjuster legs will extend to the surface of the table.

2. Remove your hand from the adjuster release.

• The adjuster legs will lock in position. Release the projector once you are sure the adjuster legs have locked in position.

3. Make any minor adjustments necessary.

• Turn the adjusters to further adjust the angle of the projector.

Returning the projector to its original position

• While holding the projector with both hands, press the adjuster release and slowly lower the projector to its original position.

Notes:
• Adjustable up to approximately 5° from the horizontal.
• When adjustments are made with the adjusters, the picture may become distorted, depending on the relative positions of the projector and the screen.
• After adjusting, in some cases, all of the adjuster legs may not be resting on the table.
  To prevent the projector from wobbling, adjust the adjuster legs so that they firmly contact the table.

Cautions:
• Do not press the adjuster release when the adjuster legs are extended without firmly holding the projector.
• When lowering the projector, be careful not to get your fingers caught in the area between the adjusters and the projector.
• Do not hold the lens when lifting or lowering the projector.

Transporting the Projector

Use the carrying handle when carrying the projector.

When transporting the projector, carry it by the handle located on the side of the unit.

Note:
• Always put on the lens cap to prevent damage to the lens when transporting the projector.

Caution:
• Do not lift or carry the projector by the lens or the lens cover as this may damage the lens.

Carrying handle
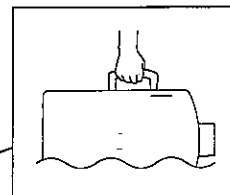
Connecting the Projector (RGB 1, 2: Computer)

> • Please carefully read the manual of the computer you will be connecting.
> • Before connecting, be sure to turn both the projector and the computer off. After making all connections, turn the projector on first. The computer should always be turned on last.
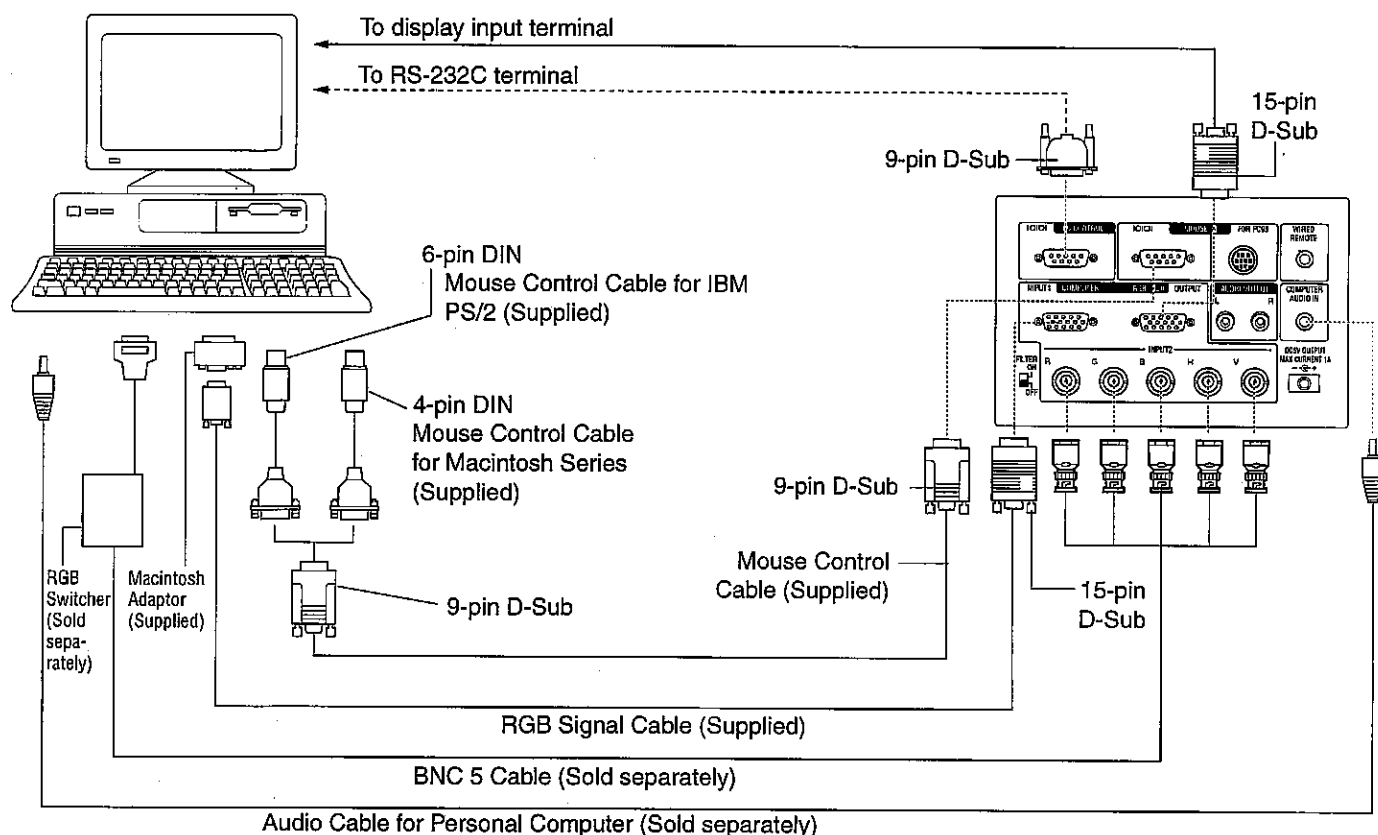
To display input terminal

To RS-232C terminal

15-pin D-Sub

9-pin D-Sub

6-pin DIN
Mouse Control Cable for IBM PS/2 (Supplied)

4-pin DIN
Mouse Control Cable for Macintosh Series (Supplied)

9-pin D-Sub

Mouse Control Cable (Supplied)

9-pin D-Sub

15-pin D-Sub

RGB Switcher (Sold separately)

Macintosh Adaptor (Supplied)

RGB Signal Cable (Supplied)

BNC 5 Cable (Sold separately)

Audio Cable for Personal Computer (Sold separately)

• You can connect your projector to a computer for easy projection of full colour computer images and an external monitor for simultaneous viewing. See pages 16 and 17 for details of the connections.
• Refer to page 19 for a list of personal computers connectable to the projector. Use with computers other than those listed may cause some of the functions not to work.
• When the RS-232C terminal on this unit is connected to a personal computer via an RS-232C cable (cross type), the personal computer can control the projector and the status of the projector can be checked. See pages 32 and 33 for details.
• By connecting the projector mouse terminal to your personal computer's mouse terminal, using the supplied mouse control cables, you can use the remote control in place of the computer's mouse. Refer to page 8 for details.

Notes:
• The wireless mouse or RS-232C function may not operate if your computer port is not correctly set-up. Please refer to your computer owners manual for details on setting-up/installing the correct Mouse Driver.
• Do not connect or remove the mouse control cable or RS-232C cable to/from your computer while it is on. This may damage your computer.
• Do not connect to the mouse input terminal for IBM/Mac and mouse input terminal for PC98 simultaneously.

Plug & Play Function

This projector is compatible with VESA-standard DDC1/DDC2B. When connected to a computer with similar specifications using the supplied RGB signal cable, the computer will read the number of displayed pixels, the frequency, and colour characteristics of the projector, and automatically select the optimal image for the projector. See your computer operation manual for more details.

Notes:
• The Plug & Play function cannot be used with RGB 2 input.
• The projector will identify itself as a 75 Hz refresh rate display device.

Connecting to the Computer RGB Input (RGB 1)/Output (RGB 1, 2) Terminals

■ You can connect your projector to a computer for easy projection of full-colour computer images, and an external monitor for simultaneous viewing.
■ Use the RGB 1 input connector and the supplied RGB cable for Plug & Play.

1

Side view of the projector

RGB Signal
Input Socket

RGB Signal
Cable
(Supplied)

IBM-PC (VGA,
SVGA, XGA,
SXGA)
Series (computer)

RGB Signal
Output Socket
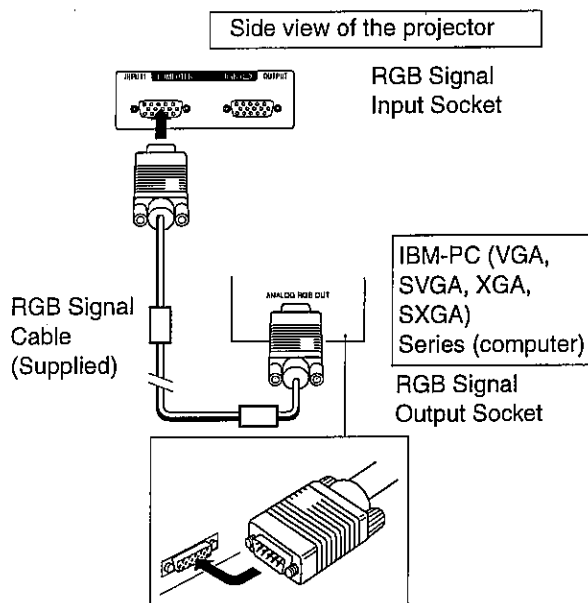
1. Connecting to an IBM-PC (VGA, SVGA, XGA, SXGA) Series computer – 1,280 × 1,024 maximum resolution

Plug the RGB signal cable correctly into the RGB INPUT terminal on the projector and into the RGB signal output terminal on the computer, and secure the plugs by tightening the thumb screws.

Note:
• This connection is possible only when using a computer with a VGA/SVGA/XGA/SXGA or Mac display output port.

