SHARP®

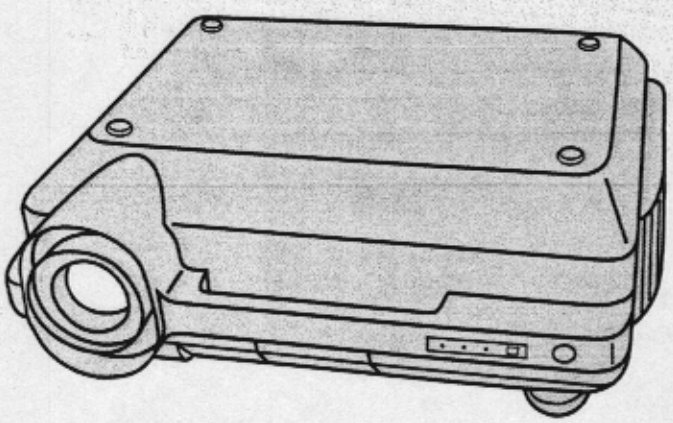
LCD PROJECTOR
LCD-PROJECKTOR
PROJECTEUR LCD
VIDEOPROJEKTOR
PROYECTOR DE LCD
PROIETTORE LCD
LCD-PROJECKTOR
液晶投影机

OPERATION MANUAL
BEDIENUNGSANLEITUNG
MODE D'EMPLOI
BRUKSANVISNING
MANUAL DE MANEJO
MANUALE DIISTRUZIONI
GEBRUIKSAANWIJZING
使用說明書

Model
Modell
Modèle
Modell
Modelo
Modello
Model
機型

XG-3900E

- ENGLISH E
- DEUTSCH D
- FRANÇAIS F
- SVENSKA SV
- ESPAÑOL ES
- ITALIANO I
- NEDERLANDS N
- 中 文 C



This equipment complies with the requirements of Directives 89/336/EEC and 73/23/EEC as amended by 93/68/EEC.

Dieses Gerät entspricht den Anforderungen der EG-Richtlinien 89/336/EWG und 73/23/EWG mit Änderung 93/68/EWG.

Ce matériel répond aux exigences contenues dans les directives 89/336/CEE et 73/23/CEE modifiées par la directive 93/68/CEE.

Dit apparaat voldoet aan de eisen van de richtlijnen 89/336/EEG en 73/23/EEG, gewijzigd door 93/68/EEG.

Dette udstyr overholder kravene i direktiv nr. 89/336/EEC og 73/23/EEC med tillæg nr. 93/68/EEC.

Quest' apparecchio è conforme ai requisiti delle direttive 89/336/EEC e 73/23/EEC, come emendata dalla direttiva 93/68/EEC.

Η εγκατάσταση αυτή ανταποκρίνεται στις απαιτήσεις των οδηγιών της Ευρωπαϊκής Ενωσης 89/336/ΕΟΚ και 73/23/ΕΟΚ, όπως οι κανονισμοί αυτοί συμπληρώθηκαν από την οδηγία 93/68/ΕΟΚ.

Este equipamento obedece às exigências das directivas 89/336/CEE e 73/23/CEE, na sua versão corrigida pela directiva 93/68/CEE.

Este aparato satisface las exigencias de las Directivas 89/336/CEE y 73/23/CEE, modificadas por medio de la 93/68/CEE.

Denna utrustning uppfyller kraven enligt riktlinjerna 89/336/EEC och 73/23/EEC så som kompletteras av 93/68/EEC.

Dette produktet oppfyller betingelsene i direktivene 89/336/EEC og 73/23/EEC i endringen 93/68/EEC.

Tämä laite täyttää direktiivien 89/336/EEC ja 73/23/EEC vaatimukset, joita on muutettu direktiivillä 93/68/EEC.

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 satisfied 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.

Model No.: XG-3900E

Serial No.:

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 30.

Important Information

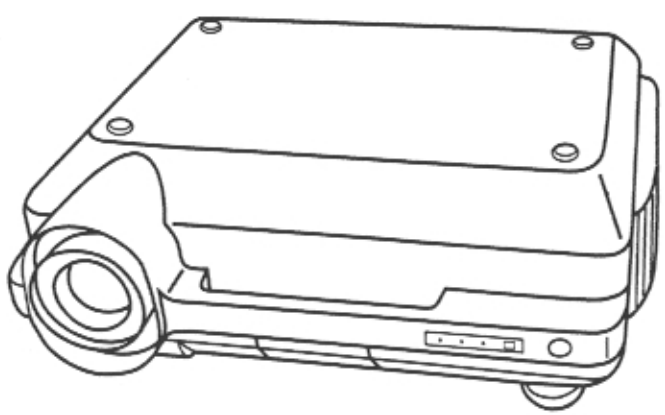
WARNING

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.

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 SVGA (800 dots × 600 lines compressed), VGA, EGA, CGA and Mac (640 dots x 480 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), or invert the image (for ceiling mount applications.)

POWER ZOOM AND FOCUS
- Provides simple screen-size adjustments from either the projector or the remote control.
- Screen projection size adjusts from 25 to 200 inches.

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

HIGH PICTURE QUALITY
Each of the three LCD panels contains 309,120 pixels to achieve exceptionally bright, high quality video images with up to 500 TV lines of resolution.

VARIABLE MASKING
Video projection in a choice of Normal (4:3), Vista (16:9) or CinemaScope (21:9) mode.

BUILT-IN SPEAKER
Built-in 3W amplifier and speaker eliminates the need for external audio components.

Contents

Contents

SPECIAL NOTE FOR USERS IN THE U.K.

The mains lead of this product is fitted with a non-rewireable (moulded) plug incorporating a13A fuse. Should the fuse need to be replaced, a BSI or ASTA approved BS 1362 fuse marked ♡ or ⊛ and of the same rating as above, which is also indicated on the pin face of the plug, must be used.

Always refit the fuse cover after replacing the fuse. Never use the plug without the fuse cover fitted.

In the unlikely event of the socket outlet in your home not being compatible with the plug supplied, cut off the mains plug and fit an appropriate type.

DANGER: The fuse from the cut-off plug should be removed and the cut-off plug destroyed immediately and disposed of in a safe manner.

Under no circumstances should the cut-off plug be inserted elsewhere into a 13A socket outlet, as a serious electric shock may occur.

To fit an appropriate plug to the mains lead, follow the instructions below:

IMPORTANT: The wires in the mains lead are coloured in accordance with the following code:

Blue : Neutral
Brown : Live

As the colours of the wires in the mains lead of this product may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

- The wire which is coloured blue must be connected to the plug terminal which is marked N or coloured black.
- The wire which is coloured brown must be connected to the plug terminal which is marked L or coloured red.

Ensure that neither the brown nor the blue wire is connected to the earth terminal in your three-pin plug.

Before replacing the plug cover make sure that:

- If the new fitted plug contains a fuse, its value is the same as that removed from the cut-off plug.
- The cord grip is clamped over the sheath of the mains lead, and not simply over the lead wires.

IF YOU HAVE ANY DOUBT, CONSULT A QUALIFIED ELECTRICIAN.

Important Safeguards

CAUTION: Please read all of these instructions before you operate your LCD Projector. Save these instructions for future reference.

Dear Customer
Thank you very much for purchasing a Sharp LCD Projector. For your own protection and prolonged operation of your LCD Projector, please be sure to read the following "Important Safeguards" carefully, before use.

Electrical energy can perform many useful functions. 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.

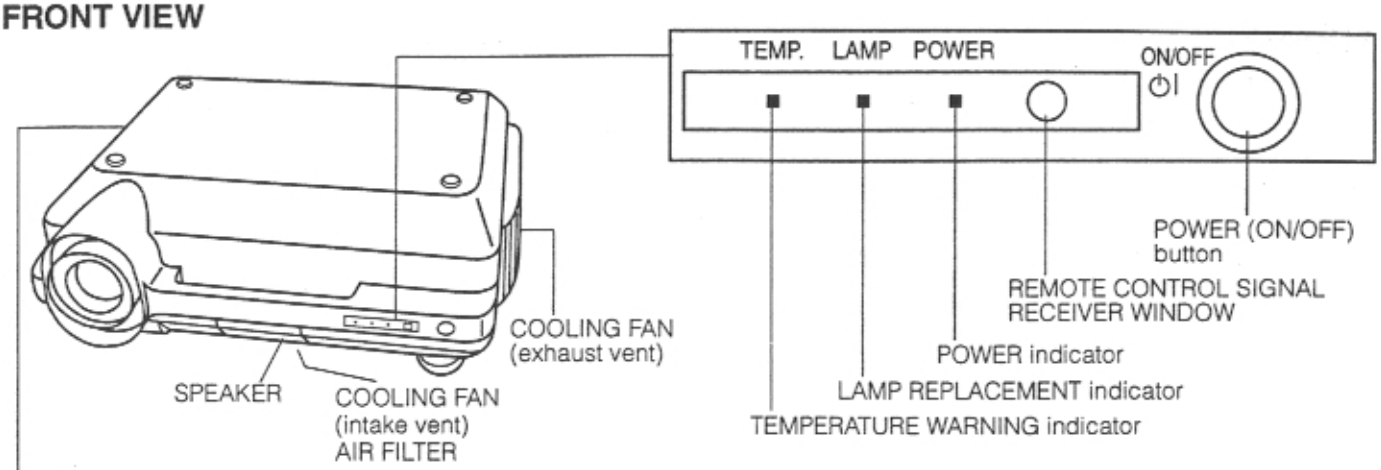
17 Unplug the LCD Projector equipment from the wall outlet and refer servicing to qualified service personnel under the following conditions:

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. Unauthorized substitutions may result in fire, electric shock, or other hazards.

Location of Controls

FRONT VIEW



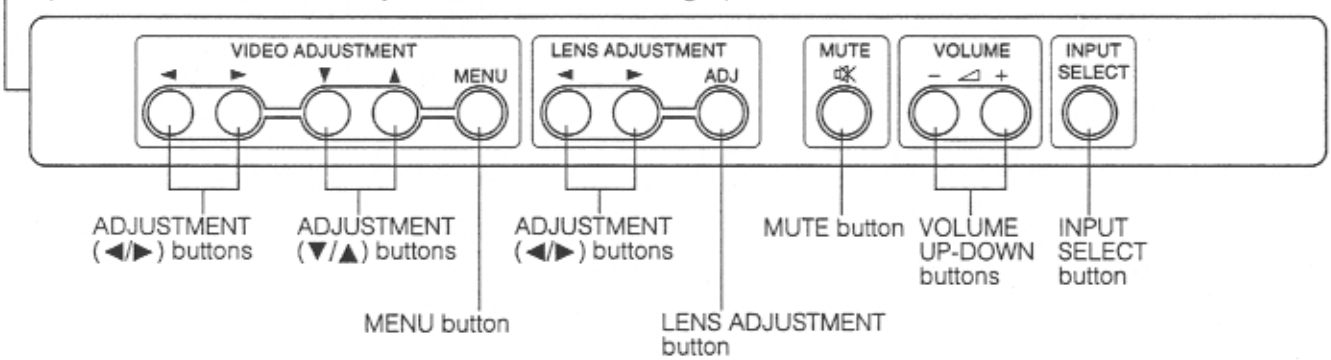
CAUTIONS:

- Allow at least 10 cm of space between the cooling fan (exhaust vent) and the wall.
- 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

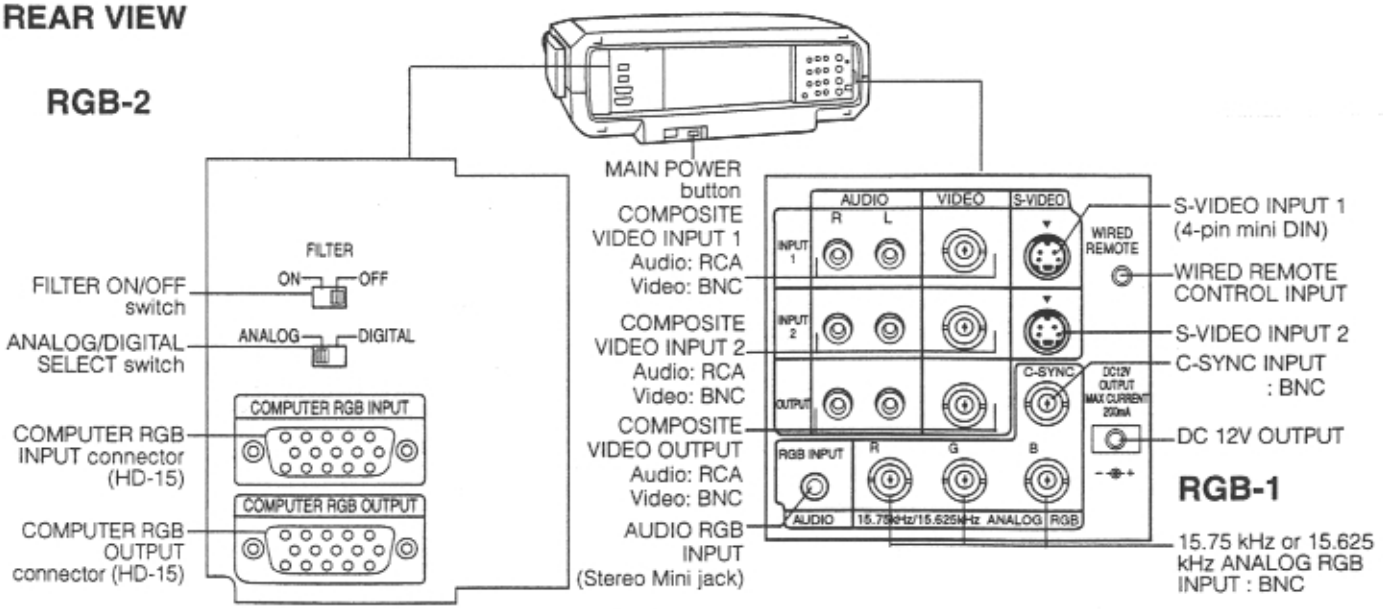
Phosphorescent Display

The operation controls on the right side use a phosphorescent display for easy viewing. When exposed to surrounding light, the phosphorescent display will glow in the dark.
(Glow ratio)
When exposed to sunlight or other light of 500 lux or more for about 10 minutes, the display will glow for about 1 hour.
(**Note:** 500 lux = 1-1.5m directly under a 40W fluorescent light.)



