

SHARP®

LCD PROJECTOR
LCD-PROJEKTOR
PROJECTEUR LCD
VIDEOPROJEKTOR

PROYECTOR DE LCD
PROIETTORE LCD
LCD PROJECTOR
液晶投影机

OPERATION MANUAL
BEDIENUNGSANLEITUNG
MODE D'EMPLOI
BRUKSANVISNING
MANUAL DE MANEJO
MANUALE DI ISTRUZIONI
GEBRUIKSAANWIJZING
使用説明書

Model
Modell
Modèle
Modell

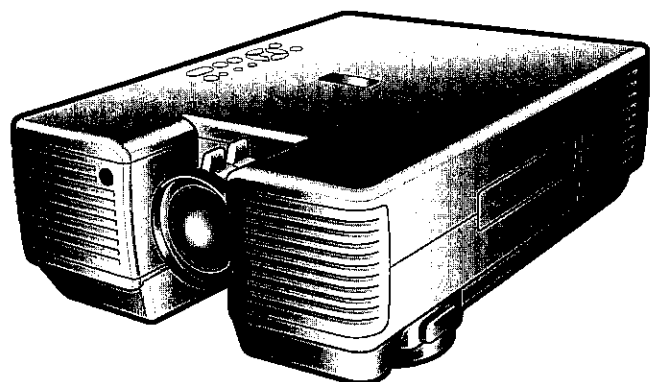
Modelo
Modello
Model
機型

XG-NV1E

- ENGLISH
- DEUTSCH
- FRANÇAIS
- SVENSKA
- ESPAÑOL
- ITALIANO
- NEDERLANDS
- 中文

(GB)
(D)
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(E)
(I)
(NL)
(C)

CEG TECHNICAL
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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 Ένωσης 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 satisfice 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 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.

Model No.: XG-NV1E

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 31.

Important Information

WARNING

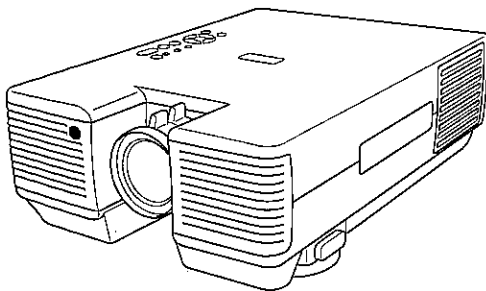
Intense light source, do not look into the beam or view it directly. Be especially careful that children do not look directly into the beam.

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



- (1) SRS, the SRS symbol "●" and "Sound Retrieval System" are registered trademarks of SRS Labs, Inc. in the U.S. and selected countries.
- (2) "Sound Retrieval System" (SRS) technology is manufactured under license from SRS Labs, Inc.
- (3) "Sound Retrieval System" (SRS) technology is protected by USA patents 4,748,669 and 4,841,572 and additional patents worldwide.

DIRECT COMPUTER COMPATIBILITY

A multi-scan RGB Input accepts signals from XGA (1024 dots × 768 lines compressed), SVGA (800 dots × 600 lines), VGA and Mac (832 dots × 624 lines maximum) compatible computers without the need for any additional hardware.

HIGH PICTURE QUALITY

The three LCD panels contain 519,168 × RGB pixels to achieve exceptionally bright, high quality images.

VERSATILE REMOTE CONTROL

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

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.
- Screen projection size adjusts from 40 to 300 inches.

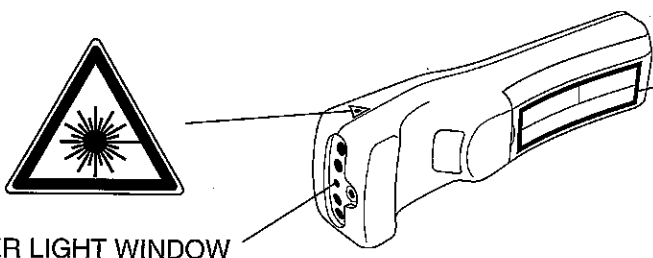
BUILT-IN STEREO SPEAKERS WITH SRS (Sound Retrieval System) CIRCUITRY

Built in 3W + 3W stereo amplifiers and speakers feature SRS circuitry for impressive SRS 3-D sound.

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Cautions Concerning the Laser Pointer



LASER LIGHT WINDOW

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.