2 ❶

Macintosh Adaptor (Supplied)

ON
↑
↓
OFF
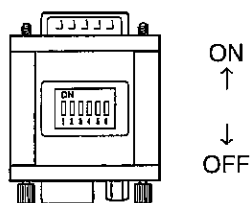
2. Connecting to a Macintosh Series Computer

• 640 × 480, 832 × 624 or 1,024 × 768 resolution

❶ Set the proper switches on the supplied adaptor.
• For 640 × 480 resolution, set switches 1 and 2 to "ON" and 3,4,5 and 6 to "OFF".
• For 832 × 624 resolution, set switches 2 and 4 to "ON" and 1,3,5 and 6 to "OFF".
• For 1,024 × 768 resolution, set switches 2 and 3 to "ON" and 1,4,5 and 6 to "OFF".

❷

Macintosh Adaptor (Supplied)

Macintosh

RGB Signal
Output Socket
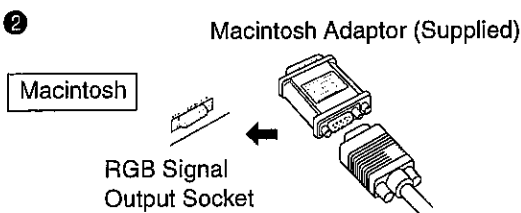
❷ Connect the supplied Macintosh adaptor to the RGB signal output terminal on your Macintosh Series computer, as shown on the left, and secure the plugs by tightening the thumb screws.

❸

Side view of the projector

RGB Signal
Input Socket

Macintosh

RGB Signal Output
Socket

ANALOG
RGB OUT

RGB Signal
Cable
(Supplied)
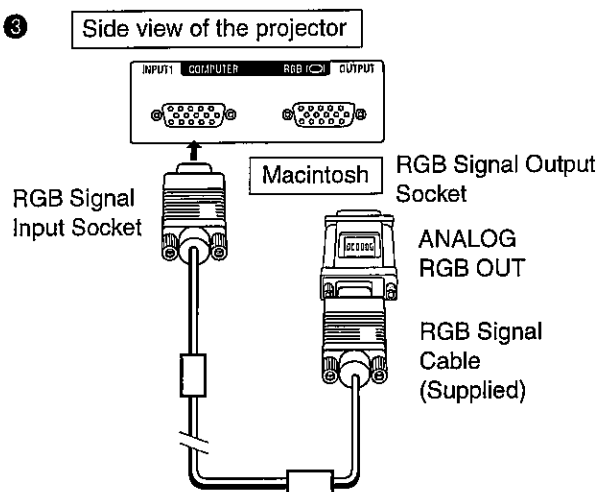
❸ Firmly plug the supplied RGB signal cable into both the RGB input terminal on the projector and the Macintosh adaptor on the computer, and secure the plugs by tightening the thumb screws.

Notes:
• Be sure to use the supplied Macintosh adaptor.
• Be sure the switches on the adaptor are properly set.
• Once the adaptor is connected to a computer and the computer is turned on, the display mode cannot be changed even if the switches on the adaptor are reset.
• The supplied adaptor is only for use with H-SYNC and V-SYNC output. When connecting a Macintosh Series computer that only outputs C-SYNC, use a special C-SYNC output adaptor (sold separately).
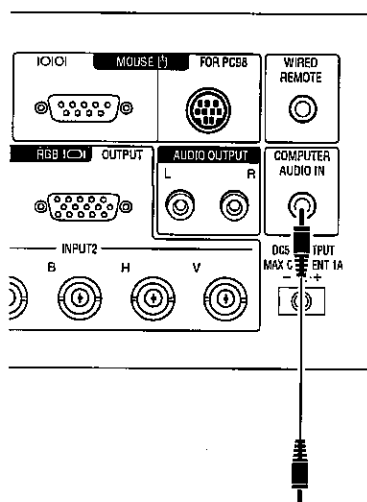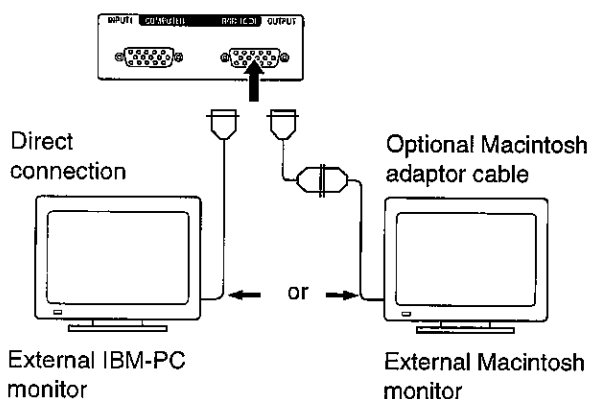
3. Connecting to other compatible computers

When connecting the projector to a compatible computer other than an IBM-PC (VGA/SVGA/XGA/SXGA) or Macintosh series, a separate cable is needed. Please contact your dealer for ordering information.

Notes:
- Connecting computers other than the recommended types may result in damage to the projector, the computer, or both.
- Connect the audio from the computer to the COMPUTER AUDIO INPUT terminal.

4. Connecting to the COMPUTER AUDIO INPUT

- The COMPUTER AUDIO INPUT accepts COMPUTER RGB input.
- Connect a 3.5 mm Stereo Minijack-RCA L/R cable (not included) from the audio output terminal on the computer to the COMPUTER AUDIO IN terminal on the projector.

4

5

Direct connection

External IBM-PC monitor

Optional Macintosh adaptor cable

External Macintosh monitor

5. Connecting an external monitor

Connect your computer monitor to the projector's COMPUTER RGB OUTPUT terminal to view images simultaneously on the external monitor and the projection screen. Select either RGB 1 or RGB 2 to output the images to the monitor.

Caution (Apple Macintosh):
Do not connect the COMPUTER RGB OUTPUT to any monitor except the following:
Apple Colour RGB Monitor 13"/14" (640 × 480),
16"/17" (832 × 624) or 19" (1,024 × 768)
The output signal from the projector to the monitor should be the same as the input signal from the computer to the projector.

Example: Input 13"/14" (640 × 480) → Output (640 × 480)
Input 16"/17" (832 × 624) → Output (832 × 624)
Input 19" (1,024 × 768) → Output (1,024 × 768)

Note:
- The supplied adaptor is only for use with H-SYNC and V-SYNC output. No picture will appear when connected to monitors that only use C-SYNC.

Notes:
- When using the projector with an external IBM-PC monitor, connect the monitor using the supplied cable. When using the projector with a Macintosh monitor, an optional adaptor cable is required. Before using any other type of monitor, carefully check the monitor's interface specifications and make sure that they match the specifications of the projector's interface.

- The external monitor output will only display an analog computer input signal. It will not display a digital or video input signal. To split the composite video signal, use a video distribution amplifier. This is available from your local dealer. The computer RGB output will only loop through the same signal connected to the computer RGB input. (VGA IN → VGA OUT, Mac IN → Mac OUT)

Connecting the Projector (RGB 2)

Connecting to the Computer RGB 2 Input Terminals

■ Uses a 5 BNC computer input to prevent a deterioration of picture quality.
• Before connecting, be sure to turn both the projector and the equipment off.
• Connect the R, G, B, H-SYNC and V-SYNC cables to the correct input terminals on the projector and an RGB switcher (sold separately) connected to the computer, or connect a 5 BNC-VGA cable (sold separately) directly from the input terminals on the projector to the computer.

Side terminals

• COMPUTER AUDIO INPUT accepts COMPUTER RGB 1 and 2 input.
• Use INPUT SELECT to choose the correct setting.

Playback ↑

To R, G, B, H-SYNC and V-SYNC output terminals

To RGB Switcher (Sold separately)

3.5 mm Stereo Minijack to RCA L/R cable (Sold separately)

To audio output terminal

RGB Switcher
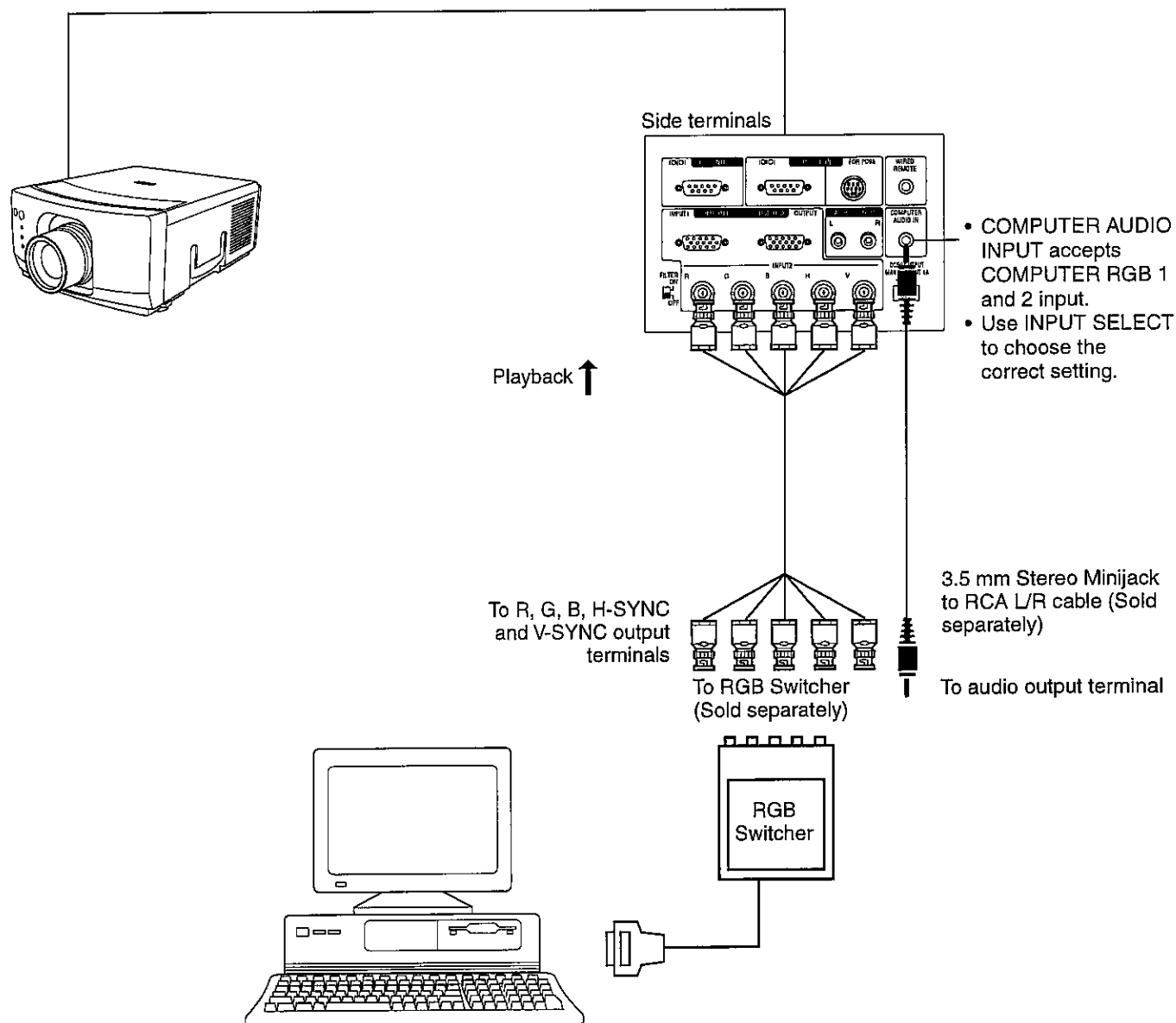
Note:
• When connecting a Macintosh Series computer that outputs C-SYNC, connect the cable to the COMPUTER RGB 2 INPUT H-SYNC input terminal.