REAR VIEW

RGB-2

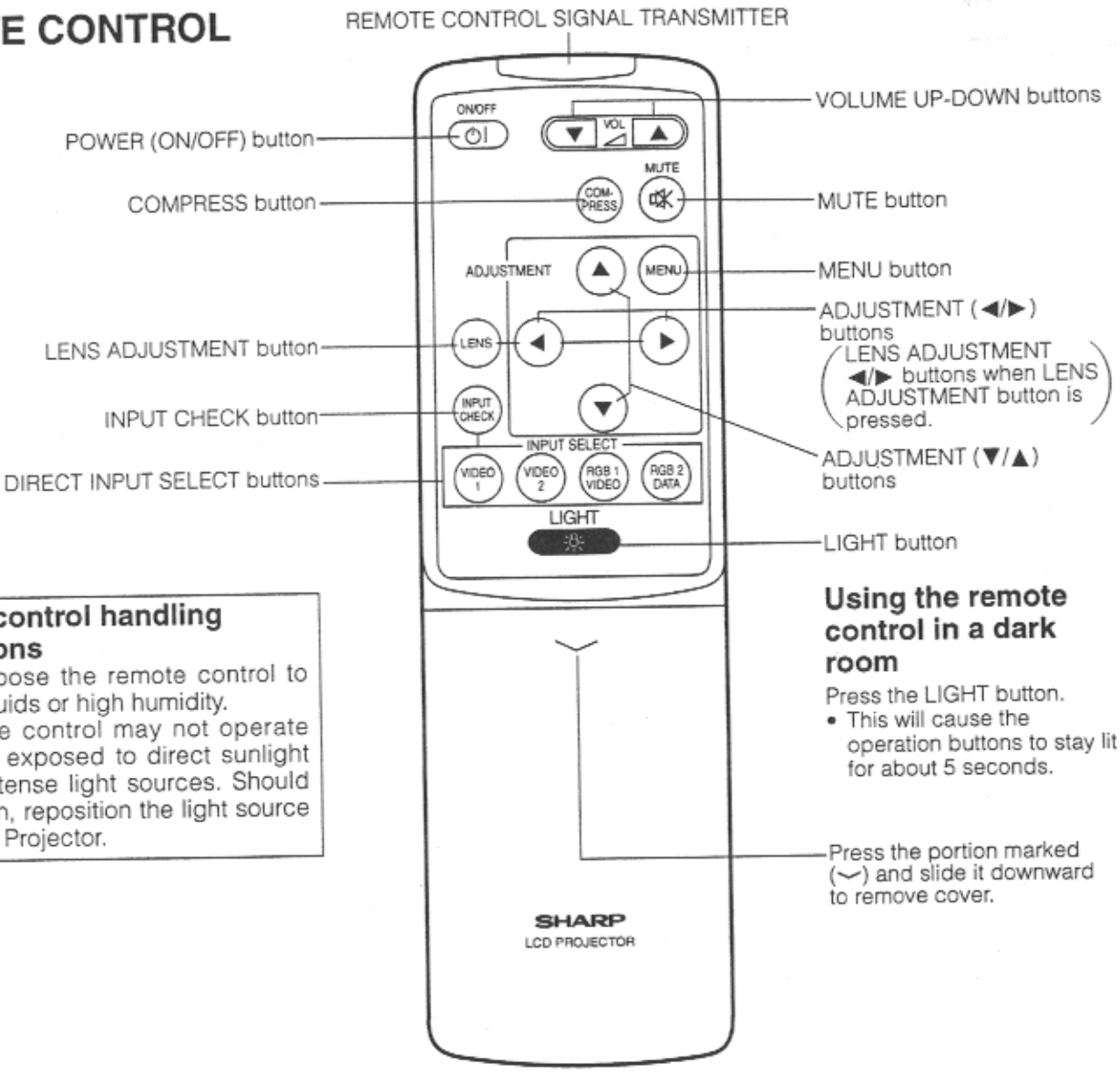


Note:

- If a current of 200mA or more is drawn from the DC 12V OUTPUT jack, a protection device will automatically turn off the projector and leave it in Stand-by mode.

Remote Control Operation

REMOTE CONTROL



Remote control handling precautions

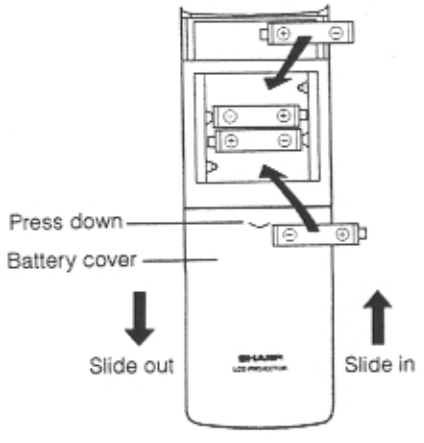
Do not expose the remote control to shocks, liquids or high humidity.
The remote control may not operate normally if exposed to direct sunlight or other intense light sources. Should this happen, reposition the light source or the LCD Projector.

Using the remote control in a dark room

Press the LIGHT button.

- This will cause the operation buttons to stay lit for about 5 seconds.

Press the portion marked (⌣) and slide it downward to remove cover.



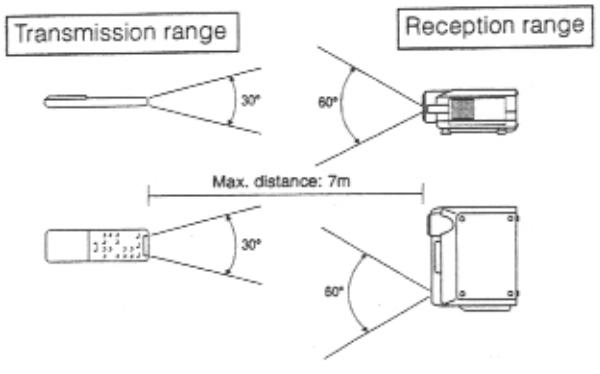
Inserting the Batteries

Remove the battery cover as shown and insert four AA size batteries making sure the polarity matches 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 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. Replace them with new batteries as soon as possible.



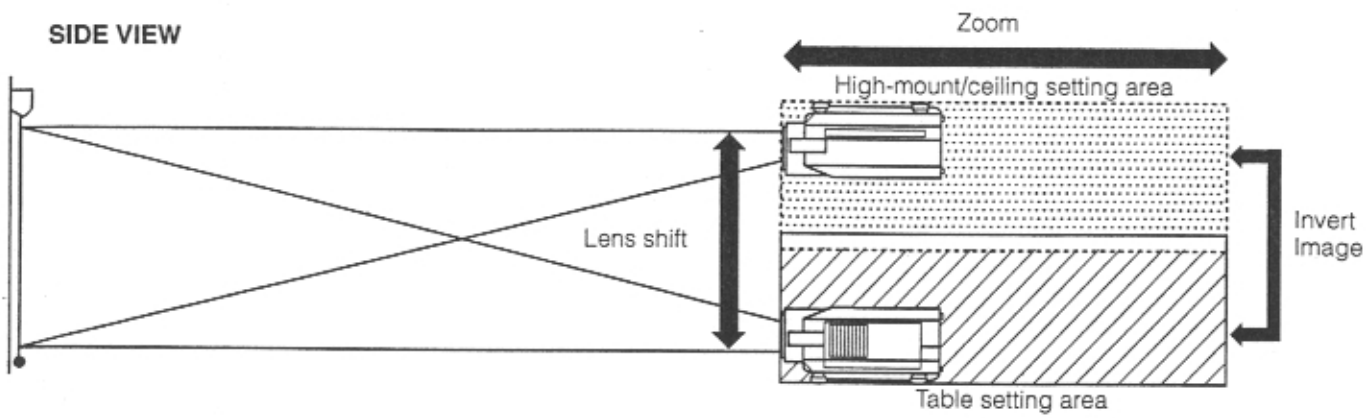
Remote control positioning

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

Setting Up the Projector

Using the Focus, Zoom and Lens Shift

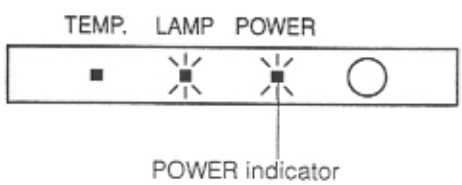
- Lens Shift, Zoom, Focus, and Reversed/Inverted Image mode functions broaden your options for projector placement.
- See pages 7,9 and 10 for details on projector setup.



1. Turn on the MAIN POWER.

Press the MAIN POWER button ON.

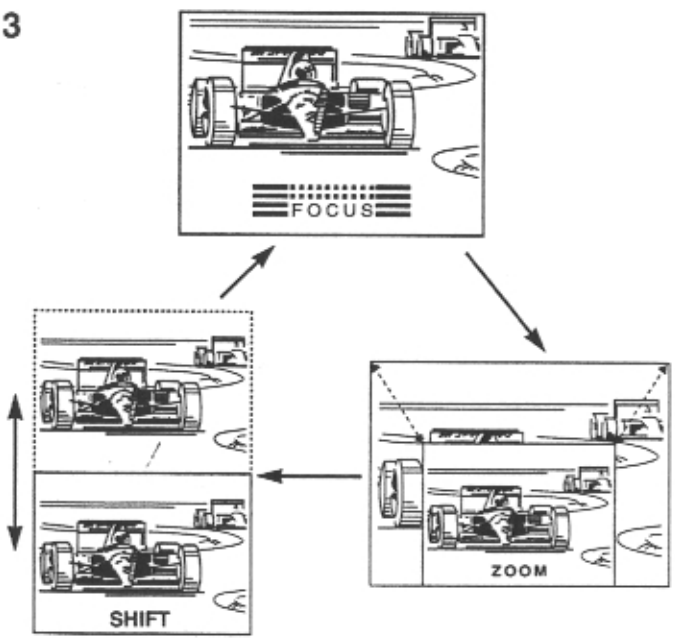
2



2. Turn on the power.

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

3



3. Press the LENS button.

- When the LENS button on the remote control or LENS ADJUSTMENT button on the projector is pressed, the LENS adjustment mode is indicated for about 8 seconds.
- If the LENS (ADJ) 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 (▶) button while in ADJUST mode.

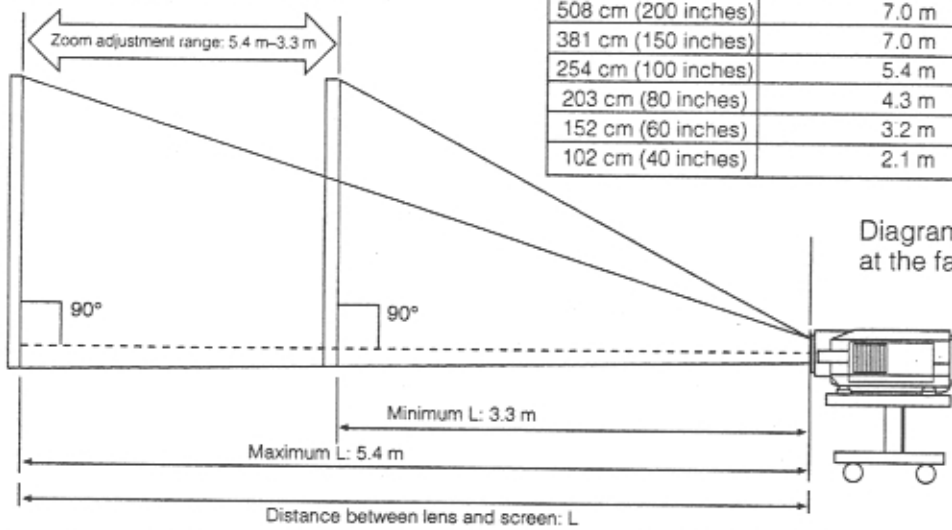
- Adjust the focus until the picture on the screen is sharp.
- The focus pattern appears on the screen.
- The picture can be adjusted to the desired size within the zoom lens range.
- The picture can be adjusted within the shift range of the lens.

Projector Distance and Picture Size Relationship

- The motorized zoom lens allows adjustment to the image size within the projector's range.
- The picture can be focused from a minimum of approximately 1.3 m to a maximum of 7.0 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
508 cm (200 inches)	7.0 m	6.7 m
381 cm (150 inches)	7.0 m	5.0 m
254 cm (100 inches)	5.4 m	3.3 m
203 cm (80 inches)	4.3 m	2.6 m
152 cm (60 inches)	3.2 m	1.9 m
102 cm (40 inches)	2.1 m	1.3 m

Diagram shows the lens shift position set at the factory.

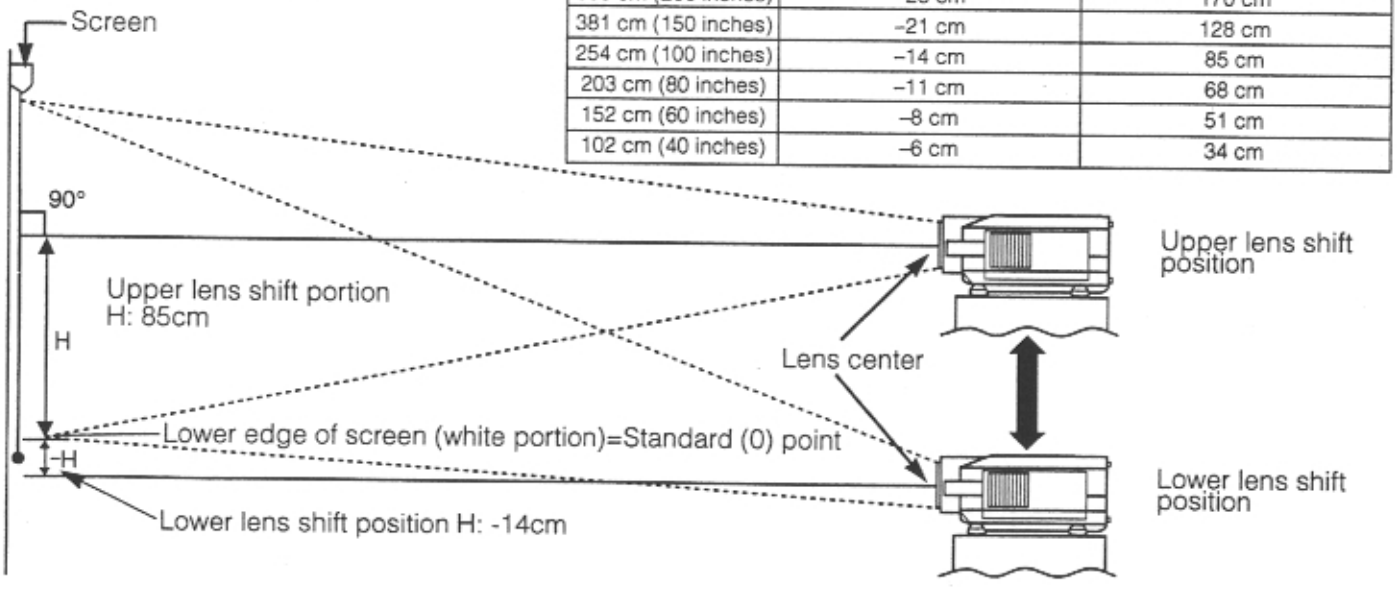
- Above is an illustration of minimum projection distance for the XG-3900E. Move the projector forward or back if the edges of the image are distorted.