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.
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LASERSÄTEILYÄ ÄLÄKÄTSO SOURAAN SÄTEESEEN LUOKAN 2 LASERTUOTE	LASEROVÉ ZÁŘENÍ NEHLED'TE DO PAPERSKU LASEROVÝ VÝROBEK TŘIDY 2
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LASEROVÉ ŽIARENIE NEPOZERAJTE SA DO LÚČA LASEROVÝ VÝROBEK TRIEDY 2
--

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 to 40°C.

SPECIAL NOTE FOR USERS IN THE U.K.

The mains lead of this product is fitted with a non-rewireable (moulded) plug incorporating a 13A 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

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
- 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.



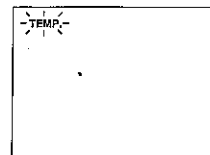
17 Unplug the LCD Projector equipment from the wall outlet and refer servicing to qualified service personnel under the following conditions:

- 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.

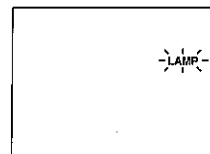
About the Temperature Monitor Function:

- 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 27, "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:

- If the lamp is used for more than 1900 hours, "LAMP" will flash in yellow letters on the screen for 60 seconds, as shown on the right, when you turn the projector on. This is to alert you that it is time to replace the lamp. Take your projector to the nearest Authorized Sharp Industrial LCD Products Dealer or Service Centre for replacement.
- When the number of hours the lamp is used reaches 2000, the power automatically turns off and the projector enters the standby condition.
- Refer to page 27, "Maintenance Indicators," when the "LAMP" warning appears on the screen.

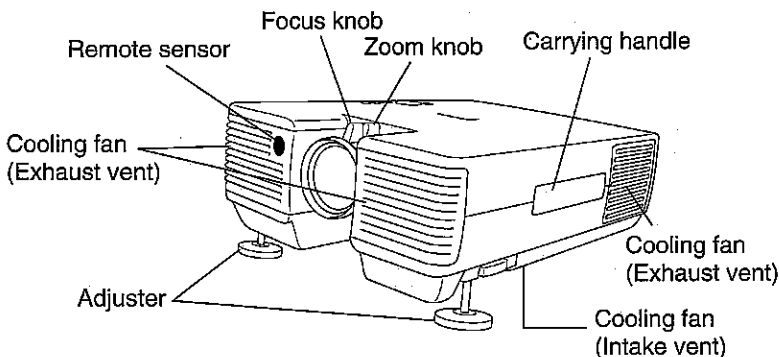


Caution:

If "LAMP" begins to flash on the screen, be sure to take your projector to the nearest Authorized Sharp Industrial LCD Products Dealer or Service Centre for replacement.