Input Signals (Recommended Timing)

For IBM and compatibles

Input signals: The video output signal timing of different types of video signals are shown below for reference.

VIDEO SIGNAL
HORIZONTAL SYNC SIGNAL
| a | b | c | d |

VIDEO SIGNAL
VERTICAL SYNC SIGNAL
| w | x | y | z |

For Apple Macintosh Series

VIDEO SIGNAL
C-SYNC (H)
| a | b | c | d | e = 2 dot

VIDEO SIGNAL
C-SYNC (V)
| w | x | y | z |

V-SYNC

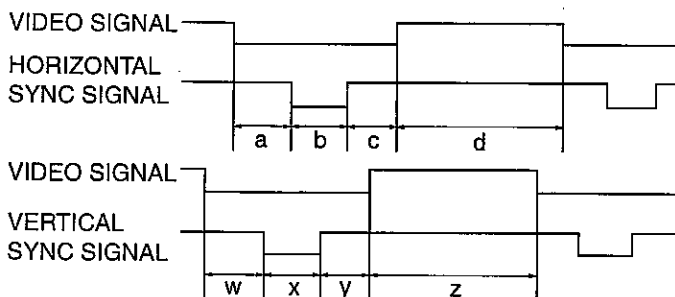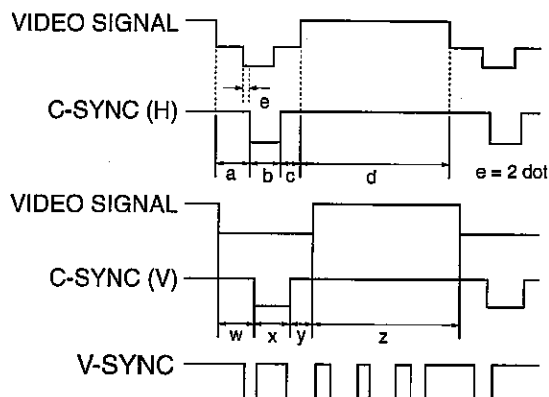|		IBM VGA Text 720dots 350 lines	IBM VGA Text 720dots 400 lines	IBM VGA Graphic 640dots 350 lines	IBM VGA Graphic 640dots 400 lines	IBM VGA Graphic 640dots 480 lines	IBM VESA Graphic 640dots 480 lines	IBM SVGA Graphic 800dots 600 lines	IBM SVGA VESA Guideline 800dots 600 lines	IBM SVGA VESA Standard 800dots 600 lines	IBM SVGA VESA Guideline 800dots 600 lines	IBM XGA VESA Standard 1,024dots 768 lines	IBM XGA VESA Standard 1,024dots 768 lines	IBM XGA VESA Standard 1,024dots 768 lines	IBM SXGA VESA Standard 1,280dots 1,024 lines	IBM SXGA VESA Standard 1,280dots 1,024 lines	Apple Macintosh IIsi 13" Monitor 640dots 480 lines	Apple Macintosh LC 13" Monitor 640dots 480 lines	Apple Macintosh 16" Monitor 832dots 624 lines	Apple Macintosh 19" Monitor 1,024dots 768 lines
VIDEO LEVEL		0.7Vp-p 75Ω load	0.7Vp-p 75Ω load	0.7Vp-p 75Ω load	0.7Vp-p 75Ω load	0.7Vp-p 75Ω load	0.7Vp-p 75Ω load	0.7Vp-p 75Ω load	0.7Vp-p 75Ω load	0.7Vp-p 75Ω load	0.7Vp-p 75Ω load	0.7Vp-p 75Ω load	0.7Vp-p 75Ω load	0.7Vp-p 75Ω load	0.7Vp-p 75Ω load	0.7Vp-p 75Ω load	1Vp-p max. 75Ω load	0.7Vp-p max. 75Ω load	0.7Vp-p max. 75Ω load	0.7Vp-p max. 75Ω load
VIDEO TYPE		R·G·B	R·G·B	R·G·B	R·G·B	R·G·B	R·G·B	R·G·B	R·G·B	R·G·B	R·G·B	R·G·B	R·G·B	R·G·B	R·G·B	R·G·B	R·G·B C.SYNC	R·G·B C.SYNC	R·G·B C.SYNC	R·G·B C.SYNC
HSYNC FRONT PORCH a	dot	17	17	14	14	14	24	24	40	56	16	24	24	16	48	16	64	78	31	35
SYNC b	dot	108	108	96	96	96	40	72	128	120	80	136	136	96	112	144	64	62	65	96
BACK PORCH c	dot	55	55	50	50	50	128	128	88	64	160	160	144	176	248	248	96	116	224	173
VIDEO PERIOD d	dot	720	720	640	640	640	640	800	800	800	800	1,024	1,024	1,024	1,280	1,280	640	640	832	1,024
1H (a+b+c+d)	dot	900	900	800	800	800	832	1,024	1,056	1,040	1,056	1,344	1,328	1,312	1,688	1,688	864	896	1,152	1,328
1H	µs	31.7774	31.7774	31.7776	31.7776	31.7776	26.413	28.444	26.400	20.800	21.333	20.677	17.707	16.660	15.6	12.5	28.5714	28.595	20.124	16.650
1 dot	ns	35.3082	35.3082	39.7219	39.7219	39.7219	31.746	27.777	25.000	20.000	20.202	15.385	13.3	12.7	9.3	7.4	33.0688	31.914063	17.466	12.536
1/H	kHz	31.4669	31.4669	31.4688	31.4688	31.4688	37.860	35.156	37.879	48.077	46.875	48.363	56.476	60.023	63.981	79.976	35.0000	34.871149	49.693	60.0
1/dot	MHz	28.322	28.322	25.175	25.175	25.175	31.500	36.000	40.000	50.000	49.500	65.000	75.0	78.75	108.000	135.000	30.2400	31.334149	57.246	79.76
LEVEL		TTL	TTL	TTL	TTL	TTL	TTL	TTL	TTL	TTL	TTL	TTL	TTL	TTL	TTL	TTL	TTL	TTL	TTL	TTL
SYNC POLARITY	+/-	+	-	+	-	-	-	+/-	+	+	+	-	-	+	+	+	-	-	-	-
VSYNC FRONT PORCH w	H	38	13	38	13	11	9	1	1	37	1	3	3	1	1	1	3	3	1	3
SYNC x	H	2	2	2	2	2	3	2	4	6	3	6	6	3	3	3	3	3	3	3
BACK PORCH y	H	59	34	59	34	32	28	22	23	23	21	29	29	26	38	38	39	39	39	30
VIDEO PERIOD z	H	350	400	350	400	480	480	600	600	600	600	768	768	768	1,024	1,024	480	480	624	768
1V (w+x+y+z)	H	449	449	449	449	525	520	625	628	666	625	806	806	800	1,066	1,066	525	525	657	804
1V	ms	14.2681	14.2681	14.2681	14.2681	16.6832	13.735	17.778	16.579	13.853	13.333	16.666	14.272	13.328	16.7	16.7	15.00	15.00	13.423	13.387
1/v	Hz	70.0866	70.0866	70.0863	70.0863	59.9405	72.809	56.250	60.317	72.188	75.000	60.006	70.069	75.029	60.020	75.025	66.67	66.67	74.502	74.70
LEVEL		TTL	TTL	TTL	TTL	TTL	TTL	TTL	TTL	TTL	TTL	TTL	TTL	TTL	TTL	TTL	TTL	TTL	TTL	TTL
SYNC POLARITY	+/-	-	+	-	+	-	-	+/-	+	+	+	-	-	+	+	+	-	-	-	-

Notes:
- When connecting a notebook computer to the data-projector for display on an (800 × 600) LCD screen, the screen may not show a full picture image. See page 21, "Computer Mode Memory Adjustments" for details.
- This projector may not be able to display images from notebook computers in simultaneous (CRT/LCD) mode. If this occurs, turn off the LCD display on the notebook computer and output the display data in "CRT only" mode. Details on how to change display modes can be found in your notebook computer's operation manual.
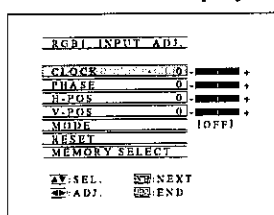
RGB Adjustment Controls

■ When displaying computer patterns which repeat every other dot (tiling, vertical stripes, etc.), interference may occur between the LCD pixels, causing flickering, vertical stripes, or contrast irregularities in portions of the screen. Should this occur, use the ADJUSTMENT ◄/► buttons for HORIZONTAL (LEFT/RIGHT) and VERTICAL (UP/DOWN) position adjustments to adjust for the optimum picture.