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.

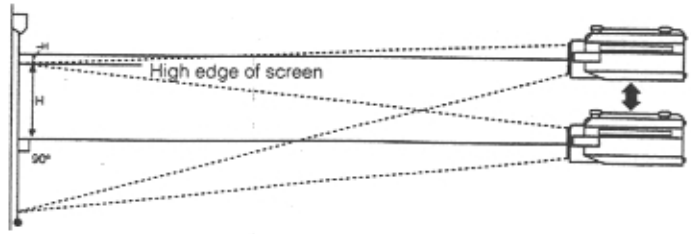
Picture size: 254 cm (100 inches)

Picture size (diag.)	Distance from lens center to lower edge of screen (H)	
	Lower lens shift position	Upper lens shift position
508 cm (200 inches)	–28 cm	170 cm
381 cm (150 inches)	–21 cm	128 cm
254 cm (100 inches)	–14 cm	85 cm
203 cm (80 inches)	–11 cm	68 cm
152 cm (60 inches)	–8 cm	51 cm
102 cm (40 inches)	–6 cm	34 cm



- High-Mount/Ceilling 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.



Notes:

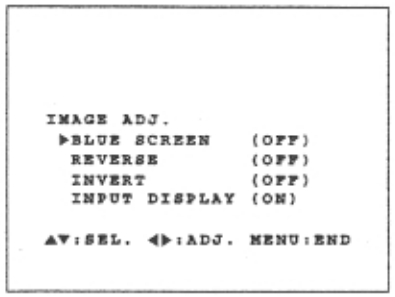
- Optimal image quality is produced with the projector positioned perpendicular to the screen with all feet flat and level. Tilting or angling the projector will reduce the effectiveness of the lens shift function.
- When the projector is mounted on the ceiling or in a high place (rack mount), press LENS ADJUSTMENT (▶) to move the picture upward or press the LENS ADJUSTEMENT (◀) to move the picture downward.

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 ▼/▲ and ◀/▶ buttons.

ON-SCREEN DISPLAY

1

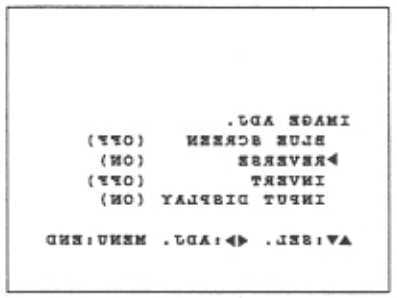


1. Press the MENU button.

With the MENU screen displayed, press the ▼/▲ buttons to select IMAGE ADJ. Then press the MENU button to display the IMAGE ADJ. screen.

- The last MENU screen selected is indicated for about 30 seconds.

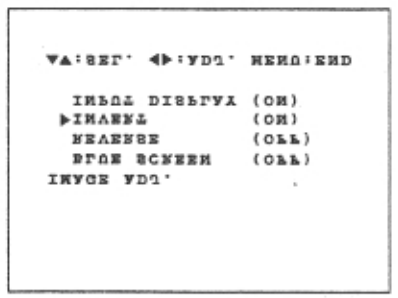
2



2. Reversed Image Mode

In the IMAGE ADJ. menu, press the ▼/▲ buttons to select REVERSE. Then press the ◀/▶ buttons to select ON. The reversed image will appear.

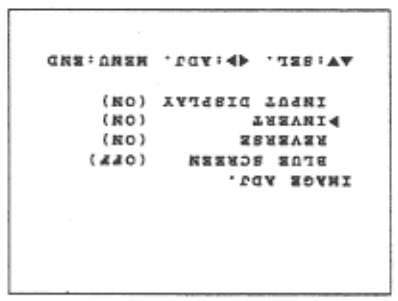
3



3. Inverted Image Mode

In the IMAGE ADJ. menu, press the ▼/▲ buttons to select INVERT. Then press the ◀/▶ buttons to select ON. The inverted image will appear.

4



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

■ Using the invert and reverse functions makes the following setups possible.

Caution: When setting up the projector

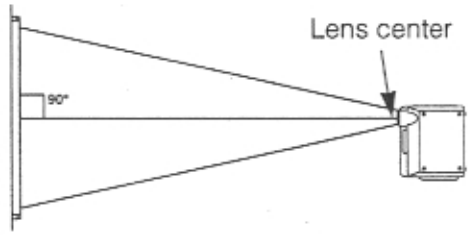
- Do not place it in humid or dusty places, or places where the air is sooty or full of cigarette smoke. If the lens, mirror, or other optical components become dirty, the picture will blur or darken, making viewing difficult.
- Do not expose to extreme heat or cold.
  Operating temperature: 5°C to 40°C
  Storage temperature: -20°C to 55°C
- Do not tilt the projector more than 10°

■ 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.

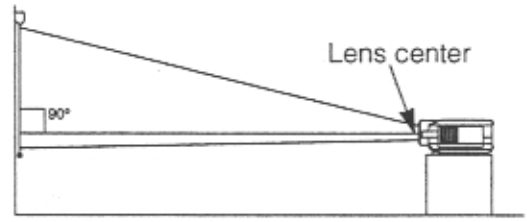
Example of a standard setup

TOP VIEW



The projector should be centered in the middle of the screen.

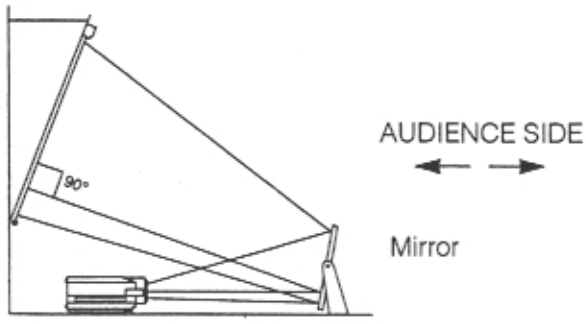
SIDE VIEW



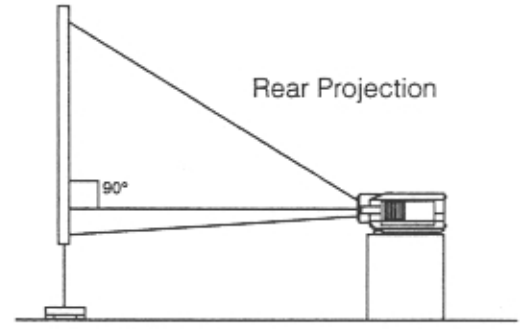
If the projector and screen are not centered properly, the picture will be distorted, making viewing difficult.

Example of a reversed image setup

- By placing a mirror (normal flat type) in front of the lens and using the 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 reverse function.



The projector should be centered in the middle of the screen.

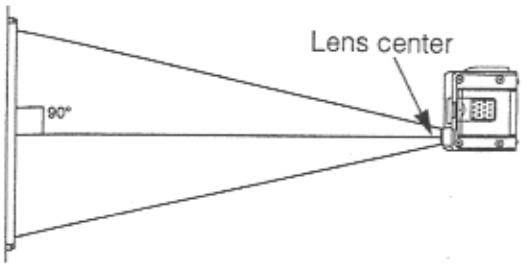


If the projector and screen are not centered properly, the picture will be distorted, making viewing difficult.

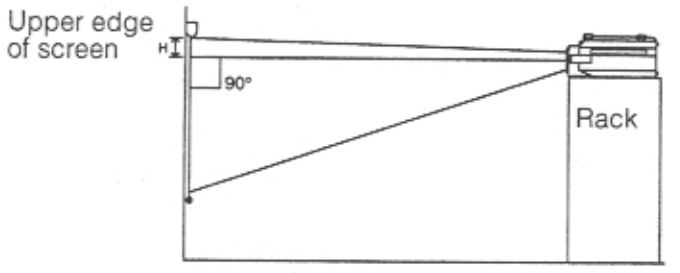
Example of a high-mount setup

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

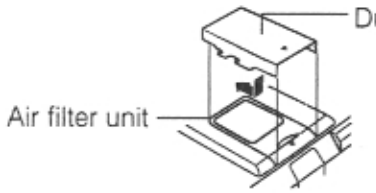
TOP VIEW



SIDE VIEW



- When mounting the projector in the high-mount position or on a rack, install the High-Mount dust cover (supplied) in the air filter unit as shown below.

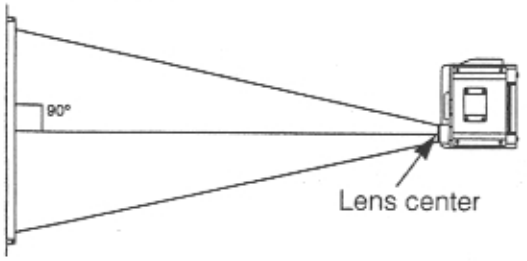


Insert it into the space between the filter cover and the projector body.

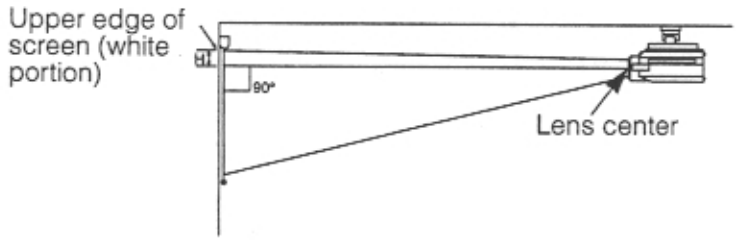
Example of a ceiling-mount setup

Before mounting the projector, be sure to contact your nearest Authorized Sharp Industrial LCD Products Dealer to obtain the manufacturer-recommended ceiling installation unit and installation adaptor (sold separately.) (AN-E1TKE Ceiling Mount Bracket, AN-TK201/AN-TK202 Extension Tube for AN-E1TKE)

TOP VIEW



SIDE VIEW

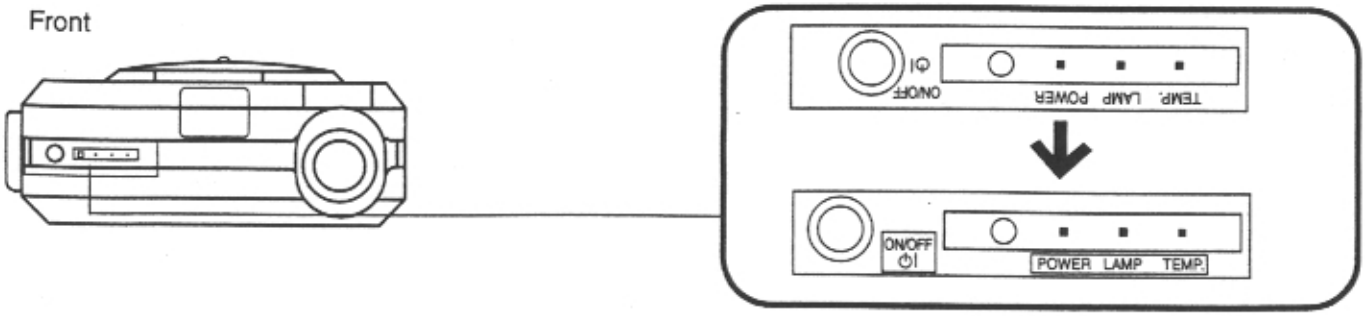


- If the relative positions of the projector and the screen are not properly adjusted, the picture will be distorted.

Note: Contact your nearest Authorized Sharp Industrial LCD Products Dealer for inquiries concerning setup.

Inverted Labelings for High Mount and Ceiling Mount

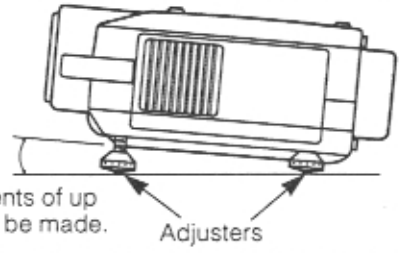
- When ceiling mounting the projector, attach the supplied inverted labels as shown.



Using the Level and Height Adjusters

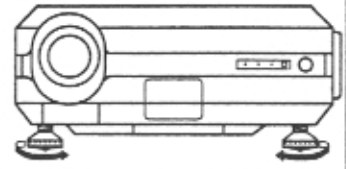
- When adjustments for the projector position cannot be made using the Lens Shift alone, or when the projector stand is on an angle, use the adjusters on the bottom of the projector to adjust the vertical angle.

SIDE VIEW

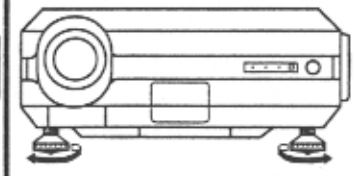


FRONT VIEW

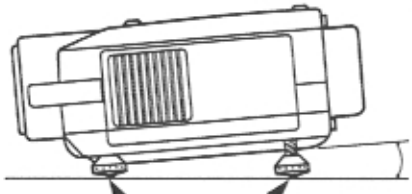
Raising



Lowering

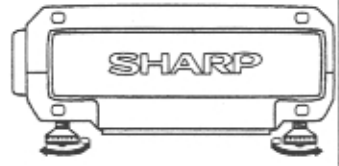


SIDE VIEW

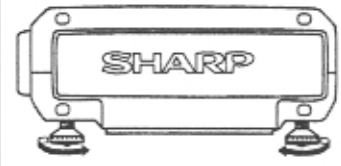


REAR VIEW

Raising



Lowering



If the screen is not level (left side slightly higher than the right, or vice versa), you can use the rear adjusters to compensate.

Notes:

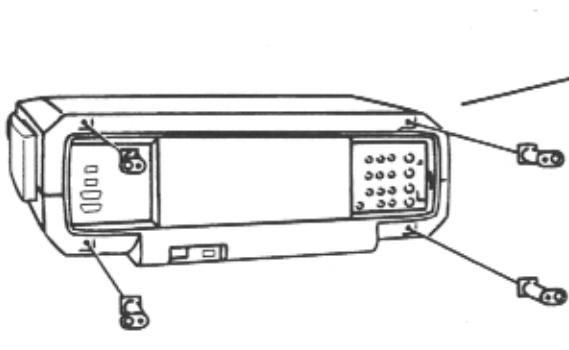
1) When adjustments are made with the adjusters, the picture may become distorted, depending on the relative positions of the projector and the screen.
2) After adjusting, in some cases, all of the adjuster feet may not be resting on the mounting surface.
   To prevent the projector from wobbling, adjust all four adjuster feet so that they firmly contact the mounting surface.
3) The Lens Shift function is designed to work with all four feet flat. Tilting or angling the projector will reduce the effectiveness of the Lens Shift function.