Location of Controls

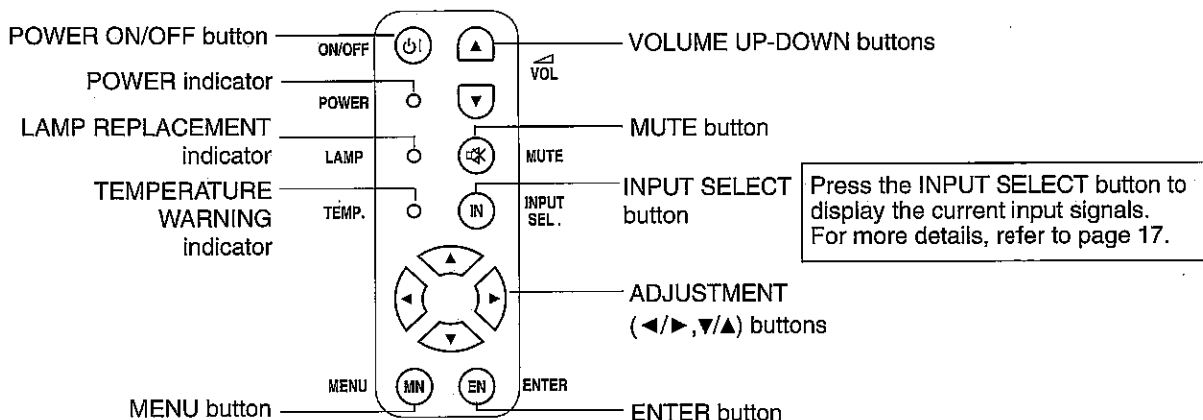
FRONT VIEW



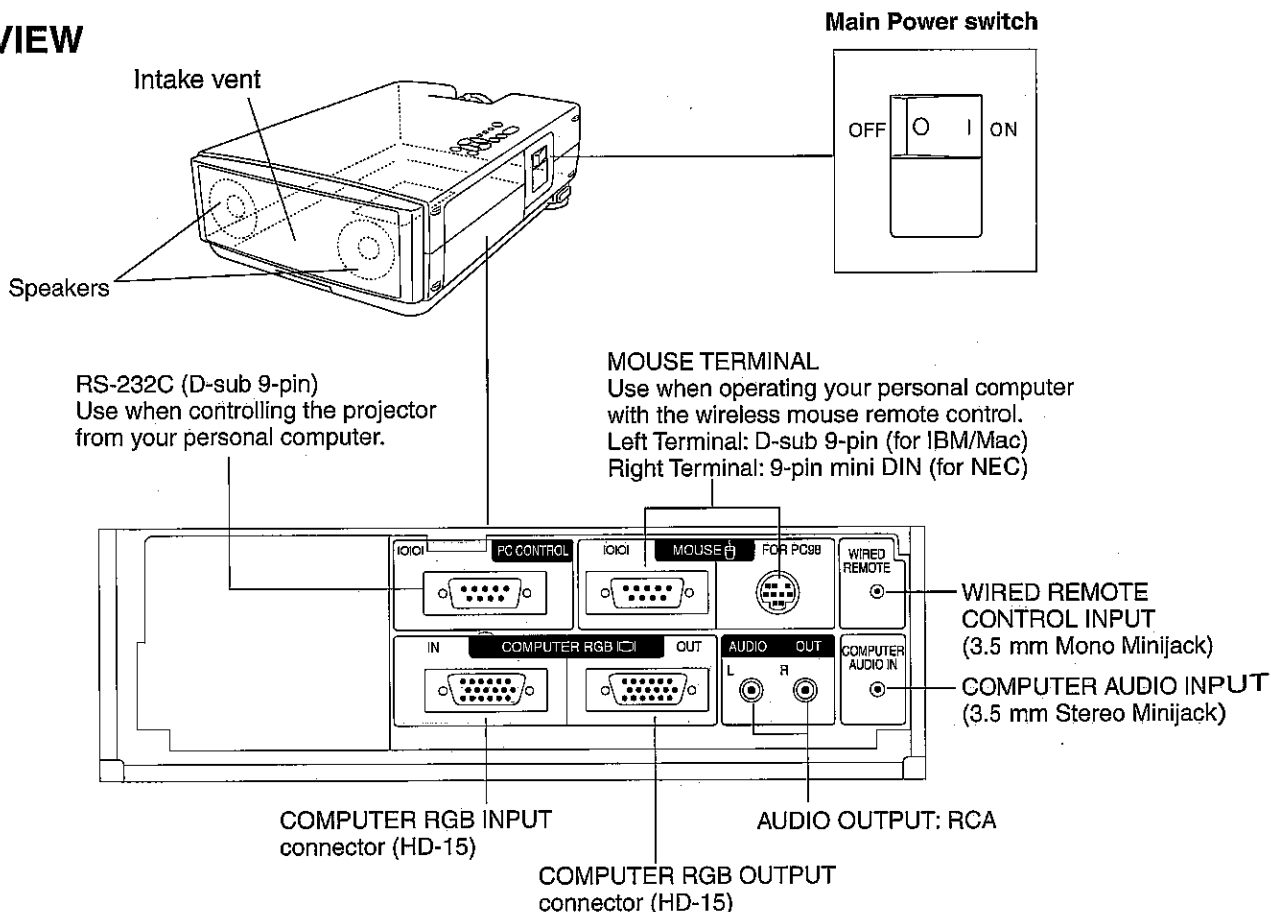
CAUTIONS:

- Do not touch the lamp, lamp cage cover, cooling fan, and their surrounding areas while the projector is on. They are very hot and may cause burns.
- 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 TOP OF PROJECTOR