RGB Input Adjustments (CLOCK, PHASE, V-POS and H-POS)

1. Select RGB 1 or 2 with the INPUT SELECT button and press the MENU button to select the RGB INPUT ADJ. mode.

With the MENU screen displayed, press the ADJUSTMENT ▼/▲ buttons to select "RGB1 INPUT ADJ." Then press the ENTER button to display the RGB1 INPUT ADJ. screen.

2   **On-Screen Display**

```
┌─────────────────────────┐
│   RGB1 INPUT ADJ.       │
│ ┌─────────────────────┐ │
│  CLOCK         0  ■■■ + │
│  PHASE         0  ■■■ + │
│  H-POS         0  ■■■ + │
│  V-POS         0  ■■■ + │
│  MODE            [OFF]  │
│  RESET                  │
│  MEMORY SELECT          │
│                         │
│  ▲▼:SEL.   ▣:NEXT       │
│  ◄►:ADJ.   ▣:END        │
└─────────────────────────┘
```

2. Select the item you wish to adjust with the ADJUSTMENT ▼/▲ buttons. Adjust the item with the ADJUSTMENT ◄/► buttons.

Note:
• To display only the item that you want to adjust, press the ENTER button after selecting the item with the ADJUSTMENT ▼/▲ buttons. Then adjust the item with the ADJUSTMENT ◄/► buttons.

3. Press the MENU button anytime to exit RGB INPUT ADJ.

Description of adjustment items
CLOCK SPEED ADJUSTMENT (FAST/SLOW)
• Adjust the input signal horizontal frequency and the dot clock so that the screen display is normal.
PHASE ADJUSTMENT (UP/DOWN)
• Used to reduce image distortion or improve contrast.
HORIZONTAL POSITION ADJUSTMENT (LEFT/RIGHT)
• Used to centre the on-screen image by moving it to the left or right.
VERTICAL POSITION ADJUSTMENT (UP/DOWN)
• Used to centre the on-screen image by moving it up or down.
MODE ADJUSTMENT
Connecting to IBM-PC Computers
• Ordinarily, the type of input signal is detected and the correct resolution mode (Text or Graphics) is automatically selected. However, for the following signals, set MODE to ON or OFF to select the projector's resolution mode to match the computer display mode properly.
        720 dots × 400 lines, 720 dots × 350 lines (Text Mode)
        640 dots × 400 lines, 640 dots × 350 lines (Graphic Mode)
• For graphic mode, select MODE and set the MODE to ON.
• For text mode, select MODE again at this time, and set MODE to OFF.
Connecting to Macintosh LC/II Series Computers
• When connecting to a Macintosh II with 35 kHz Dot Frequency, select MODE and set MODE to ON.
• When connecting to a Macintosh LC Series computer with 34.97 kHz Dot Frequency, set MODE to OFF.
• When connecting to third party video cards and other Macintosh computers, set MODE to ON or OFF to select the correct display mode.
• When the input signal is automatically detected or when there is no input signal, MODE (---) appears on the screen and the display mode cannot be changed.
INITIAL RESET
• To return the H-POS, V-POS, PHASE and CLOCK adjustments to their initial settings, select RESET and then press the ENTER button.
MEMORY SELECT
• Used to store up to seven computer mode adjustments.
INPUT ADJUSTMENT

FILTER
ON

OFF

① Filter switch
In the case of very detailed computer patterns which repeat every other dot (tiling, vertical stripes, etc.), noise may appear on the screen. Should this occur, set the FILTER switch to ON. The pattern area will balance, and the noise will be reduced.
Note:
• Avoid displaying computer patterns which repeat every other line (horizontal stripes). (Flickering may occur, making the picture hard to see.)

1 When RGB 1 or 2 is selected.

2
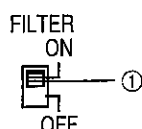
Computer Mode Memory Adjustments

- The projector has been preset with different modes for use with SVGA and other compatible computers. However, 7 memory positions are provided to store mode adjustments.
- Each memory position can be used to store mode adjustments to match the computer.
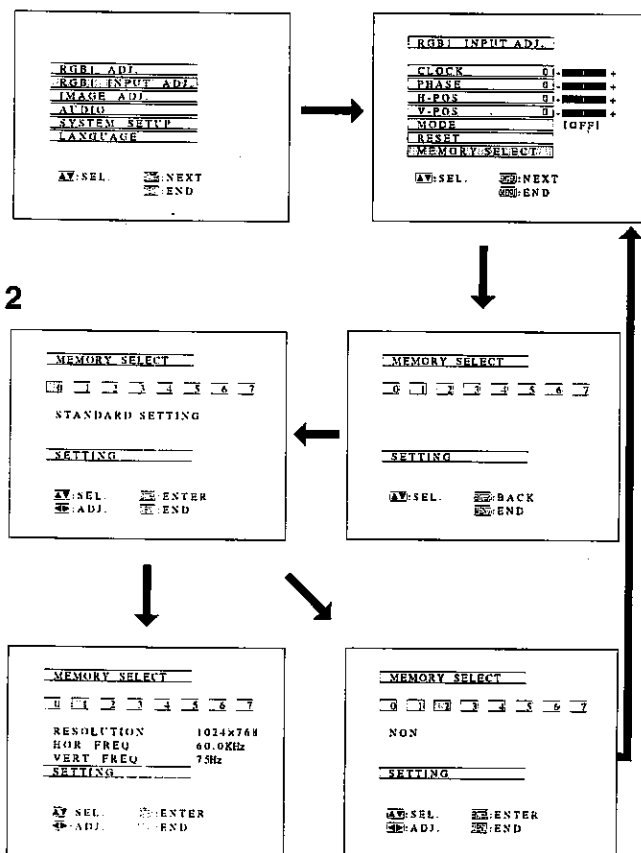
1. Press the ENTER button to select the Memory Adjustment mode.

- Press the MENU button. While the MENU screen is displayed, press the ADJUSTMENT ▼/▲ buttons to select "RGB1 INPUT ADJ." Press the ENTER button. The MENU mode changes as shown.
- While the RGB INPUT adjustment menu is displayed, press the ADJUSTMENT ▼/▲ buttons to select "MEMORY SELECT". Then press the ENTER button to change the image.

2. Press the ADJUSTMENT ◄/► buttons.

- The screen shown on the left will appear. There are 7 memory positions.

- Press the ADJUSTMENT ▼ button once to move to the following screen. Press the ADJUSTMENT ◄/► buttons to select the number of the memory you want to adjust. If that memory position has not been set, the screen on the right will be displayed. If it has been set, the screen on the left will be displayed. MEMORY No.0 cannot be set. It contains the fixed factory preset settings.
- To make or change a setting, press the ADJUSTMENT ▼/▲ buttons to move the cursor to "SETTING." Then press the ENTER button to go to the RGB INPUT adjustment menu screen. (If you do not want to make any adjustments, press the MENU button.)

- Select the item you want to adjust by pressing the ADJUSTMENT ▼/▲ buttons, then use the ADJUSTMENT ◄/► buttons to make the adjustments. When adjustments are completed, press the MENU button. The display disappears and the adjustments are stored in memory as a user mode. See page 20 for details on the adjustment items.

3. Press the MENU button anytime to exit RGB INPUT ADJ.

Basic Operation of the Projector

1

200V-240V~

ON
OFF

2 MAIN
POWER
switch
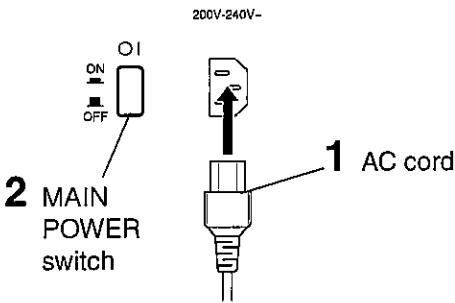
1 AC cord

1. Connect the AC cord.

Connect the supplied AC cord to the AC inlet on the side of the projector .

2

ON
OFF

ON/OFF

POWER

LAMP ○

TEMP. ○

When the MAIN POWER is on, the POWER indicator lights red.
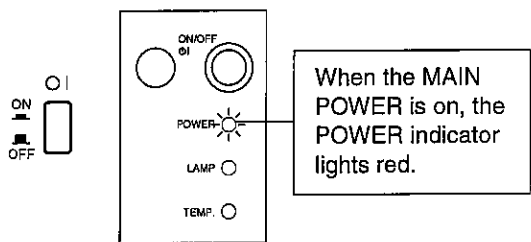
2. Turn on the MAIN POWER.

Press the MAIN POWER switch on the side of the projector. The POWER indicator lights red and the projector enters STANDBY mode.

3

Projector
ON/OFF

ON/OFF

Remote control
ON/OFF

ON

OFF

ON/OFF

POWER

LAMP

TEMP. ○

When the power is on, the LAMP REPLACEMENT indicator flashes to show the operating condition of the lamp.