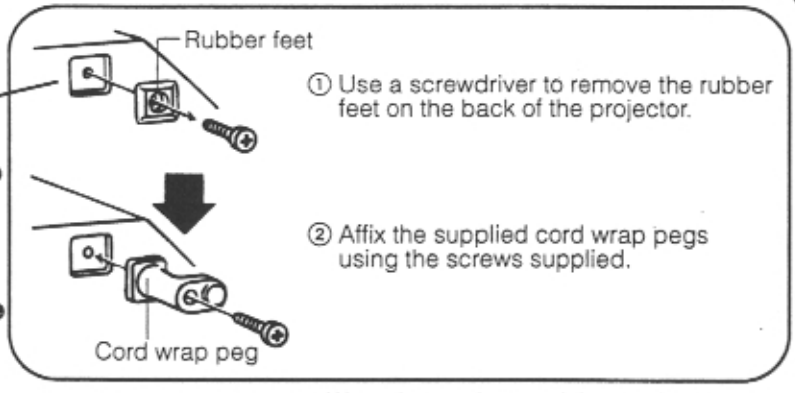
Transporting the Projector

- **Installing the Cord Wrap Pegs**

Before transporting the projector, install the supplied cord wrap pegs. The cord wrap pegs double as feet when you put the projector down.

Note: Remove the terminal cover before putting the unit down.





Wrap the cord around the cord wrap pegs when transporting the projector.

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

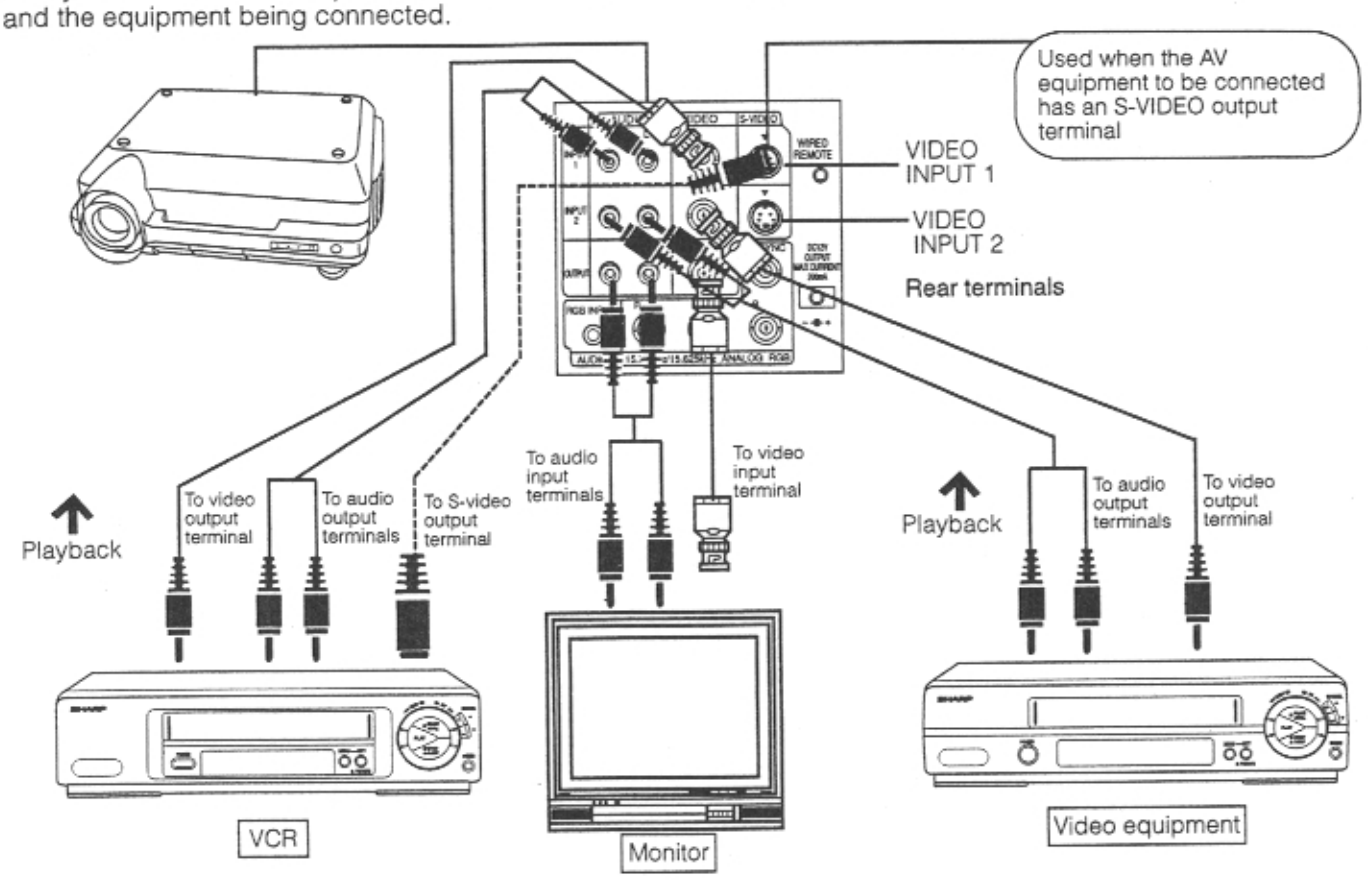
Note:
When transporting the projector, always put on the lens cap to prevent damage to the lens.

Caution:
Do not lift and/or carry the projector by the lens.

Connecting the Projector (VIDEO1, VIDEO2)

To watch video playback with the projector connected to audio/video output equipment, such as a VCR or Laser Disc Player, or to view on a separate monitor, make the following connections.

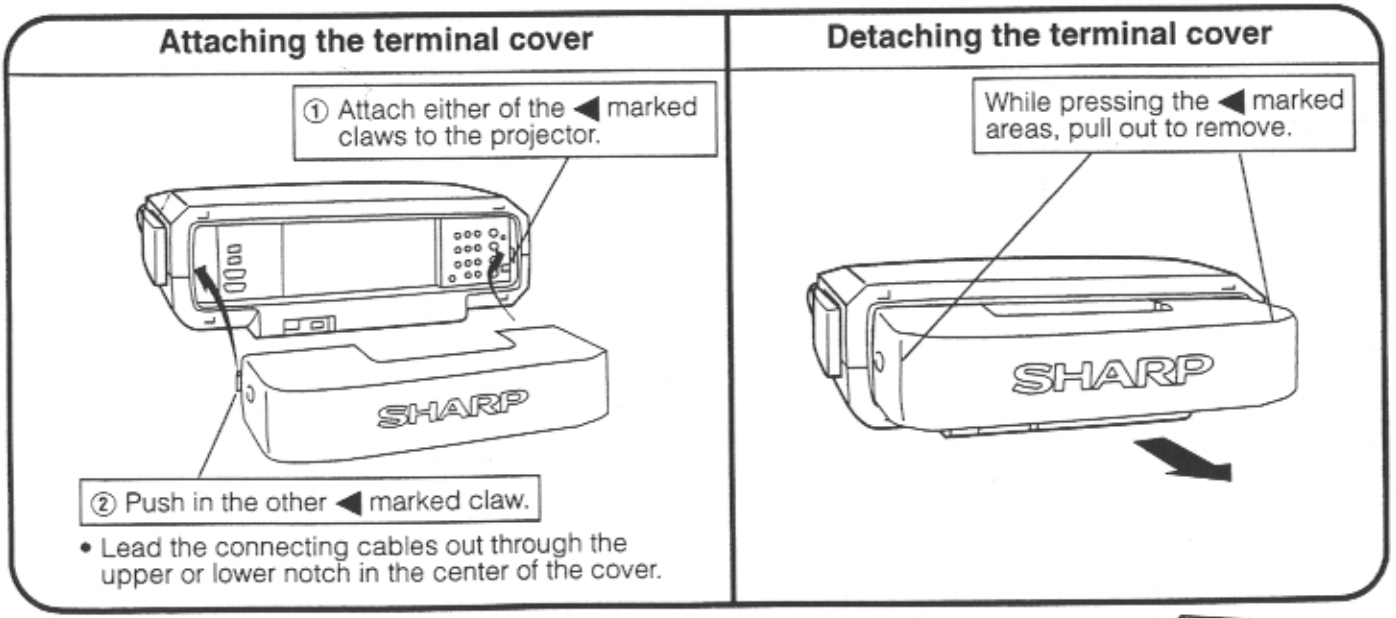
- Always turn off the LCD Projector while connecting to video equipment, in order to protect both the projector and the equipment being connected.



Notes:
Video signals will not be output from the MONITOR OUTPUT in the RGB mode.
Note the following when using the S-VIDEO INPUT terminal:

- The S-VIDEO INPUT terminal uses a video signal system in which the picture is separated into a colour and a luminance signal to realize a higher-quality picture.
- The S-VIDEO INPUT terminals have priority over the VIDEO INPUT terminals. Make the audio connection via the VIDEO INPUT audio terminals (left/right).

■ The projector is provided with a terminal cover to hide connecting cables.

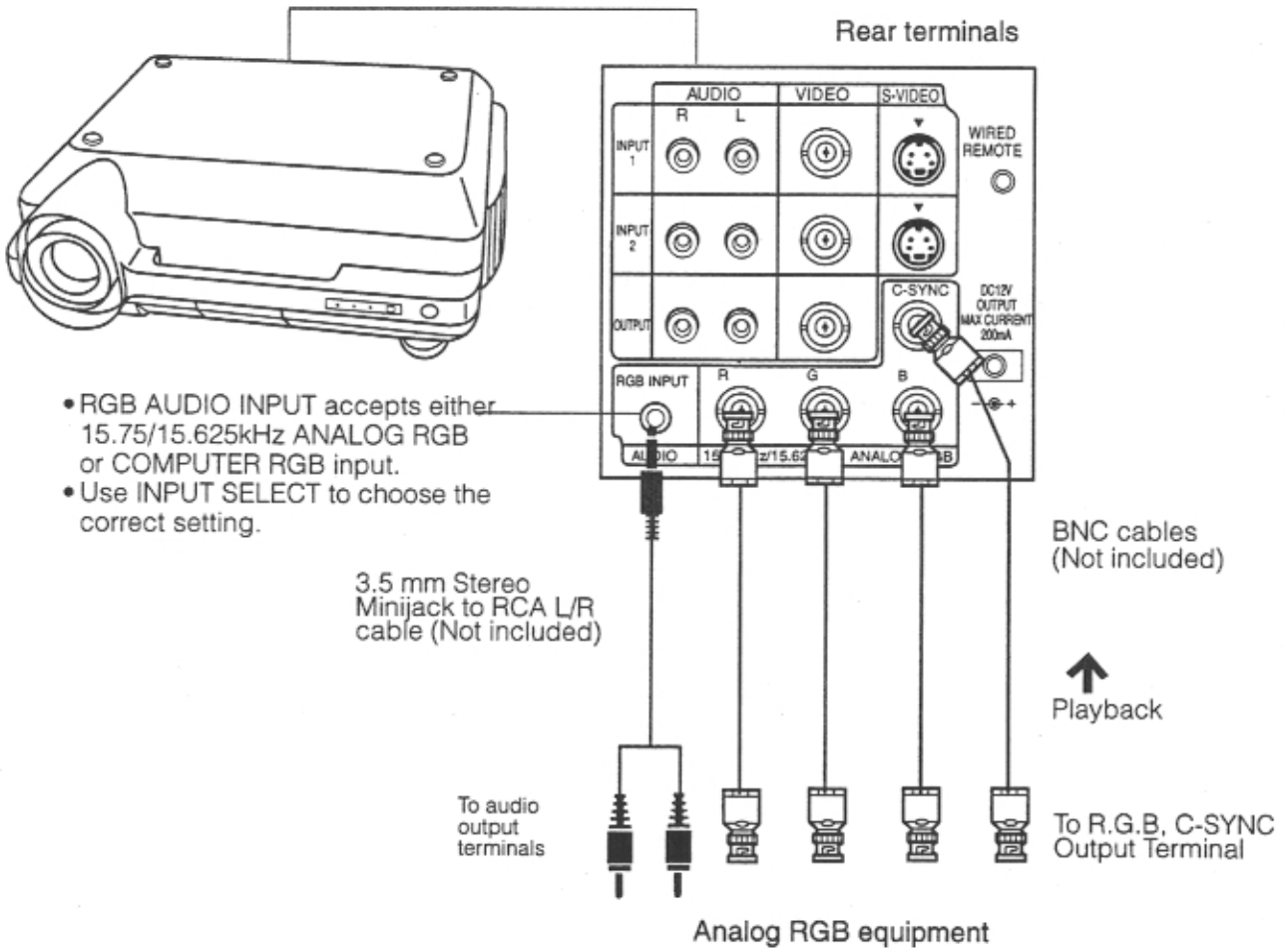


- When the projector is ceiling mounted, invert the terminal cover before attaching.

Connecting the Projector (Analog 15.75 kHz or 15.625 kHz RGB1 Video)

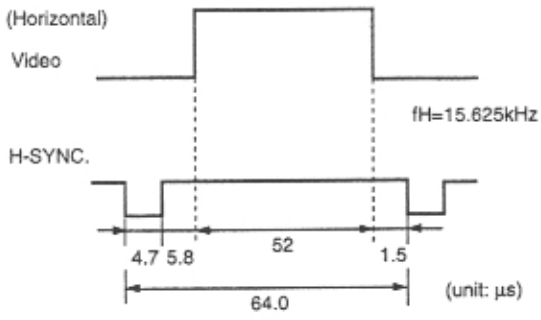
To watch video playback with the projector connected to a video source equipped with a 15.75 kHz or 15.625 kHz Analog RGB output.

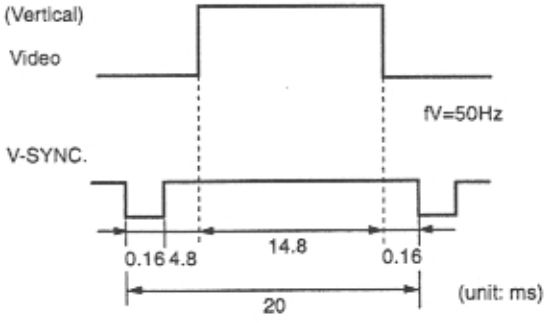
- Before connecting, be sure to turn both the projector and the equipment off.
- Connect the R, G, B, and C-SYNC cables to the correct input terminals on the projector and the video source.