REAR VIEW



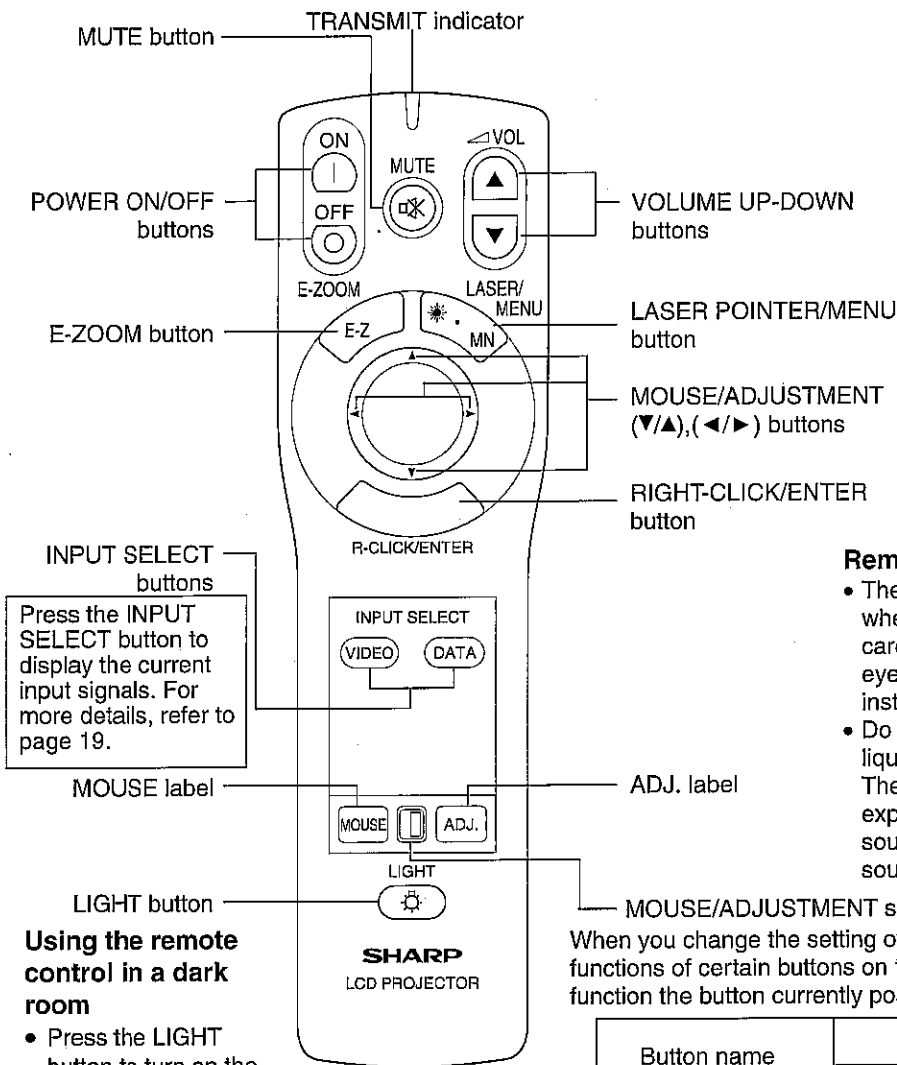
Operating the Wireless Mouse Remote Control

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.

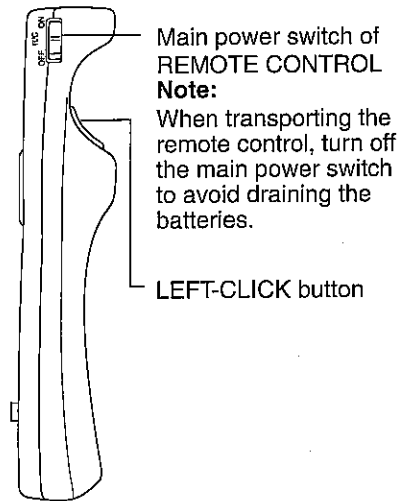
- 1 Slide the main power switch on the side of the unit on.
- 2 Press the POWER ON button on the front panel of the remote control to turn the projector power on.
- 3 When using the remote control as a wireless mouse, move the MOUSE/ADJUSTMENT sliding switch to the MOUSE position. When using the remote 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



SIDE VIEW



Using the remote control in a dark room

- Press the LIGHT button to turn on the back-lights for the operation buttons for about 10 seconds. The back-light colours are explained in the table to the right.