Green: Lamp is ready
Flashing green: Warming up
Red: Change bulb
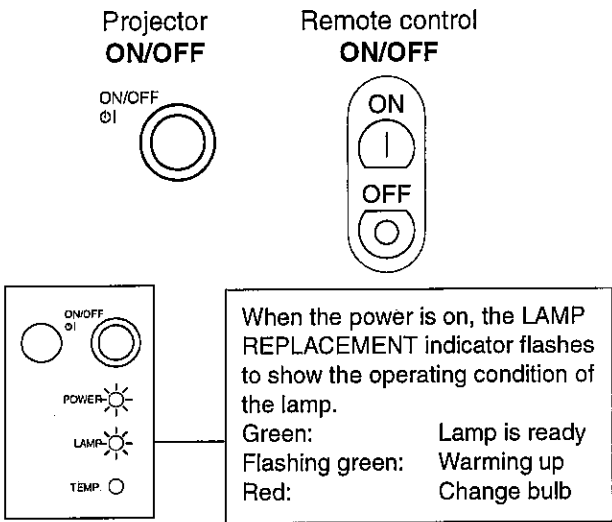
3. Turn on the POWER.

Press the POWER ON/OFF button on the projector or the POWER ON button on the remote control.
- When the power is turned off by pressing the POWER ON/OFF button, the POWER indicator will not turn off until the fan has stopped running.
- See page 30, "Lamp/Maintenance Indicators" for details.

Notes:
- When the POWER indicator is not lit, the remote control cannot be used to operate the projector.
- If the power is turned on immediately after it has been turned off, it may take a short while before the lamp turns on. (During this period the LAMP REPLACEMENT indicator flashes.)
- After the projector is unpacked and turned on for the first time, a slight odour may be emitted from the exhaust fan. This odour will soon disappear with use.

```
┌──────────────────────────────────┐
│  ┌─────────────────┐             │
│  │ LANGUAGE        │             │
│  └─────────────────┘             │
│  ┌─────────────────┐             │
│  │ ENGLISH         │             │
│  │ DEUTSCH         │             │
│  │ ESPANOL         │             │
│  │ NEDERLANDS      │             │
│  │ FRANCAIS        │             │
│  │ ITALIANO        │             │
│  │ SVENSKA         │             │
│  │ 日本語          │             │
│  └─────────────────┘             │
│   ▲▼:SEL.   ENTER:ENTER          │
│             MENU:END             │
└──────────────────────────────────┘
```
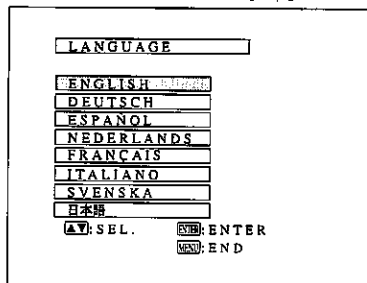
4. Select one of eight ON-SCREEN DISPLAY languages.

You can return to the previous screen by selecting the uppermost item (turquoise) with the ADJUSTMENT ▼/▲ buttons (in this case, LANGUAGE) and then pressing the ENTER button.

The on-screen display is set to English at the factory. The language for the unit's ON-SCREEN DISPLAY can be set to English, German, Spanish, Dutch, French, Italian, Swedish or Japanese.

Setting the ON-SCREEN DISPLAY language

1) Press the MENU button. The menu will appear on the screen.

2) Press the ADJUSTMENT ▼/▲ buttons to highlight the LANGUAGE item yellow. Then press the ENTER button to display the language menu.

3) Press the ADJUSTMENT ▼/▲ buttons to highlight the desired language yellow. Then press the ENTER button to set the language. The ON-SCREEN DISPLAY is now programmed to display in the language chosen.

```
         ┌──────────────┐  COMPUTER
      ┌─▶│   RGB1        │  RGB1
      │  │  1024×768     │
      │  │  75 Hz        │
      │  └──────────────┘
      │         │
      │         ▼
      │  ┌──────────────┐  COMPUTER
      └──│   RGB2        │  RGB2
         │  1024×768     │
         │  75 Hz        │
         └──────────────┘

      ┌──────────┬──────────┐
      │  RGB1    │  RGB1    │
      │ 1024×768 │ 800×600  │
      │  75 Hz   │  60 Hz   │
      └──────────┴──────────┘

Mac   ┌──────────┐
      │  RGB1    │
      │ 832×624  │
      └──────────┘
```
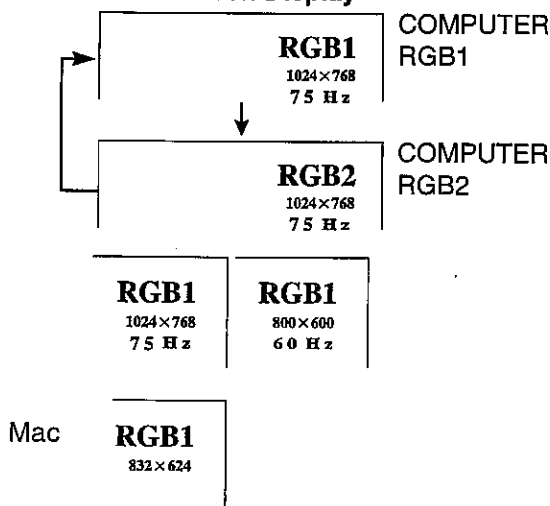
5. Select input.

Press the INPUT SELECT button to switch the picture input. When you press the button, the current input mode is displayed for about 4 seconds. If you press the button again while the input mode is displayed, the mode changes as shown on the left.

Confirm the selected input terminal and press the INPUT SELECT button.

Notes:
• This can be selected directly using the DATA1 and DATA2 buttons on the remote control.
• When selecting RGB 1 or 2 mode, the resolution being displayed will be indicated under "RGB," as shown on the left. (Refer to the second example when connecting to Mac display.)
• When no signals are being received, "NO SIGNAL" will be displayed. When receiving a signal the projector is not preset to receive, "NOT REG." will be displayed.

RGB1 1024×768 75 Hz	RGB1 800×600 60 Hz

Mac RGB1
832×624
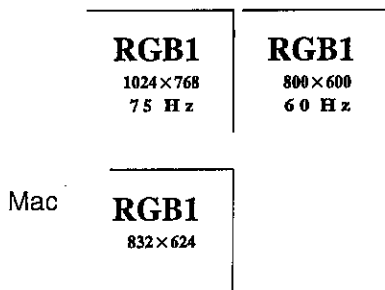
6. Press Input Check.

When the INPUT CHECK button on the remote control is pressed, the current input mode is displayed for about 4 seconds.

Note:
• The INPUT CHECK button will not function if the INPUT DISPLAY is turned off, as described on page 28.

The number of displayed segments (0~60) increases or decreases as the volume is raised or lowered.
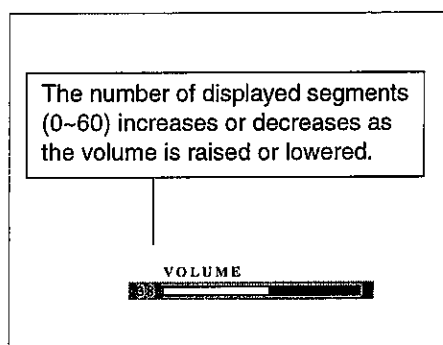
VOLUME

7. Adjust the volume.

Press the VOLUME UP-DOWN buttons on the projector or on the remote control to adjust the volume.

MUTE
• Press the MUTE button to temporarily turn off the sound.
• Press the MUTE button once again to turn the sound back on.

8. To turn off the power from the projector or remote control

The power can be temporarily turned off by pressing the POWER ON/OFF button on either the projector or remote control.
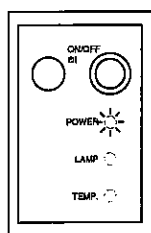
The POWER indicator will turn red and the cooling fan will run for 90 seconds, then the power will turn off, and the projector will return to STANDBY mode.

The power can be turned on again either from the projector or remote control. When the power is turned on, the POWER indicator and LAMP REPLACEMENT indicator light green.

Note:
• When the MAIN POWER is off on the projector set, the power cannot be turned on from the remote control.

Adjusting the Picture

- This projector's picture is factory preset to standard settings. However, you can adjust it to suit your own preferences with the ADJUSTMENT buttons on the projector and the remote control.
- The adjustments can be memorised in RGB 1 or RGB 2 separately.
- Four picture modes can be adjusted: "PICTURE," "BRIGHT," "RED," and "BLUE."

Adjusting the Picture

1. Use the MENU button to select the mode to be adjusted.

- When the MENU button is pressed, the MENU mode is indicated for about 30 seconds. Press the ADJUSTMENT ▼/▲ buttons to select RGB1 ADJ., then press the ENTER button.

1 **On-Screen Display**

```
┌─────────────────────────┐
│  RGB1  ADJ.             │
│  RGB1  INPUT  ADJ.      │
│  IMAGE  ADJ.           │
│  AUDIO                  │
│  SYSTEM  SETUP         │
│  LANGUAGE              │
│                         │
│  ▲▼:SEL.    ENTER:NEXT │
│             MENU:END    │
└─────────────────────────┘
```

2

```
┌─────────────────────────┐
│  RGB1  ADJ.            │
│                         │
│  PICTURE      0 -■■■ + │
│  BRIGHT       0 -■■■ + │
│  RED          0 -■■■ + │
│  BLUE         0 -■■■ + │
│  RESET                 │
│                         │
│  ▲▼:SEL.    ENTER:NEXT │
│  ◄►:ADJ.    MENU:END   │
└─────────────────────────┘
```

2. Adjust the Picture

- Press the ADJUSTMENT ▼/▲ buttons to highlight yellow the picture adjustment item you want to adjust.
- Press the ADJUSTMENT ◄/► buttons to move the " I " mark of the selected adjustment item to the desired setting.
- The adjustment mode is displayed for about 30 seconds.