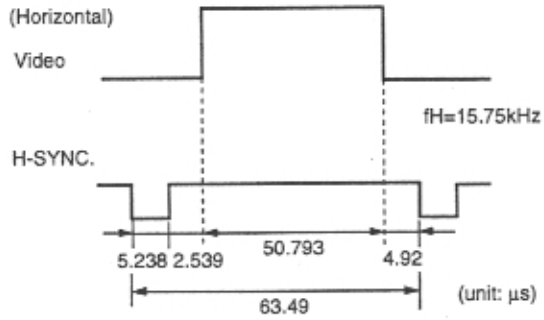
Input Signal (Recommended Signal)

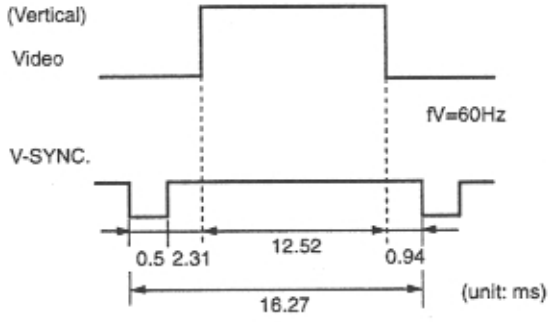
Timing chart
(PAL)





Timing Chart
(NTSC)



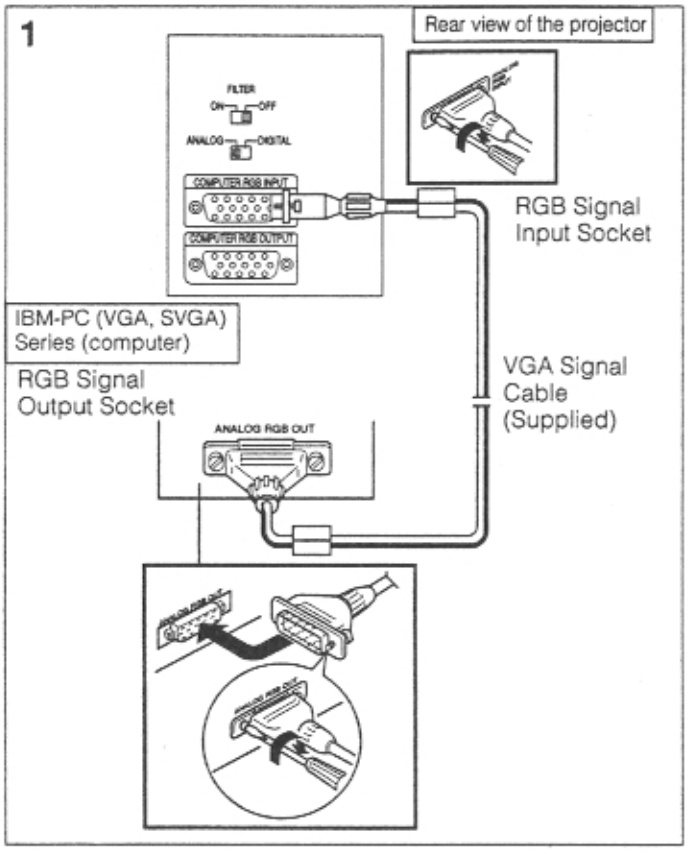


R.G.B. H/V input

Signal	Matching Value	Test conditions
RGB primary colour signal input	Difference between the peak white value and blanking level: 0.7V (±3dB) (Note 1)	Positive going signal
H/V SYNC. input	Composite video signal: Difference between white level and synchronizing level: 1V (±3dB) Impedance 75 Ω (Note 2) superimposed d.c. component within 0V and +2V When the signal on this terminal is used exclusively for synchronization purposes, the peak-to-peak voltage is 0.3V (–3, +10dB).	Positive going video

Note 1: For monochrome signal the differences between any two primary colour signals shall not exceed 0.5dB. The peak values of primary colour signals are those that give rise to a peak white luminance signal.
Note 2: The specified signal voltages are to be measured under matched conditions.

Connecting the Projector (RGB2: Computer)

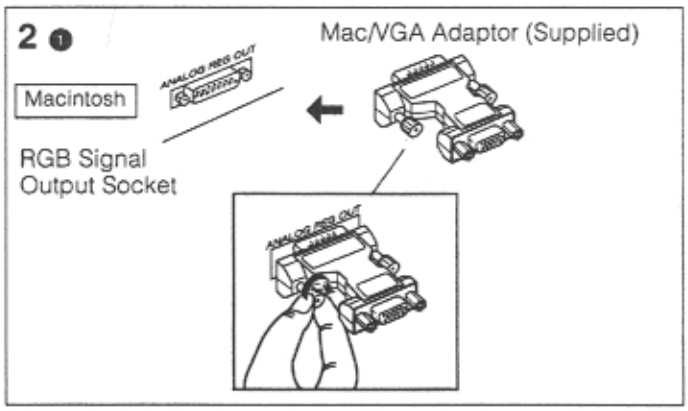


Before connecting, be sure to turn both the projector and the computer off. When connecting the projector to a computer with a VGA/SVGA or Mac display output port, set the ANALOG/DIGITAL selection switch to the ANALOG position. When connecting the projector to a computer with a digital display output port, set the ANALOG/DIGITAL selection switch to the DIGITAL position.
After making all connections, first turn the projector on. The computer should always be turned on last.

1. Connecting to an IBM-PC (VGA, SVGA) Series computer — 800 x 600 maximum resolution

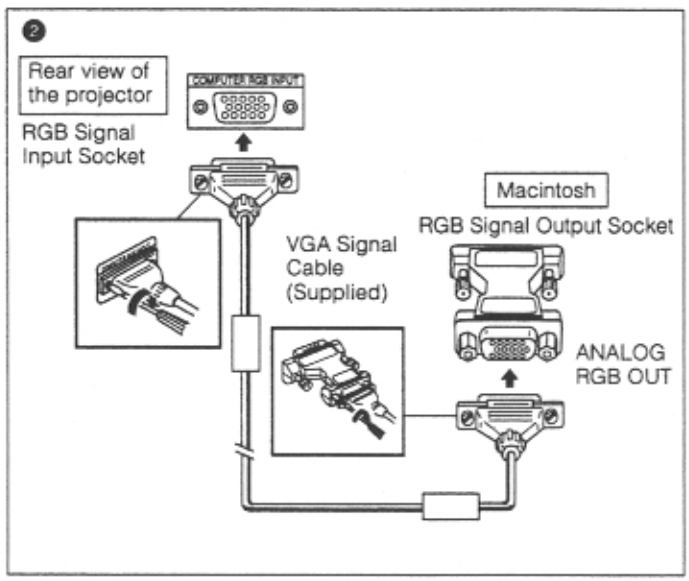
Plug the VGA signal cable correctly into the RGB INPUT terminal on the projector and into the RGB signal output terminal on the computer, and secure the plugs by tightening the screws.

Note:
- Set the ANALOG/DIGITAL switch to ANALOG.

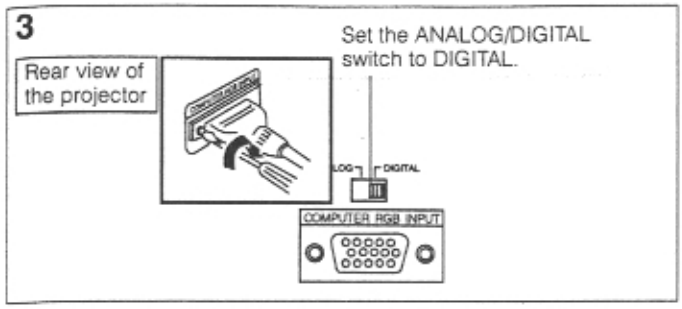


2. Connecting to a Macintosh Series Computer — 640 x 480 maximum resolution

❶ First, connect the supplied Mac/VGA adaptor to the RGB signal output terminal on your Macintosh Series computer, as shown on the left, and secure the plugs by hand.



❷ Next, firmly plug the supplied VGA signal cable into both the RGB input terminal on the projector and the Mac/VGA adaptor on the computer, and secure the plugs by tightening the screws.



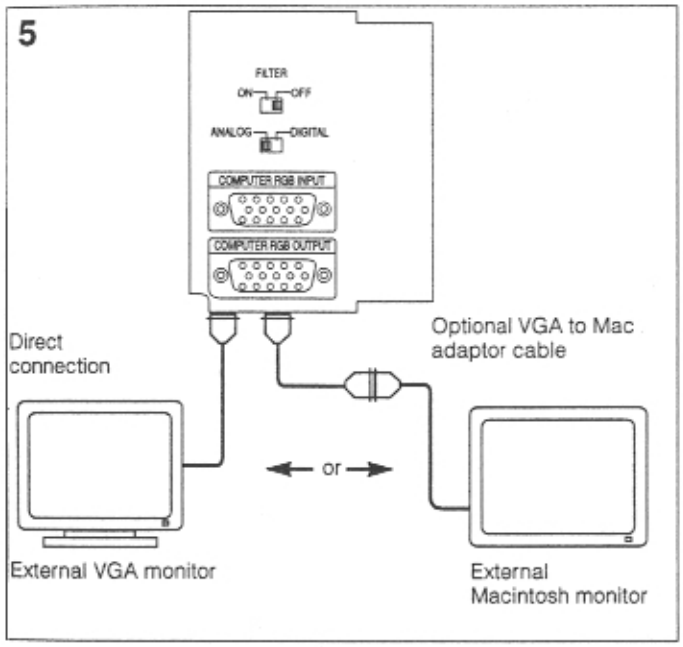
3. Connecting to an IBM-PC CGA/EGA Series Computer

4. Connecting to other compatible computers

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

Notes:

- Connection to 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 RGB AUDIO INPUT terminal.



5. External monitor connection

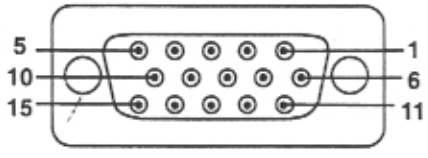
Connect your computer monitor to the Projector's COMPUTER RGB OUTPUT terminal to view images simultaneously on the external monitor and the projection screen.

Caution (Apple Macintosh)
Do not connect the COMPUTER RGB OUTPUT to any monitor except the following:
Apple Colour RGB Monitor: 13" (640 x 480)

Note:

- When using the projector with an external VGA 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)



Analog RGB Signal Input and Output Connector

This unit uses a 15-pin mini D-sub female connector. Pin assignment is as shown on the left.

Computer Input

Analog

1. Video input (red)
2. Video input (green)
3. Video input (blue)
4. Reserve input 1
5. Composite sync (MACII only)
6. Earth (red)
7. Earth (green)
8. Earth (blue)
9. GND
10. GND
11. GND
12. Reserve input 2
13. Horizontal sync signal
14. Vertical sync signal
15. Reserve input 3

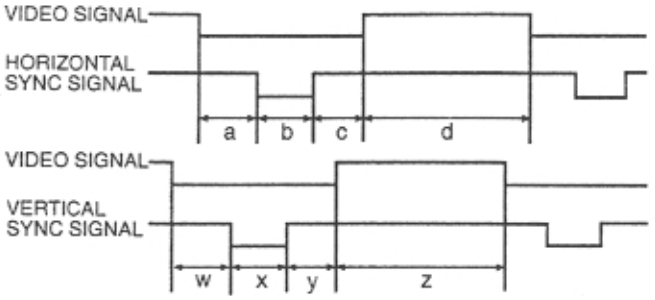
Digital

1. Video image (red)
2. Video image (green)
3. Video image (blue)
4. Video input (sub-red)
5. Reserve input
6. GND (red)
7. GND (green)
8. GND (blue)
9. GND
10. GND
11. GND
12. Video input (sub-green)
13. Horizontal synchronous signal
14. Vertical synchronous signal
15. Video input (sub-blue)

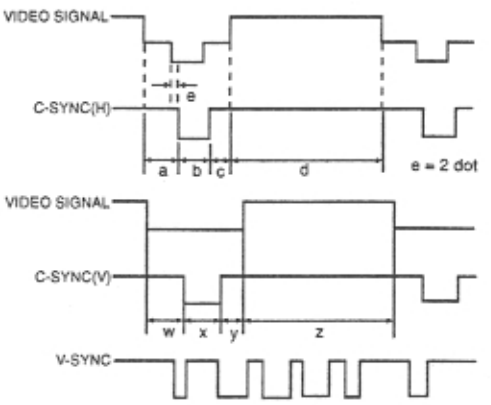
Input Signals (Recommended Timing)

For IBM and Compatibles

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



For Apple Macintosh II Series



MODE			IBM					IBM	IBM	IBM	IBM	Apple	Apple
			VGA					VESA	SVGA	EGA	CGA	Macintosh™ IIsi	Macintosh™ LC
			TEXT		Graphic			Graphic	Graphic			13" Monitor	
			720 dot		640 dot			640 dot	800 dot	640 dot	640 dot	640 dot	640 dot
			350 line	400 line	350 line	400 line	480 line	480 line	600 line	350 line	200 line	480 line	480 line
VIDEO	LEVEL		0.7Vp-p 75Ω load					0.7Vp-p 75Ω load	0.7Vp-p 75Ω load	TTL	TTL	1Vp-p max. 75Ω load	0.7Vp-p max. 75Ω load
	TYPE		R•G•B					R•G•B	R•G•B	R•G•B I	R•G•B I	R•G•B C.SYNC	R•G•B C.SYNC
H SYNC	FRONT PORCH a	dot	17		14			24	24	–6	95/103	64	78
	SYNC b	dot	108		96			40	72	80	64/48	64	62
	BACK PORCH c	dot	55		50			128	128	30	113/121	96	116
	VIDEO PERIOD d	dot	720		640			640	800	640	640	640	640
	1H (a+b+c+d)	dot	900		800			832	1,024	744	912	864	896
		µs	31.7774		31.7776			26.413	28.444	46.765	63.696	28.5714	28.595
	1 dot	ns	35.3082		39.7219			31.746	27.777	61.512	69.842	33.0688	31.914063
	1/H	kHz	31.4689		31.4688			37.860	35.156	21.851	15.700	35.0000	34.971149
	1/dot	MHz	28.322		25.175			31.500	36.000	16.257	14.318	30.2400	31.334149
	LEVEL		TTL	TTL	TTL			TTL	TTL	TTL	TTL	TTL	TTL
	SYNC POLARITY	+/–	+	–	+	–	–	–	+/–	+	+	–	–
V SYNC	FRONT PORCH w	H	38	13	38	13	11	9	1	1	25	3	3
	SYNC x	H	2	2	2	2	2	3	2	13	3	3	3
	BACK PORCH y	H	59	34	59	34	32	28	22	2	34	39	39
	VIDEO PERIOD z	H	350	400	350	400	480	480	600	350	200	480	480
	1V (w+x+y+z)	H	449	449	449	449	525	520	625	366	262	525	525
		ms	14.2681	14.2681	14.2681	14.2681	16.6832	13.735	17.778	16.750	16.688	15.00	15.00
	1/v	Hz	70.0866	70.0866	70.0863	70.0863	59.9405	72.809	56.250	59.702	59.92	66.67	66.67
	LEVEL		TTL	TTL	TTL	TTL	TTL	TTL	TTL	TTL	TTL	TTL	TTL
	SYNC POLARITY	+/–	–	+	–	+	–	–	+/–	–	+	–	–

RGB Adjustment Controls

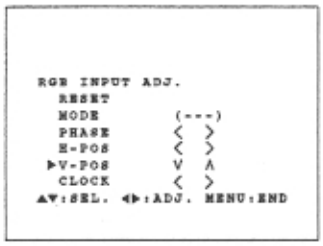
When displaying computer patterns which repeat every other dot (tiling, vertical stripes, etc.), interference may occur between the LCD pixels, causing flickering, vertical stripes, or contrast irregularities in portions of the screen. Should this occur, use the ADJUSTMENT ◄/► buttons on the remote control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

RGB INPUT ADJUSTMENTS (CLOCK, PHASE, V-POS and H-POS)

1. Select RGB 2 on the remote control and press the MENU button.

With the MENU screen displayed, press the ▼/▲ buttons to select RGB INPUT ADJ. Then press the MENU button to display the RGB INPUT ADJ. screen.