Remote control handling precautions

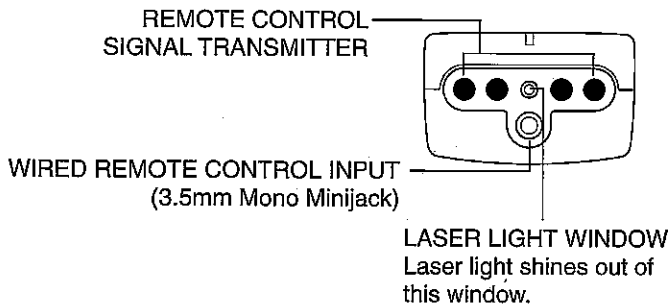
- The laser beam used in this product is harmless when directed onto the skin, however please be careful not to project the beam directly into the eyes. Do not stare into the beam using any optical instrument.
- Do not expose the remote control to shocks, liquids or high humidity. The remote control 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.

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	Yes (NOT LIT)	—
POWER ON/OFF	Yes (RED)	
VOLUME UP-DOWN		
MUTE		
E-ZOOM		
VIDEO		
DATA		

If the main power switch on the remote control is left on and the remote control is not used for ten or more minutes, the energy save mode will activate and turn off the power. When in this state, any button operation exceeding one second will reactivate the power.

TOP VIEW



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 Jack of the remote control to the Wired Remote Input on the back of the projector.

Note:

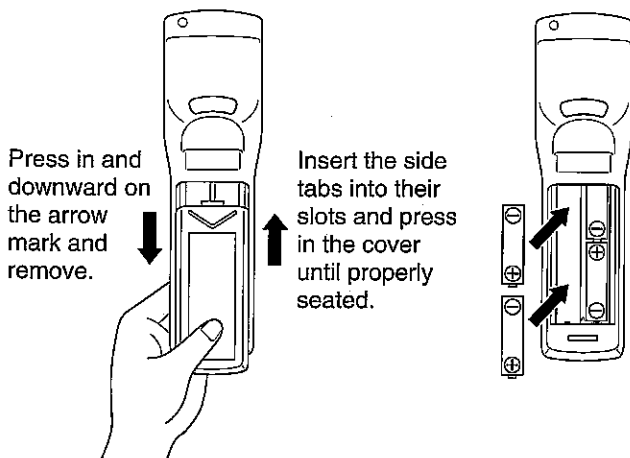
- The signal transmitter does not function when the optional cable is connected to the remote control.

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 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 in the beam, nor direct the beam at other people. The two marks to the left are cautions concerning the laser beam. Always use the laser pointer at temperatures between 5°C to 40°C.

REAR VIEW



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:

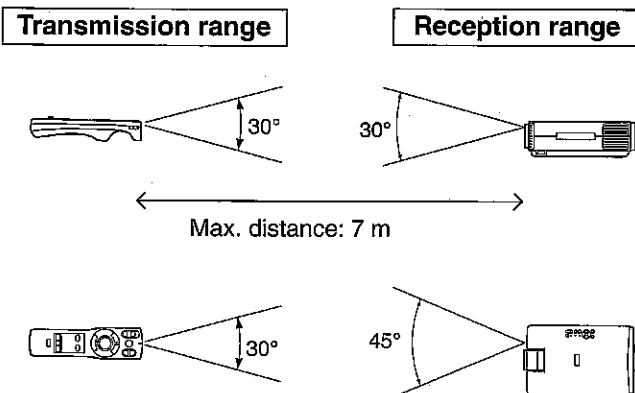
- Incorrect use of batteries may cause them to leak or burst.
- Insert the batteries with the (+) and (-) polarities as indicated.
- Remove the batteries if the remote control will not be operated for an extended period of time.
- Maintain the batteries in a clean condition.
- Do not mix different brands 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:

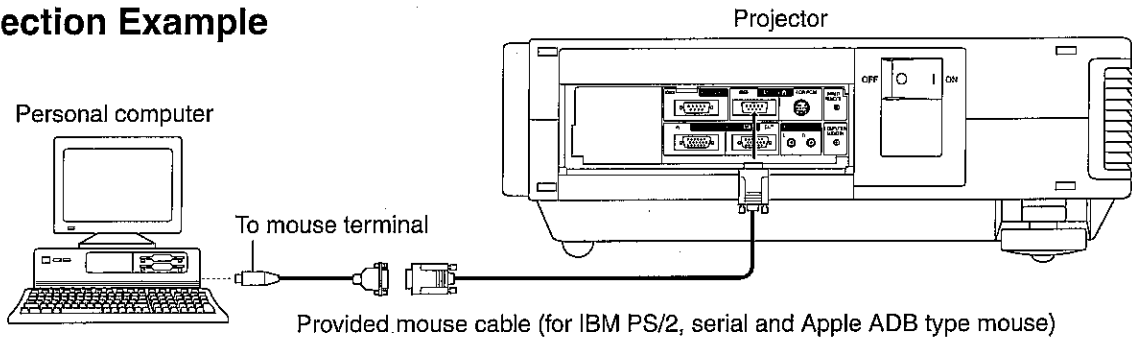
- The signal from the remote control can be reflected off the screen for easy operation. However, the effective distance of the signal may differ due to the screen material.