Description of Adjustment Items

Selected item	ADJUSTMENT ◄ button	ADJUSTMENT ► button
PICTURE	For less contrast	For more contrast
BRIGHT	For less brightness	For more brightness
RED	For weaker red	For stronger red
BLUE	For weaker blue	For stronger blue
RESET	All RGB Adjustment items are returned to the factory preset settings. Note: To reset all adjustment items, select RESET in "RGB1 ADJ." mode and press the ENTER button.	

3

```
┌─────────────────────────┐
│                         │
│                         │
│                         │
│  PICTURE      0 -■■■ + │
│  ▲▼:SEL.    ENTER:ENTER│
│  ◄►:ADJ.    MENU:END   │
└─────────────────────────┘
```

3. Display only the item to adjust.

- Press the ADJUSTMENT ▼/▲ buttons to highlight yellow the picture adjustment item you want to adjust. If you press the ENTER button at this time, only the selected item will be displayed.
- Press the ADJUSTMENT ◄/► buttons to move the " I " mark of the selected adjustment item to the desired setting.
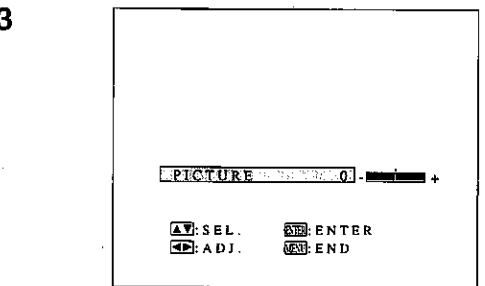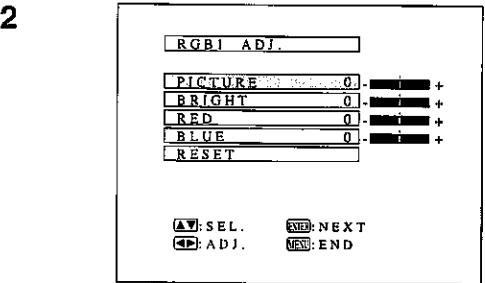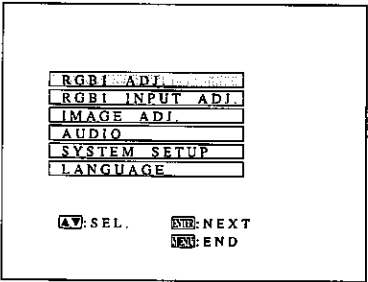- The adjustment mode is displayed for about 30 seconds.

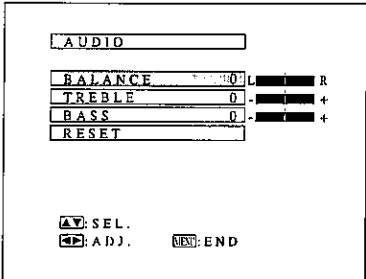### 4. Press the MENU button anytime to exit RGB ADJ.

Adjusting the Audio

• The projector's audio is factory preset to the standard setting. However, you can adjust it to suit your own preference with the ADJUSTMENT buttons on the projector or the remote control.
• You can adjust the BALANCE, TREBLE and BASS.

• To return to the factory preset mode, press the AD-JUSTMENT ▼/▲ buttons to select "RESET", then press the ENTER button.
• Press the MENU button to select the normal screen mode.

On-Screen Display

```
┌─────────────────────────────────┐
│ ┌─────────┐                      │
│ │ AUDIO   │                      │
│ └─────────┘                      │
│ ┌──────────────────┐            │
│ │ BALANCE      "0"│L ███ █ R     │
│ │ TREBLE        0 │ - ███ █ +    │
│ │ BASS          0 │ - ███ █ +    │
│ │ RESET           │              │
│ └──────────────────┘            │
│                                  │
│ ▲▼:SEL.                          │
│ ◄►:ADJ.   MENU:END               │
└─────────────────────────────────┘
```

Adjusting the Audio

• Press the MENU button.
  Select "AUDIO" with the ADJUSTMENT ▼/▲ buttons. Then press the ENTER button to change to the picture indicated on the left.
• Select "BALANCE," "TREBLE" or "BASS" with the ADJUSTMENT ▼/▲ buttons. Adjust the mode you want with the ADJUSTMENT ◄/► buttons.
• To return to the factory preset mode, press the AD-JUSTMENT ▼/▲ buttons to select RESET, then press the ENTER button.

Description of Adjustment Items

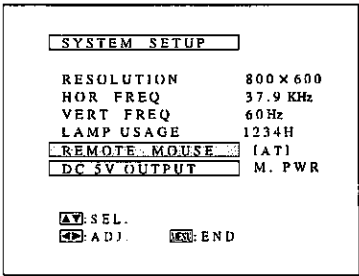| Selected items	ADJUSTMENT ◄ button	ADJUSTMENT ► button
BALANCE	Increased audio from the left speaker	Increased audio from the right speaker
TREBLE	Weaker treble	Stronger treble
BASS	Weaker bass	Stronger bass

Functions on the Projector

On-Screen Display

```
[ SYSTEM  SETUP ]

RESOLUTION        800 x 600
HOR  FREQ         37.9 KHz
VERT  FREQ        60Hz
LAMP  USAGE       1234H
[ REMOTE  MOUSE ]  [AT]
[ DC 5V OUTPUT ]   M. PWR


[▲▼]: SEL.
[◄►]: ADJ.    [MENU]: END
```

```
[ SYSTEM  SETUP ]

RESOLUTION        800 x 600
HOR  FREQ         37.9 KHz
VERT  FREQ        60Hz
LAMP  USAGE       1234H
[ REMOTE  MOUSE ]  [AT]
[ DC 5V OUTPUT ]   M. PWR


[▲▼]: SEL.
[◄►]: ADJ.    [MENU]: END
```

```
[ SYSTEM  SETUP ]

RESOLUTION        800 x 600
HOR  FREQ         37.9 KHz
VERT  FREQ        60Hz
LAMP  USAGE       1234H
[ REMOTE  MOUSE ]  [AT]
[ DC 5V OUTPUT ]   M. PWR


[▲▼]: SEL.
[◄►]: ADJ.    [MENU]: END
```

Setting Up the System

■ Using this function, you can check the input signal and lamp usage time, and select the remote mouse and DC 5V output.
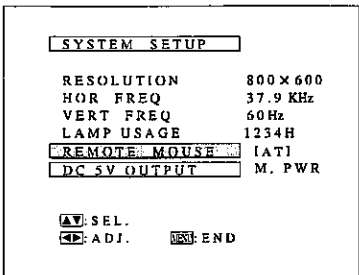
Checking the system and lamp usage time

• Press the MENU button. Select "SYSTEM SETUP" with the ADJUSTMENT ▼/▲ buttons. Then press the ENTER button to change to the picture indicated on the left.
• The current system conditions, including the lamp usage time, will be displayed on the screen.
• Press the MENU button to select the normal screen mode.

Selecting the Remote Mouse

• Press the MENU button.
• Select SYSTEM SETUP with the ADJUSTMENT ▼/▲ buttons. Then press the ENTER button.
• Select "REMOTE MOUSE" and then select either "[AT]" or "[98]" with the ADJUSTMENT ◄/► buttons.
• Select [AT] when using IBM compatibles and Apple Macintosh series.
• Select [98] when using NEC PC98 series (for Japan).
• Press the MENU button to select the normal screen mode.

Selecting DC 5V output

• Press the MENU button.
• Select "SYSTEM SETUP" with the ADJUSTMENT ▼/▲ buttons. Then press the ENTER button.
• Select "DC 5V OUTPUT" and then select either "M.PWR" or "LAMP" with the ADJUSTMENT ◄/► buttons.
• Select "M.PWR" when you want a continuous current supply from the DC 5V OUTPUT with the main power on.
• Select "LAMP" when you want a current supply from the DC 5V OUTPUT only when LAMP is set to "ON".
• Press the MENU button to select the normal screen mode.
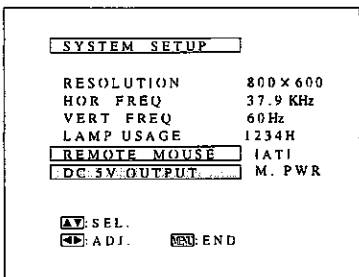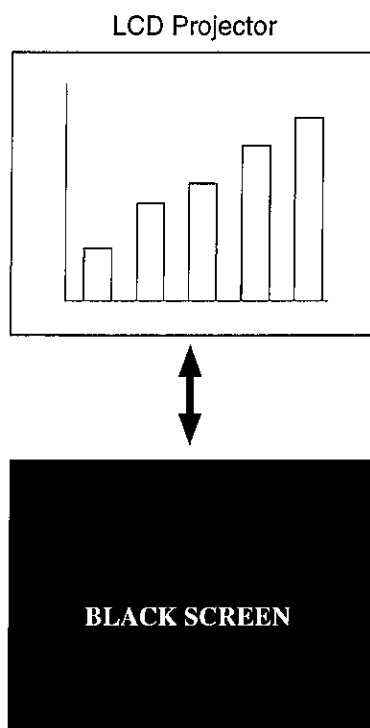
LCD Projector
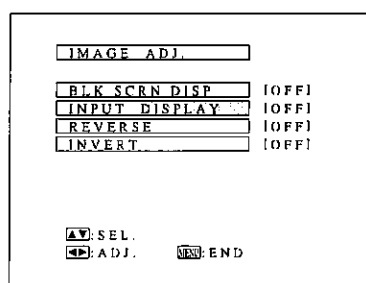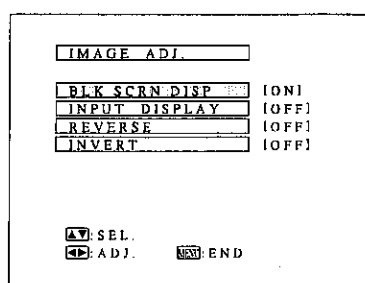
BLACK SCREEN

Using the Black Screen Function

■ This projector is equipped with a Black Screen Function. This function can be used to black out the presentation image.