2



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

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

Description of Adjustment Items

INITIAL RESET
- Used to reset the H-POS, V-POS, PHASE and CLOCK adjustments to their initial settings.

MODE ADJUSTMENT

Connectng 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)
- In this case, 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.

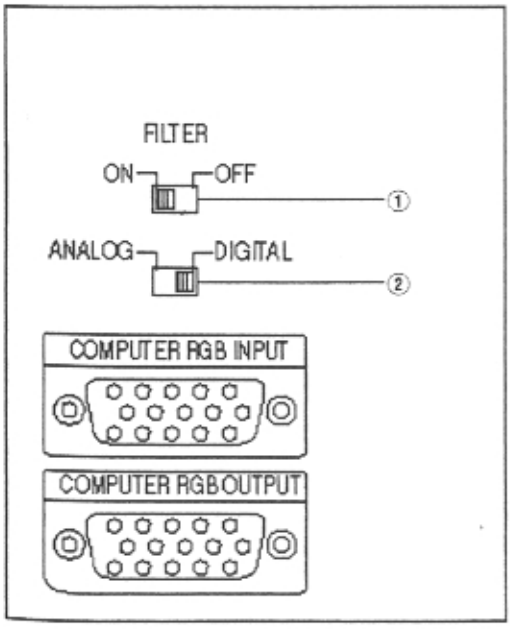
Connecting to Macintosh LC/II Series Computers
- When connecting to a Macintosh II with 30.24 MHz Dot Frequency, select MODE and set MODE to ON.
- When connecting to a Macintosh LC Series computer with 31.33 MHz Dot Frequency, set MODE to OFF.
- When connecting to third party video cards and other Macintosh 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.

PHASE ADJUSTMENT (UP/DOWN)
- Used to reduce image distortion or improve contrast.

HORIZONTAL POSITION ADJUSTMENT (LEFT/RIGHT)
- If on-screen images are too far to the left or right, they can be moved to the center.

VERTICAL POSITION ADJUSTMENT (UP/DOWN)
- If on-screen images are too high or low, they can be moved to the center.

CLOCK SPEED ADJUSTMENT (FAST/SLOW)
- Used to reduce image distortion or improve contrast.



INPUT ADJUSTMENT

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.

② RGB INPUT SELECT switch

For use with digital RGB video output equipment, set mode to DIGITAL. For all other display modes, set to ANALOG. (Set to ANALOG mode at factory.)

Notes:

1) Flickering, vertical stripes, or contrast irregularities may also occur when the image is reversed. Once again, use the ADJUSTMENT ◄/► buttons on the remote control for HORIZONTAL (LEFT/RIGHT) and VERTICAL POSITION ADJUSTMENTS (UP/DOWN) to adjust for the optimum picture.
2) Avoid displaying computer patterns which repeat every other line (horizontal stripes). (Flickering will occur, making the picture hard to see.)

Basic Operation of the Projector

1. Turn on the MAIN POWER.

Press the MAIN POWER ON.

2. Turn ON the POWER.

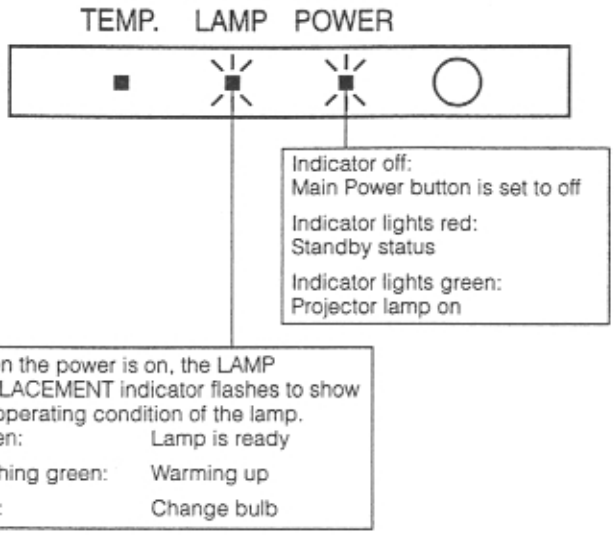
Press the POWER button on the projector.

- 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 29, "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 odor may be emitted from the exhaust fan. This odor will disappear with use.

2



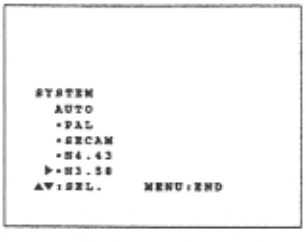
On-Screen Display

3. ON-SCREEN DISPLAY in 8 languages

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, Swedish, Italian, French 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 until the ▶ mark is set to "LANGUAGE".
   Press the MENU button to display the language menu.
3) Press the ADJUSTMENT ▼/▲ buttons until the ▶ mark matches the language desired, and then press the MENU button to set the language. The ON-SCREEN DISPLAY is now programmed to display in the language chosen.



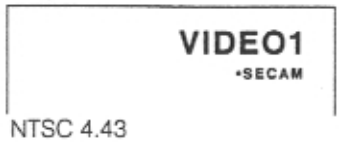
4. Changing the system mode

The system mode is set to AUTO at the factory, but it can be changed to a different mode.

1) Press the MENU button. The menu will appear on the screen.
2) Press the ADJUSTMENT ▼/▲ buttons until the ▶ mark is set to "SYSTEM".
   Press the MENU button to display the system menu.
3) Press the ADJUSTMENT ▼/▲ buttons until the ▶ mark matches the video system desired and then press the MENU button to set the system.

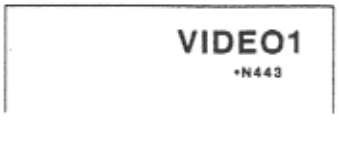
PAL

SECAM

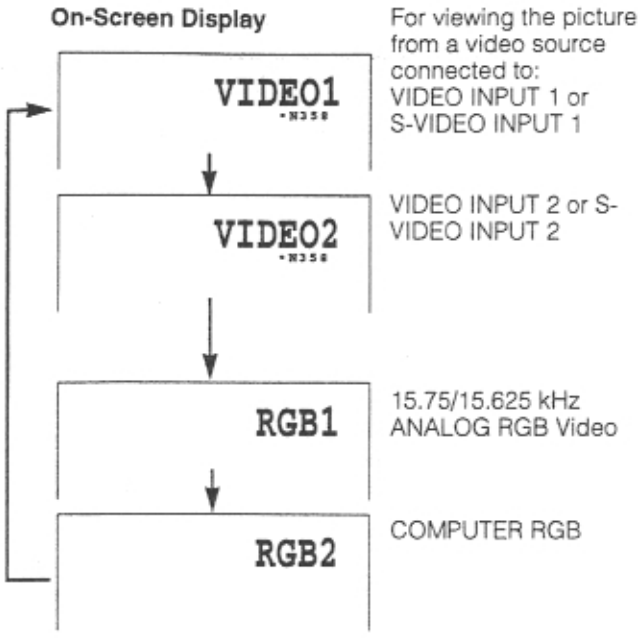


NTSC 3.58

NTSC 4.43



Note:
- In AUTO mode, "PAL", "SECAM", "NTSC4.43" or "NTSC3.58" is displayed on the screen for a few seconds when the mode is changed with the INPUT SELECT button.



5. Select input.

(Projector)

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, then press the INPUT SELECT button.

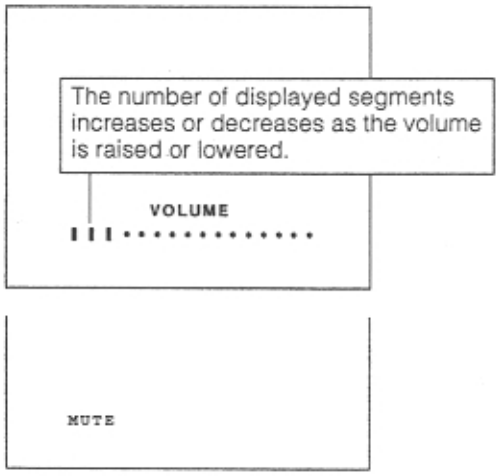
(Remote Control)

Press the DIRECT INPUT SELECT button on the remote control to select the picture input (VIDEO 1, VIDEO 2, RGB 1 VIDEO or RGB 2 DATA).

Note:

- In VIDEO mode, the system being received will be indicated below the "VIDEO" display.

Confirm the selected input terminal, and then press the INPUT CHECK button.



6. Adjust the volume.

Press the Volume Up-Down button on the projector or on the remote control to adjust the volume.

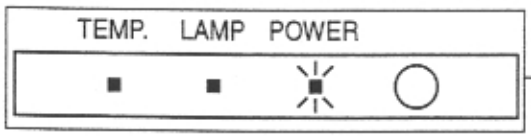
MUTE

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

7. Turning off the power from the projector or remote control

When switching the unit OFF, follow these steps:

1) Press POWER button on the front panel or remote control to the OFF position.
2) Wait approximately 90 seconds for fans to shut off.
3) Press the MAIN POWER button OFF. (Red button.)
4) Turn power point off and remove power lead from wall socket.



After the POWER indicator lights red and the cooling fan runs for 90 seconds, 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.

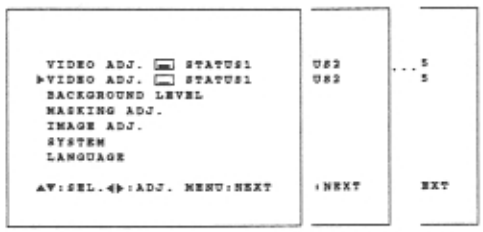
NOTE:

- When the POWER is off on the projector set, the power cannot be turned on from the remote control.

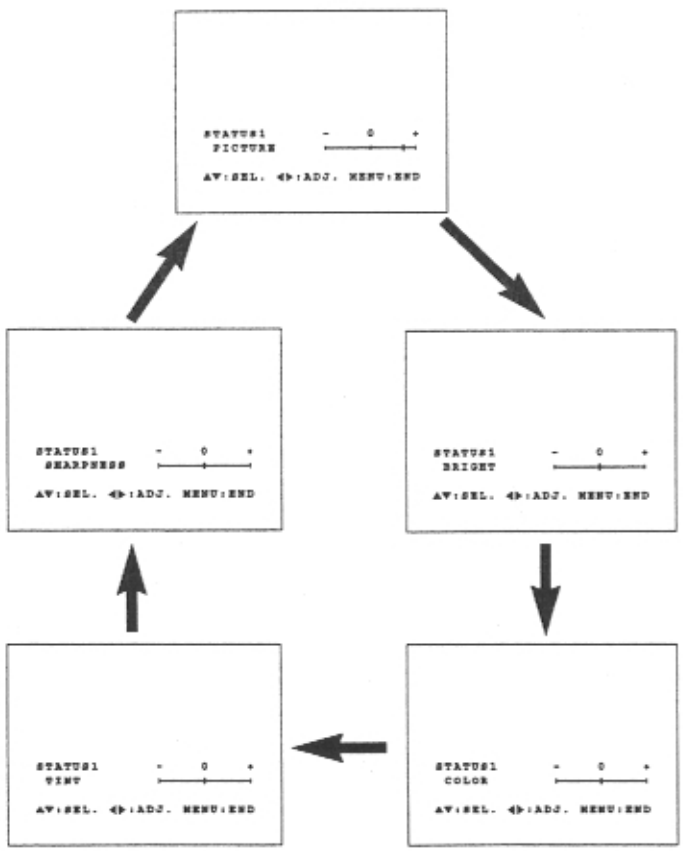
Adjusting the Picture

On-Screen Display

1



2



- This projector's picture is factory preset to standard settings. However, you can adjust it to suit your own preferences with the VIDEO ADJUSTMENT buttons on the projector and the remote control.
- The adjustment can be memorized in VIDEO or RGB separately.
- Five picture modes can be adjusted: "PICTURE", "BRIGHT", "COLOR", "TINT" and "SHARPNESS".

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 "VIDEO ADJ. ▭ STATUS 1", then press the ◀/▶ buttons to select the STATUS 1-5 settings.

Note: In RGB 1 and RGB 2 modes, only one status is available.

- Press the MENU button after selecting STATUS setting.

2. Press the ADJUSTMENT ◀/▶ buttons.

- If the VIDEO ADJUSTMENT ▼/▲ buttons are pressed while the mode is indicated on the screen, the MENU mode changes as shown.
- When the ADJUSTMENT (◀) or (▶) buttons are pressed while the mode you want to adjust is indicated, the "▮" mark, which indicates the adjustment setting, can be moved.
- The adjustment mode is indicated for about 10 seconds.

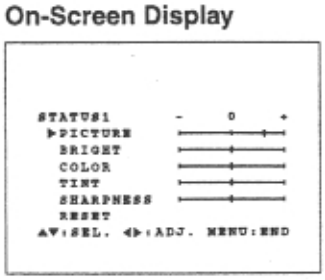
Description of Adjustment Items

Selected item	ADJUSTMENT ▼ button	ADJUSTMENT ▲ button
PICTURE	To decrease contrast	To increase contrast
BRIGHT	For less brightness	For more brightness
COLOR	For less colour intensity	For more colour intensity
TINT	Skin tones become purplish	Skin tones become greenish
SHARPNESS	For less sharpness	For more sharpness
RED	For weaker red	For stronger red
BLUE	For weaker blue	For stronger blue
RESET	All Video RGB Adjustment items are returned to the factory preset settings. **Note:** To reset all adjustment items, select RESET in "ADJ. ▭" mode.	

Note:

- When an RGB signal input has been selected, only "PICTURE" "BRIGHT" "RED" and "BLUE" can be adjusted.

On-Screen Display



When video mode is selected.

Checking Picture Adjustments

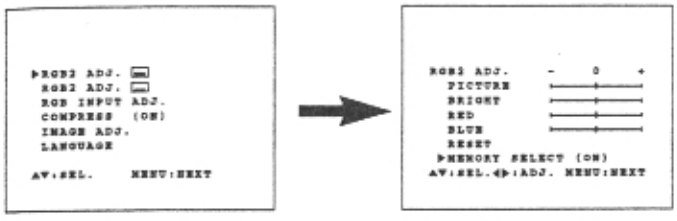
When the MENU button is pressed, the MENU mode is indicated for about 30 seconds. Press the ADJUSTMENT ▼/▲ buttons to select "VIDEO ADJ. ▭ STATUS1", then press the MENU button.