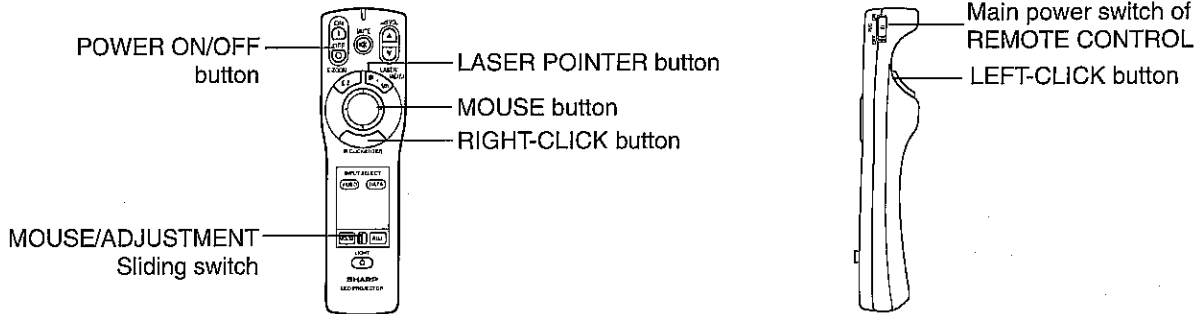
Wireless Mouse Functions

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



Functions and Operations



- 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:

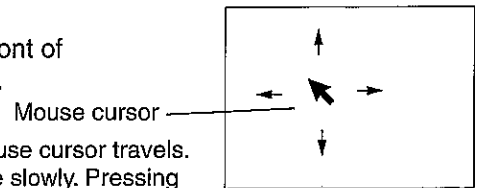
- In some situations the wireless mouse may be inoperable if your computer port is not correctly set-up. Please refer to your computer owners manual for details on setting-up/installing the correct Mouse Driver.
- Do not connect or remove the mouse control cable to/from your computer while it is on. 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.



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	



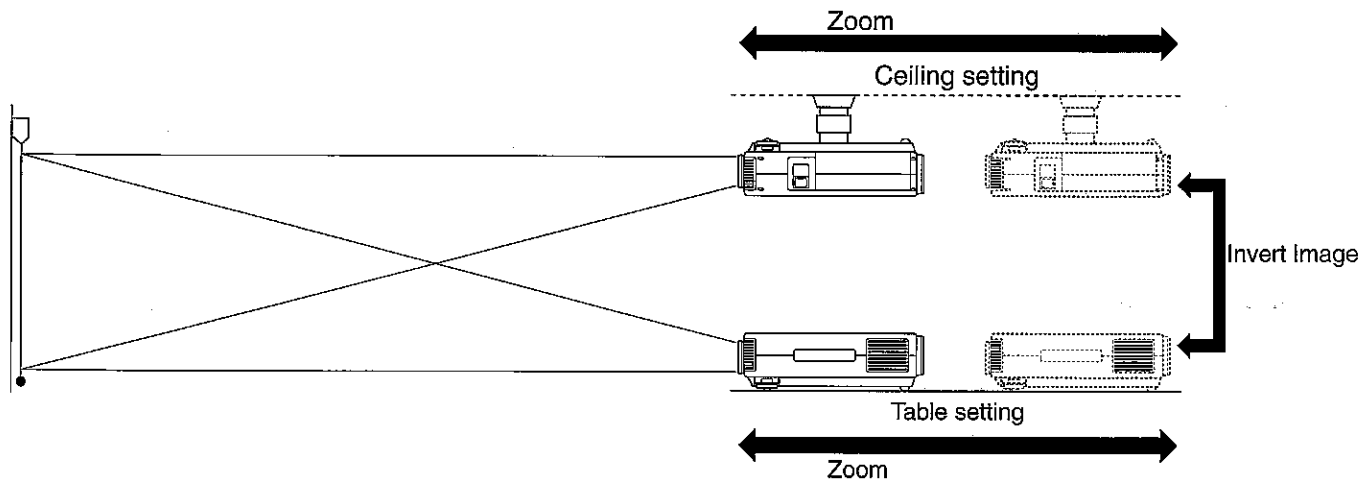
The remote control has a Laser pointer, which emits a Class II Laser beam from the Laser light window shown in the diagram. Do not stare directly in the beam, nor direct the beam at other people. The two marks to the left are cautions concerning the laser beam. Always use the laser pointer at temperatures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