• Press the BLACK SCREEN button on the projector or the remote control to display the black screen. Press the BLACK SCREEN button again to return to the presentation image.

Note:
• When BLK SCRN DISP is set to OFF, the On-Screen Display ("BLACK SCREEN") will not appear during black screen. See below.

On-Screen Display


```
IMAGE ADJ.

BLK SCRN DISP      [ON]
INPUT DISPLAY      [OFF]
REVERSE            [OFF]
INVERT             [OFF]


▲▼: SEL.
◀▶: ADJ.    MENU: END
```

Black Screen On-Screen Display Override

■ The On-Screen Display ("BLACK SCREEN") that appears during black screen can be turned off. When BLK SCRN DISP is set to OFF, the On-Screen Display will not appear during black screen.

• Press the MENU button. While the MENU screen is displayed, press the ADJUSTMENT ▼/▲ buttons to select "IMAGE ADJ." Then press the ENTER button to display the IMAGE ADJ. screen as shown. Press the ADJUSTMENT ▼/▲ buttons to select "BLK SCRN DISP" and press the ADJUSTMENT ◀/▶ buttons to select ON or OFF.


```
IMAGE ADJ.

BLK SCRN DISP      [OFF]
INPUT DISPLAY      [OFF]
REVERSE            [OFF]
INVERT             [OFF]


▲▼: SEL.
◀▶: ADJ.    MENU: END
```

Using the Input Mode On-Screen Display Override Function

■ The On-Screen Displays that appear during input select ("RGB 1,024 x 768, 75 Hz," etc.) can be turned off. Once INPUT DISPLAY is turned off, the On-Screen Displays will not appear even if the INPUT CHECK button on the remote control is pressed.

• Press the MENU button. While the MENU screen is displayed, press the ADJUSTMENT ▼/▲ buttons to select "IMAGE ADJ." Then press the ENTER button to display the IMAGE ADJ. screen as shown. Press the ADJUSTMENT ▼/▲ buttons to select "INPUT DISPLAY", and press ADJUSTMENT ◀/▶ buttons to select ON or OFF.
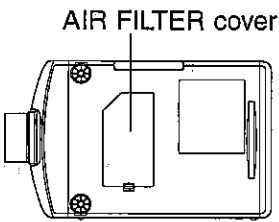
• When OFF is selected, the On-Screen Display ("RGB 1,024 x 768, 75 Hz," etc.) will not be displayed during input select.

Air Filter Maintenance

1. Bottom Air Filter

AIR FILTER cover

■ The air filter should be cleaned every 100 hours of use. Clean the filter more often when the projector is used in a dusty or smoky location.
■ Have your nearest Sharp Authorised LCD Projector Dealer or Service Centre exchange the filter (PFILD0058CEZZ) when it is no longer possible to clean it.

Cleaning and Replacing the Filter

1 Turn OFF the MAIN POWER.	**2** Remove the FILTER COVER.	**3** Remove the AIR FILTER.
O I ON ▬ ▬ OFF Turn off the MAIN POWER switch. POWER indicator goes off. Unplug the power cord.	Press the tab in the direction of the arrow and lift open the filter cover. Press Tab Open	Grasp the air filter between your fingers and lift it out of the filter cover.
4 Clean the AIR FILTER.	**5** Replace the AIR FILTER.	**6** Replace the FILTER COVER.
Clean the dust off the air filter and cover with a vacuum cleaner extension hose.	Place the filter underneath the tabs on the filter frame. Return the air filter to its original position in the filter cover opening.	Insert the tab on the end of the filter cover into the filter cover opening and press the filter cover into position.

Note:
• Be sure the AIR FILTER COVER is securely installed. The power cannot be turned on unless it is correctly installed.

2. Side Air Filter

AIR FILTER (Not removable)
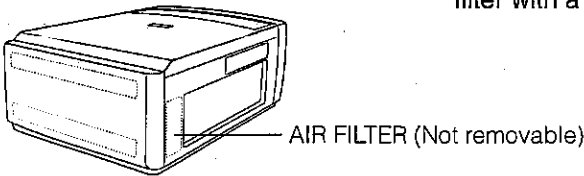
• The side air filter cannot be removed.
• If dust or dirt has collected inside the filter, clean the filter with a vacuum cleaner extension hose.

Lamp/Maintenance Indicators

Lamp

■ The Lamp has a finite operating life of 1,500 hours. The lamp life may differ, however, depending on the usage environment.

• When the lamp is nearing the end of its operating life, the picture and colour quality will deteriorate. When the projector is turned on after the lamp has been in use for more than 1,400 hours, the LAMP REPLACEMENT indicator will light red and "LAMP" will flash in yellow on the screen to alert you that it is time to replace the lamp. At this point, take your projector to the nearest Sharp Authorised LCD Projector Dealer or Service Centre to have the lamp replaced.

Note:	The lamp usage time can be checked with the On-Screen display. (See page 27.)
Caution:	Once you are alerted that the lamp requires replacement, take your projector to the nearest Sharp Authorised LCD Projector Dealer or Service Centre to have the lamp replaced.

• When the number of hours the lamp has been used reaches 1,500, the power automatically turns off and the projector enters the standby condition. If you turn on the power after the lamp has been used for 1,500 hours, "LAMP" will flash on screen in red letters for five minutes and then the power will turn off.

• Intense light hazard. Do not attempt to look into the aperture and lens while the projector is operating.

Maintenance Indicators

LAMP REPLACEMENT
indicator

TEMPERATURE
indicator
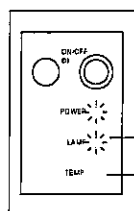
■ The warning lights on the projector indicate problems inside the projector.

■ There are two warning lights—a TEMPERATURE indicator which warns that the projector is too hot, and a LAMP REPLACEMENT indicator which lets you know when to change the lamp.

■ If a problem occurs, either the TEMPERATURE indicator or the LAMP REPLACEMENT indicator will light up red, and the power will shut off. After turning off the power, follow the procedures given below.

| Warning Indicator	Symptom	Problem	Possible Solution
TEMPERATURE indicator	The internal temperature is abnormally high.	• Blocked air intake.	• Relocate projector to a proper location.
		• Clogged air filter.	• Clean the filter. (See page 29.)
		• Cooling fan breakdown. • Clogged air filter. • Internal circuit failure.	• Take the projector to your nearest Sharp Authorised LCD Projector Dealer or Service Centre for repair.
LAMP REPLACE-MENT indicator	The lamp does not light up.	• Burnt-out lamp.	• Take the projector to your nearest Sharp Authorised LCD Projector Dealer or Service Centre for repair.
		• Lamp circuit failure.	
	The lamp requires replacement.	• The lamp has been used for over 1,400 hours.	

Notes:
• If the TEMPERATURE indicator comes on, follow the above possible solutions and then wait until the projector has cooled down completely before turning the power back on. (At least 5 minutes.)
• When the power is turned off and then turned on again, as during a brief rest, the LAMP replacement indicator may be triggered, preventing the power from going on. When this happens, take the power plug out of the AC outlet and put it back in again.

Before Calling for Service

| Problem	Check
No picture and no sound.	• The projector AC cord is not plugged into the AC wall outlet. • The main power switch is not pressed. • The input is wrong. (See pages 21 and 22.) • Cables improperly connected to side panel of the projector. (See pages 15, 16, 17 and 18.) • Remote control batteries have run down. (See page 7.) • The optional cable for the remote control is improperly inserted. • The main power of the remote control is not turned on. • The remote control's MOUSE/ADJUSTMENT switch is set to MOUSE. • The lamp has reached the end of its operating life. (See page 30.)
Sound is heard but no picture appears.	• Cables improperly connected to side panel of the projector. (See pages 15, 16, 17 and 18.) • The BRIGHTNESS and PICTURE adjustments are set to minimum position. (See page 25.) • On-Screen Display ("BLACK SCREEN") is turned off and Black Screen function is turned on, creating a black image. (See page 28.)
Picture is blurred.	• Adjust the focus. (See page 9.) • The projection distance is too long or too short to allow for proper focus. (See page 10.)
Picture appears but no sound is heard.	• Cables improperly connected to side panel of the projector. (See pages 15, 16, 17 and 18.) • Volume is set to minimum. (See page 24.)
An unusual sound is occasionally heard from the cabinet.	• If the picture is normal, the sound is due to cabinet shrinkage caused by temperature changes. This will not affect operation or performance.
Maintenance indicator lights up.	• Refer to "Lamp/Maintenance Indicators" on page 30.