- Each time you press the ADJUSTMENT ▼/▲ buttons while the display is shown, the ▶ mark will move to indicate the selected video status item for adjustment.
- When the ADJUSTMENT (◀) or (▶) buttons are pressed, the "▮" mark moves.
- The adjustment mode is indicated for about 30 seconds.

Computer Mode Memory Adjustments

- The projector has been preset with different modes for use with VGA 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.

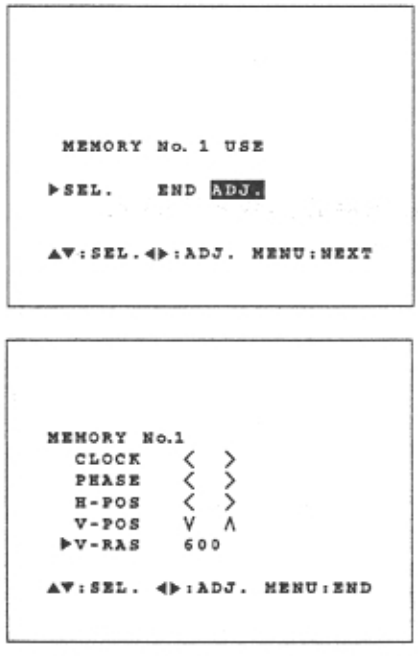
1 When RGB 2 is selected.



1. Press the MENU button to select the Memory Adjustment mode

- Press the MENU button. While the MENU screen is displayed, press the ADJUSTMENT ▼/▲ buttons to select "RGB2 ADJ.". Press the MENU button. The MENU mode changes as shown.
- While the RGB adjustment menu is displayed, press the ADJUSTMENT ▼/▲ buttons to select "MEMORY SELECT", then press the ADJUSTMENT ◀/▶ buttons to select ON, and press the MENU button to change the image.

2



2. Press the ADJUSTMENT ◀/▶ buttons.

- There are 7 memory positions. Press the ADJUSTMENT ◀/▶ buttons to select the number of the memory you want to adjust. Press the ▶ button to select a higher number, and the ◀ button to select a lower number. If that memory position has not been set, "NON" will be displayed. If it has been set, "USE" 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 "SEL." and press the ADJUSTMENT ◀/▶ buttons to choose "ADJ." (If you do not want to adjust any settings, select "END".) Then press the MENU button to go to the next screen.

- 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 18 for details on the adjustment items.

Adjusting the V-RAS

- V-RAS: Used to adjust the number of vertical lines from the input signal. (Adjustments can be made in 1-line increments from 200 to 480 lines and then 600 lines.)

Automatic display mode priority

- To prioritize the computer memory modes, the order begins with the present mode and proceeds through the remaining modes in sequence.
  For example, if set to Memory No. 2, the projector automatically proceeds through the following order to find the memory mode that matches the computer: Memory No. 2 → Memory No. 0 (factory preset mode) → Memory No. 1 → Memory No. 3.
- The automatic detection will only activate in the case of significant difference in horizontal frequency.
  If one of the other adjusting items (for example "PHASE") does not function properly there is no automatic change of the memory place.

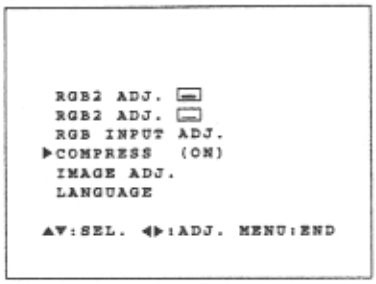
SVGA Functions

COMPRESS Function

■ This projector has an SVGA (800 x 600 dot) Compress mode which allows a compressed display from an SVGA signal. There is also a Panning mode which allows a 640 x 480 dot display when there is no compression.

1

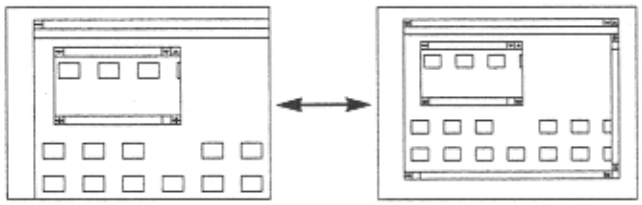
On-Screen Display



1. Press the MENU button to select COMPRESS mode.

Press the MENU button to select COMPRESS mode. Then press the ◀/▶ buttons to select ON. Press the MENU button. When the SVGA (800 × 600 dot) signal is input, the projector will enter COMPRESS mode.

2



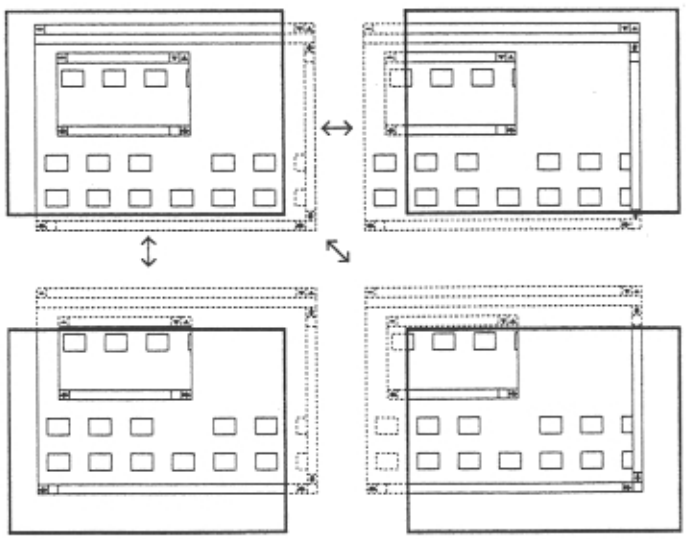
NO COMPRESS COMPRESS

2. Press the COMPRESS button on the remote control.

The COMPRESS button on the remote control can be used to select COMPRESS and NO COMPRESS modes.

Note:

- In VGA INPUT mode, (---) appears, indicating that COMPRESS function does not operate in this mode.



PANNING Function

In NO COMPRESS mode, the ▼/▲ and ◀/▶ ADJUSTMENT buttons can be used to change the size of the display within the 640 x 480 dot screen.

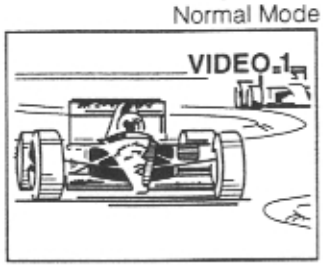
Notes:

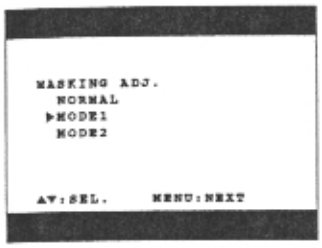
- COMPRESS and PANNING functions operate only in SVGA (800 x 600 dot) INPUT mode.
- COMPRESS and PANNING functions cannot be used when inputting a VGA signal in the RGB2 input mode. If the input signal is changed from VGA (640 × 480 dot) to SVGA (800 × 600 dot) in RGB2 input mode, COMPRESS and PANNING functions will not operate. Should this occur, press the MENU button once. The projector will verify the SVGA (800 × 600 dot) input signal, then the COMPRESS and PANNING functions will operate.
- When the picture is continuously moved upward with the PANNING function, the upper portion of the picture appears on the bottom of the screen.

Masking Adjustment

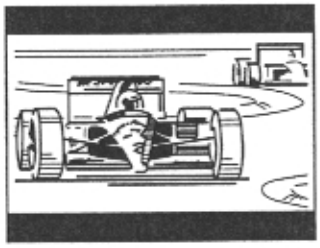
On-Screen Display

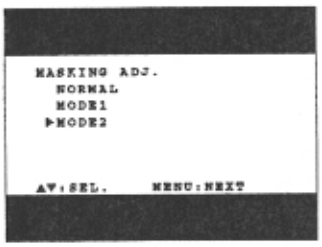
Normal Mode



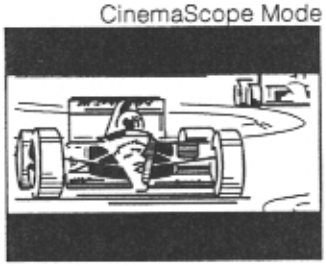


Vista Mode





CinemaScope Mode



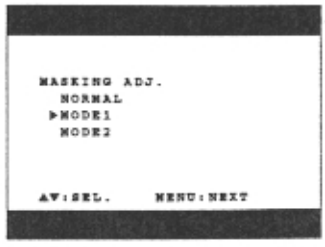
■ The Masking function can be used to increase your enjoyment of wide-screen pictures — such as laser disc and videotaped movies — by eliminating video noise and blacking out the top and bottom portions of the screen. This projector offers you a choice of three modes: "Normal Mode", "Vista Mode", and "Cinema-Scope/Letterbox Mode".

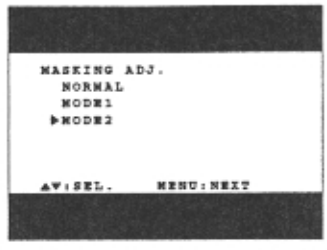
- Press the MENU button. While the MENU screen is displayed, press the ADJUSTMENT ▼/▲ buttons to select MASKING ADJ., and then press the MENU button. The MASKING ADJ. screen will appear as shown on the left.
- Press the ▼/▲ buttons to change the mode. Vista Mode is indicated by MODE 1 and CinemaScope Mode is indicated by MODE 2.
- In Masking mode the position of the On-Screen Display changes as shown.

Notes:

- When RGB signal input is selected, the Masking mode cannot be adjusted.
- When viewing, please be aware that use of this image masking function may infringe on the legally protected copyrights of the producer of the video software.
- Video software recorded in one mode cannot be converted and viewed in another mode.
- The image will only be masked off and not converted.

1 On-Screen Display

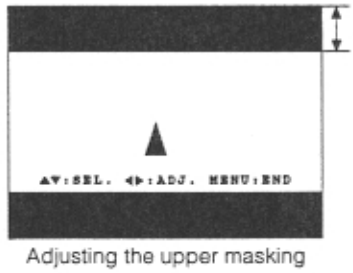




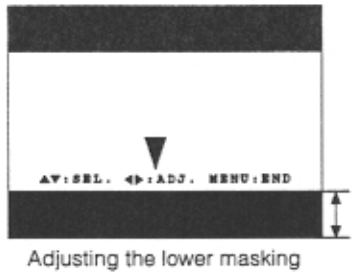
1. How to Adjust Masking

- Press the MENU button. While the MENU screen is displayed, press the ADJUSTMENT ▼/▲ buttons to select "MASKING ADJ.", and then press the MENU button. The MASKING ADJ. screen will appear as shown on the left.
- After selecting the mode, press the MENU button to display the ADJUSTMENT mode screen.

2, 3



Adjusting the upper masking



Adjusting the lower masking

2. Press the ▼/▲ buttons.

- If you press the ▼/▲ buttons while the mode you want to adjust is being displayed, the portion that can be adjusted is indicated by a yellow ▲ or ▼ mark.
- Each time you press the button, the mark on the screen will change as shown.
- The ▲ or ▼ mark is displayed for about 30 seconds.

3. Adjust with the ◀/▶ buttons.

- Pressing the ◀/▶ buttons while the ▲ or ▼ mark appears on the screen causes the band to become thicker or thinner.

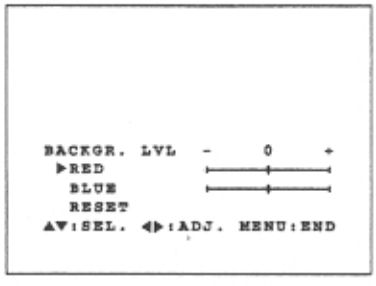
To return to the factory preset settings

Press the power button OFF and unplug the AC cord while the fan is still running. Plug the AC cord back in, and after 60 seconds press the power button back ON.

Background level

- The Background Level adjustment can be used to adjust the picture white balance for the selected Video Input Source.
- Optimal image quality can be achieved by adjusting the white portion of the picture to obtain the best colour for the selected source.

On-Screen Display



Adjusting the BACKGROUND LEVEL

- Press the MENU button.
  Select BACKGROUND LEVEL with the ▼/▲ buttons. Then press the MENU button to change the picture as indicated on the left.
- Select RED or BLUE with the ▼/▲ buttons.
  Adjust the mode you want with the ◀/▶ buttons.
- To return to the factory preset mode, press the ▼/▲ buttons to select RESET then press the ◀/▶ buttons.
- Press the MENU button to select the normal screen mode.

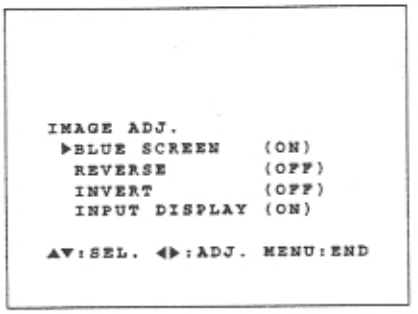
Note:

- Background Level is only adjustable for Video 1 and 2 sources. The Background Level must be adjusted for each source and is not stored in the status memory.

Using the Blue Screen Function

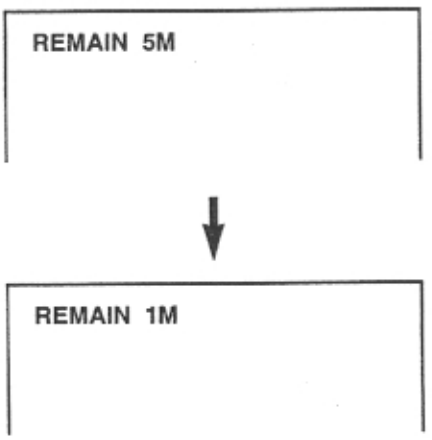
This projector is equipped with a Blue Screen function that will turn the screen blue when you select an input terminal which is not connected to anything, or which is connected to a video component that is turned off.

On-Screen Display



- Press the MENU button. While the MENU screen is displayed, press the ADJUSTMENT ▼/▲ buttons to select IMAGE ADJ. Then press the MENU button to display the IMAGE ADJ. screen as shown. Press the ADJUSTMENT ▼/▲ buttons to select "BLUE SCREEN", and press the ADJUSTMENT ◀/▶ buttons to select ON or OFF. Press the MENU button to return to the normal screen.
- When the Blue Screen function is on, the screen will turn blue when no video signal is being input through the selected video input terminal.
- When the Blue Screen function is on, and no video signal is input via the selected input terminal for more than 15 minutes, the power is automatically turned off.

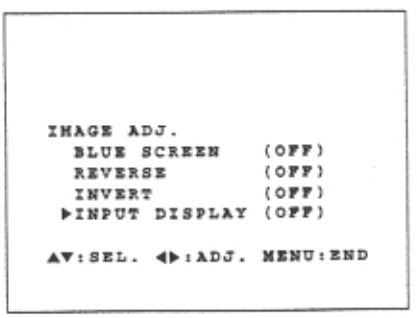
On-Screen Display



- Five minutes and one minute before the power is turned off, the indicators appear as shown.

Notes:

- The Blue Screen Function does not operate in RGB mode.
- When the power is turned off, the POWER indicator will light red.
- To turn the power on again, press the POWER button to set it to OFF, then press it again to set it to ON.



Using the On-Screen Display Override Function

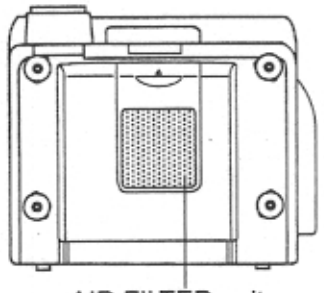
The On-Screen Displays ("VIDEO 1", etc.) that appear during input select can be turned off.

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

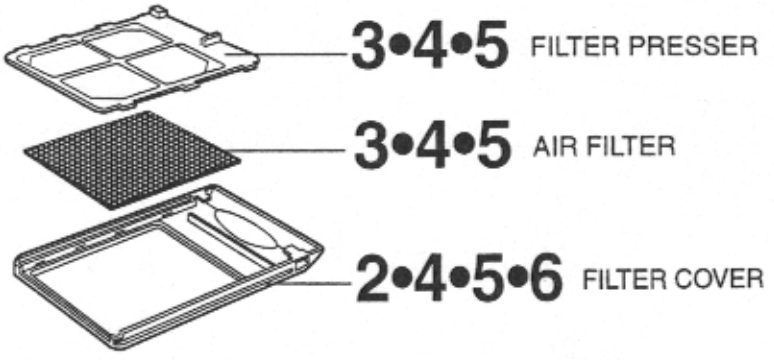
Air Filter Maintenance

- 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 Authorized SharpVision Service Center or Dealer replace the filter (PFILD0027CEZZ) when it is no longer possible to clean it.

Bottom



AIR FILTER unit



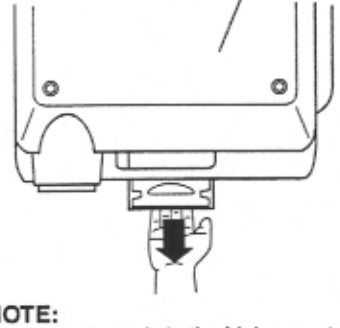
Cleaning and Replacing the Filter

1 Press the MAIN POWER button OFF

Unplug the power cord.

2 Remove the FILTER COVER.

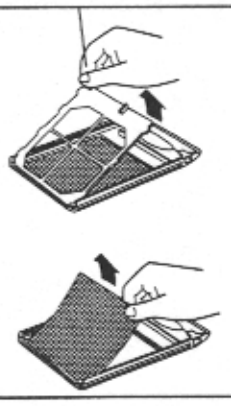
Grasp the filter cover by the depressed portion and pull straight out.



NOTE:
- If the projector is in the high-mount position, first remove the high-mount dust cover.

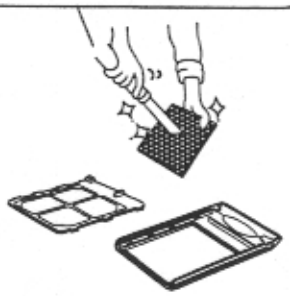
3 Remove the AIR FILTER.

Grasp the air filter presser tab between your fingers and pull to remove. Remove the air filter.



4 Clean the AIR FILTER

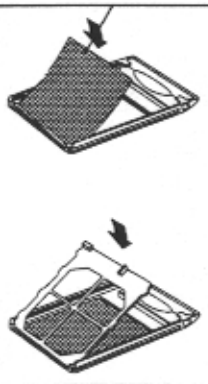
Clean the dust off the air filter, cover and presser with a vacuum cleaner.



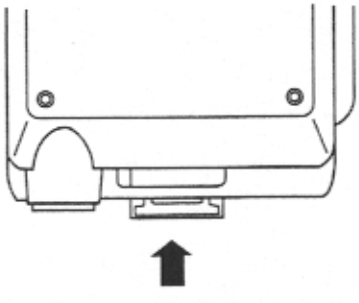
If the filter is very dirty, wash with a water-diluted neutral detergent. Leave the filter to dry in the sun.

5 Replace the AIR FILTER.

Return the air filter and the presser to their original positions in the filter cover.



6 Replace the FILTER COVER.



NOTE:
- If the projector is in the high-mount position, install the high-mount dust cover. (See E-10.)

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

Lamp/Maintenance Indicators

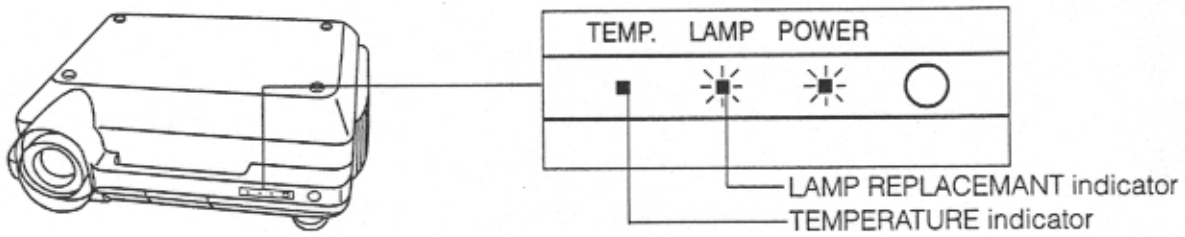
Lamp

■ The Lamp has a finite operating life.

- When the lamp is nearly burned out, the picture and colour quality deteriorate. At this point, replace the lamp.
- If the new lamp does not light after replacement, take your projector to the nearest Authorized Sharp Industr LCD Products Dealer for repair.
- Intense light hazard. Do not attempt to look into the aperture and lens while the projector is operating.

Maintenance Indicators

■ 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 bulb.
■ 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 E-28.)
		•Cooling fan breakdown. •Internal circuit failure.	• Take the projector to your nearest Authorized Sharp Industrial LCD Products Dealer for repair.
LAMP REPLACEMENT indicator	The lamp does not light up.	•Burnt-out lamp.	• Carefully change the lamp.
		•Lamp circuit failure.	• Take the projector to your nearest Authorized Sharp Industrial LCD Products Dealer for repair.

Notes:
- If the TEMPERATURE indicator light comes on, after servicing, please 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 bac in again.

Before Calling for Service

Problem	Check
No picture and no sound.	• The projector power cord is not plugged into the AC wall outlet. • The main power button is not pressed. • The INPUT SELECT input is wrong. (See E-20.) • Cables improperly connected to rear panel of the projector. (See E-12,13,15 and 16.) • Remote control batteries have run down. (See E-5.)
Sound is heard but no picture appears.	• Cables improperly connected to rear panel of the projector. (See E-12,13,15 and 16.) • The BRIGHTNESS and the PICTURE adjustment is set to minimum position. (See E-21.)
Colour is faded or poor.	• Check that the COLOR and TINT adjustments are correct. (See E-21.)
Picture is blurred.	• Adjust the focus. (See E-6.) • The projection distance is too long or too short to allow for proper focus. (See E-7.)
Picture appears but no sound is heard.	• Cables improperly connected to rear panel of the projector. (See E-12,13,15 and 16.) • Volume is set to minimum. (See E-20.)
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 Indicator" on E-29.

Specifications

Product Type		LCD Projector
Model		XG-3900E
System		PAL/SECAM/NTSC 3.58/NTSC 4.43
Display method		LCD panels × 3, RGB optical shutter method
LCD panels	Panel size	3"(4.5(H) × 6.2(W) cm)
	Display method	Translucent TN liquid crystal panels
	Drive method	TFT (Thin Film Transistor) Active Matrix panels
	No. of pixels	309,120 dots × 3 panels
Lens		1-1.6 zoom lens, F3.5-4.4, f=100-160 mm
Projection lamp		350 W Metal halide
Contrast ratio		100:1
Video input signal		BNC Connector: VIDEO, composite video, 1Vp-p, sync negative, 75Ω terminated RCA Connector: AUDIO, 142 mVrms, more than 47kΩ (stereo)
S-video input signal		4-pin mini DIN connector Y (luminance signal): 1 Vp-p, sync negative, 75Ω terminated C (chrominance signal): burst 0.286 Vp-p, 75Ω terminated
Video (monitor) output signal		BNC Connector: VIDEO, composite video 1Vp-p, sync negative, 75Ω terminated RCA Connector: AUDIO, 142 mVrms, more than 47kΩ (stereo)
Horizontal resolution		500 TV lines (video input)
Audio output		3W (monaural)
Computer RGB input signal	Video signal	15 pin mini D-sub connector: RGB separate type analog input: 0–0.7Vp-p, positive, 75Ω terminated Stereo Minijack: AUDIO, 142m Vrms, more than 47 kΩ (stereo)
	Horizontal sync. signal	TTL level (positive/negative) or composite sync (Apple only)
	Vertical sync. signal	
RGB video input signal	Video signal	BNC Connector: RGB separate type Analog input: 0~0.7Vp-p, positive, 75Ω terminated Stereo Minijack: AUDIO, 142 mVrms, more than 47kΩ (stereo)
	Composite sync. signal	TTL levels
Speaker system		3"(8 cm) round
Rated voltage		AC 200 - 240V
Rated frequency		50/60 Hz
Power consumption		470W
Operating temperature		5°C to 40°C
Storage temperature		– 20°C to 55°C
Cabinet		Plastic
Dimensions (WxDxH)		550 × 471 × 230 mm projector only 550 × 538 × 230 mm incl. terminal cover
Weight		15.7 kg projector only, 16.0 kg incl. terminal cover
Supplied accessories		Remote control unit, four AA batteries, lens cover (installed), terminal cover, VGA signal cable, Mac/VGA adaptor, two BNC/RCA adaptors, extra air filter, inverting labels, High-Mount dust cover, four cord wrap pegs
Replacement parts		Remote control, Air filter, VGA cable, Mac/VGA adaptor

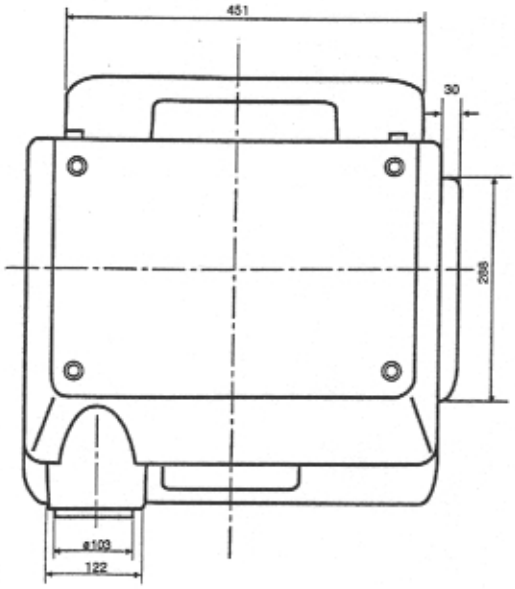
Our projector uses LCD (Liquid Crystal Display) panels. These very sophisticated panels contain 309,120 pixel (xRGB) TFTs. (Thin Film Transistors). As with any high technology electronic equipment such as large screen TVs, video systems and/or video cameras, there are certain acceptable tolerances that the equipment must conform to.

Sharp's acceptable tolerances permit a total of six (6) inactive TFTs, which may result in illuminated dots on the picture screen.

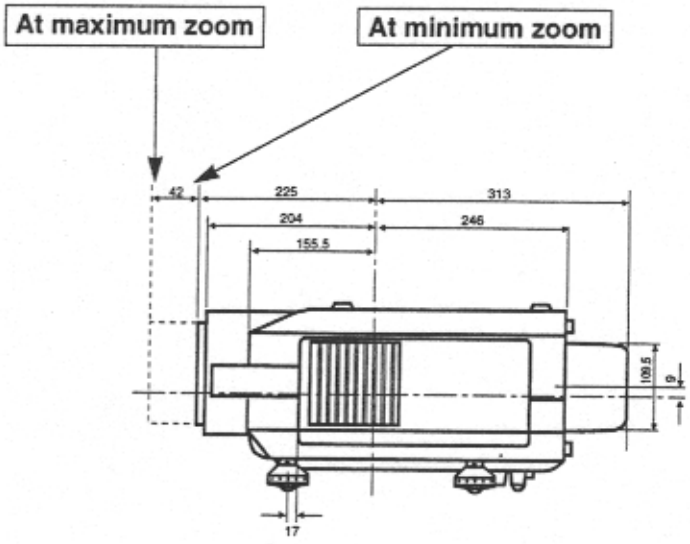
This will not affect the picture quality or the life expectancy of the unit.

*Specifications are subject to change without notice.

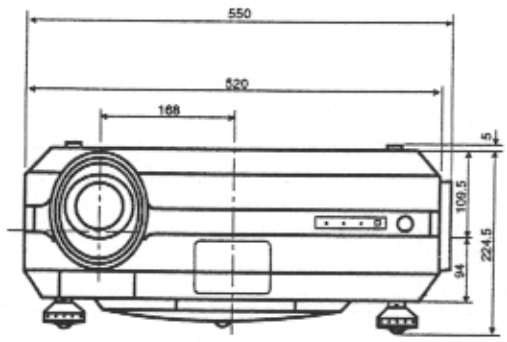
Dimensions



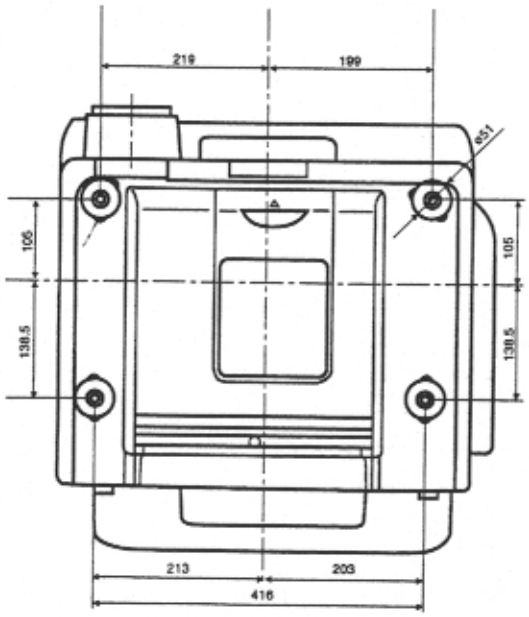
Top View



Side View



Front View



Bottom View

[Units: mm]