Connection Pin Assignments

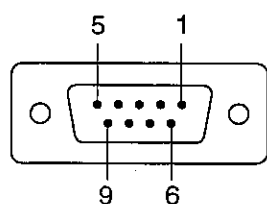## Analog RGB 1 Signal Input and Analog RGB 1 and 2 Output Terminal : 15-pin mini D-sub female connector
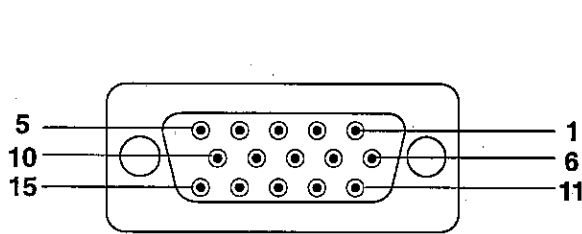
Computer Input
Analog
1. Video input (red)
2. Video input (green)
3. Video input (blue)
4. Reserve input 1
5. Composite sync (Mac only)
6. Earth (red)
7. Earth (green)

8. Earth (blue)
9. Not connected
10. GND
11. GND
12. Reserve input 2
13. Horizontal sync signal
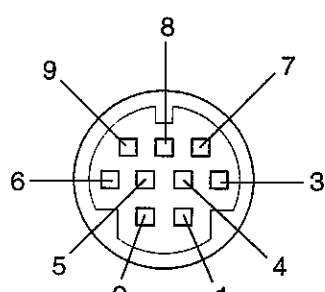14. Vertical sync signal
15. Reserve input 3

Analog RGB 2 Signal Input : 5 BNC
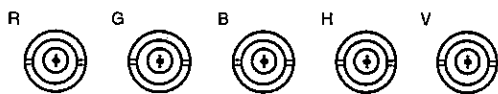
Computer Input
Analog
R Video input (red)
G Video input (green)
B Video input (blue)
H Horizontal sync signal, Mac C-sync signal
V Vertical sync signal

Mouse Input Terminal (for IBM/Mac) : 9-pin D-sub female connector
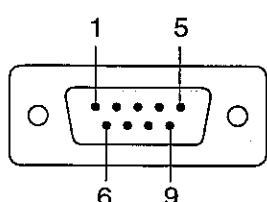
Pin No.	Signal	Name	I/O	Reference
1	CD	Carrier Detect	Input	Connected to internal circuit
2	RD	Receive Data	Input	Connected to internal circuit
3	SD	Send Data	Output	Connected to internal circuit
4	ER	Equipment Ready	Output	Connected to internal circuit
5	SG	Signal Ground		Connected to internal circuit
6	DR	Data Set Ready	Output	Not connected
7	RS	Request to Send	Output	Connected to internal circuit
8	CS	Clear to Send	Input	Connected to internal circuit
9	CI	Ring Indicator	Input	Connected to internal circuit

Mouse Input Terminal (for NEC PC98 series for Japan) : 9-pin mini DIN connector

Pin No.	Signal	I/O	Reference
1	+5V	Input	Computer output
2	XA	Input	Computer output
3	XB	Input	Computer output
4	YA	Input	Computer output
5	YB	Input	Computer output
6	LEFT	Input	Computer output
7	NC	Input	Not connected
8	RIGHT	Input	Computer output
9	GND		Computer output

RS-232C terminal : 9-pin D-sub male connector

Pin No.	Signal	Name	I/O	Reference
1	CD			Not connected
2	RD	Receive Data	Input	Connected to internal circuit
3	SD	Send Data	Output	Connected to internal circuit
4	ER			Not connected
5	SG	Signal Ground		Connected to internal circuit
6	DR	Data Set Ready	Output	Not connected
7	RS	Request to Send	Output	Connected to internal circuit
8	CS			Not connected
9	CI			Not connected

RS-232C Terminal Specifications

1. PC control

The personal computer can be used to control the projector by connecting the two via an RS-232C cable (cross type) (not supplied).

2. Communication conditions

Set the serial port settings of the computer to match that of the table below.

Signal format: Conforms to RS-232C standard.
Baud rate: 9,600 bps
Data length: 8 bits
Parity bit: NON
Stop bit: 1 bit
Flow control: None

3. Basic format

Commands from the computer are sent in the following order: command, parameter, and return code. After the unit processes the command from the computer, it sends a response code to the computer.

Command format

| C1 | C2 | C3 | C4 | P1 | P2 | P3 | P4 |

Return code (0DH)

Command 4-digits Parameter 4-digits
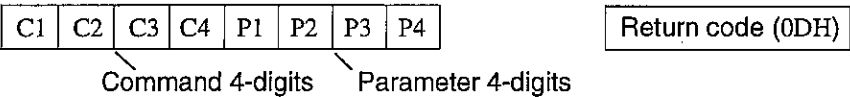
Response code format

Normal response

| O | K |

Return code (0DH)

Problem response (communication error or incorrect command)

| E | R | R |

Return code (0DH)

When more than one code is being sent, send each command only after the OK response code for the previous command from the unit is verified.

Note:
- Using the computer control function of the unit, the liquid crystal projector conditions cannot be read to the computer. Therefore, confirm the conditions by transmitting the display commands for each adjustment menu and checking the conditions with the On-Screen Display. If the unit receives a command other than a menu display command, it will execute the command without displaying the On-Screen Display.

4. Commands

CONTROL ITEM	COMMAND				PARAMETER				CONTROL CONTENTS
	C1	C2	C3	C4	P1	P2	P3	P4	
POWER SETTING	P	O	W	R	_	_	_	0	POWER OFF
	P	O	W	R	_	_	_	1	POWER ON
INPUT SWITCHING	I	R	G	B	_	_	_	1	RGB 1
	I	R	G	B	_	_	_	2	RGB 2
INPUT CHECK	I	C	H	K	_	_	_	0	INPUT CHECK
LANGUAGE SELECTION	M	E	L	A	_	_	_	1	ENGLISH
	M	E	L	A	_	_	_	2	DEUTSCH
	M	E	L	A	_	_	_	3	ESPANOL
	M	E	L	A	_	_	_	4	NEDERLANDS
	M	E	L	A	_	_	_	5	FRANCAIS
	M	E	L	A	_	_	_	6	ITALIANO
	M	E	L	A	_	_	_	7	SVENSKA
	M	E	L	A	_	_	_	8	JAPANESE

Note:
- If a dash appears in the parameter column enter a space. If an asterisk appears enter a value in the range indicated in brackets under CONTROL CONTENTS. See the examples on the next page.

CONTROL ITEM	COMMAND				PARAMETER				CONTROL CONTENTS
	C1	C2	C3	C4	P1	P2	P3	P4	
VOLUME ADJUSTMENT	V	O	L	A	_	_	*	*	VOLUME (0 ~ 60)
	M	U	T	E	_	_	_	0	MUTE OFF
	M	U	T	E	_	_	_	1	MUTE ON
AUDIO ADJUSTMENT	A	A	B	L	_	*	*	*	BALANCE (-30 ~ +30)
	A	A	T	E	_	*	*	*	TREBLE (-30 ~ +30)
	A	A	B	A	_	*	*	*	BASS (-30 ~ +30)
	A	A	R	E	_	_	_	0	AUDIO DISPLAY
	A	A	R	E	_	_	_	1	RESET
RGB 1 ADJUSTMENT	R	A	P	I	_	*	*	*	PICTURE (-30 ~ +30)
	R	A	B	R	_	*	*	*	BRIGHT (-30 ~ +30)
	R	A	R	D	_	*	*	*	RED (-30 ~ +30)
	R	A	B	E	_	*	*	*	BLUE (-30 ~ +30)
	R	A	R	E	_	_	_	0	RGB DISPLAY
	R	A	R	E	_	_	_	1	RESET
RGB 2 ADJUSTMENT	R	B	P	I	_	*	*	*	PICTURE (-30 ~ +30)
	R	B	B	R	_	*	*	*	BRIGHT (-30 ~ +30)
	R	B	R	D	_	*	*	*	RED (-30 ~ +30)
	R	B	B	E	_	*	*	*	BLUE (-30 ~ +30)
	R	B	R	E	_	_	_	0	RGB DISPLAY
	R	B	R	E	_	_	_	1	RESET
RGB INPUT ADJUSTMENT	I	N	C	L	_	*	*	*	CLOCK (-60 ~ +60)
	I	N	P	H	_	*	*	*	PHASE (-60 ~ +60)
	I	A	H	P	_	*	*	*	H-POS (-60 ~ +60)
	I	A	V	P	_	*	*	*	V-POS (-30 ~ +30)
	I	A	R	E	_	_	_	0	RGB INPUT DISPLAY
	I	A	R	E	_	_	_	1	RESET
SCREEN SETTING	L	N	F	O	_	*	*	*	LENS FOCUS (-30 ~ +30)
	L	N	Z	O	_	*	*	*	LENS ZOOM (-30 ~ +30)
	L	N	S	H	_	*	*	*	LENS SHIFT (-30 ~ +30)
	I	M	B	K	_	_	_	0	BLACK SCREEN OFF
	I	M	B	K	_	_	_	1	BLACK SCREEN ON
	I	M	D	I	_	_	_	0	INPUT DISPLAY OFF
	I	M	D	I	_	_	_	1	INPUT DISPLAY ON
	I	M	R	E	_	_	_	0	REVERSE OFF
	I	M	R	E	_	_	_	1	REVERSE ON
	I	M	I	N	_	_	_	0	INVERT OFF
	I	M	I	N	_	_	_	1	INVERT ON
ON-SCREEN DISPLAY SETTING	I	M	B	O	_	_	_	0	BLACK SCREEN DISPLAY OFF
	I	M	B	O	_	_	_	1	BLACK SCREEN DISPLAY ON
MOUSE ADJUSTMENT	R	E	M	O	_	_	_	1	REMOTE MOUSE AT
	R	E	M	O	_	_	_	2	REMOTE MOUSE 98
DC 5V OUTPUT	D	C	5	V	_	_	_	0	WHEN LAMP IS ON
	D	C	5	V	_	_	_	1	WHEN MAIN POWER IS ON
SCREEN MODE MEMORY	M	E	M	A	_	_	_	0	MEMORY RELEASE
	M	E	M	A	_	_	_	*	MEMORY SELECTION (1 - 7)

Notes:
- RGB INPUT ADJUSTMENT can only be set in the displayed computer mode.
- The "–30 ~ +30" values for Lens Focus, Lens Zoom and Lens Shift indicate the time required to set these functions to their minimum and maximum adjustment settings.

Example:
When BRIGHT of RGB 1 ADJUSTMENT is set to – 10.

Computer

| R | A | B | R | _ | _ | 1 | 0 | ↵ |

Unit

| O | K | ↵ |