Setting Up the Projector

Using the Focus and Zoom

- Zoom, Focus and Reversed/Inverted Image mode functions broaden your options for projector placement.
- See pages 10 and 11 for details on projector setup.

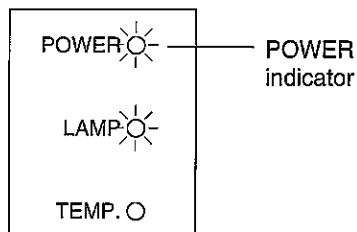
SIDE VIEW



1. Turn on the MAIN POWER.

Turn on the main power switch.

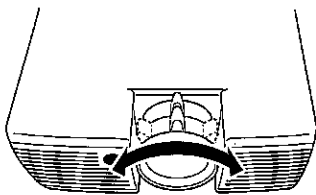
2



2. Turn on the POWER

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

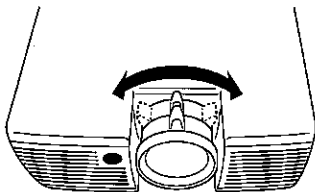
3



3. Adjusting the Focus

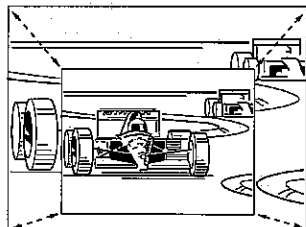
Rotate the focus knob until the top portion of the screen is in focus.

4



4. Adjusting the Zoom

Rotate the zoom knob. The picture can be adjusted to the desired size within the zoom range.



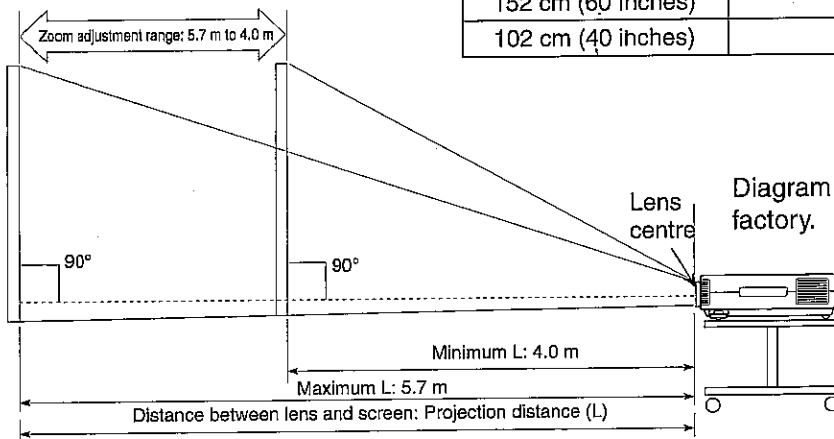
Projector Distance and Picture Size Relationship

- The zoom lens allows adjustment of the image size within the projector's range.
- For optimum picture adjustment, the projector should be placed and adjusted at a distance between 1.5 m to 17.2 m from the screen.

Distance from screen

Picture size: 254 cm (100 inches)

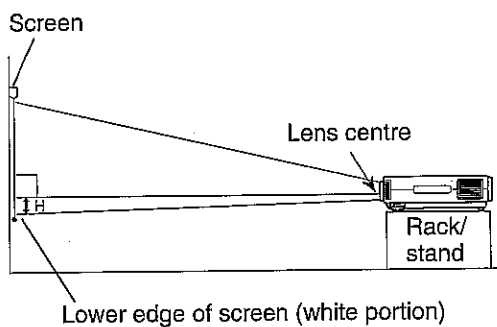
Picture size (diag.)	Projection distance (L)	
	Maximum projection distance	Minimum projection distance
762 cm (300 inches)	17.2 m	12.2 m
381 cm (150 inches)	8.5 m	6.1 m
254 cm (100 inches)	5.7 m	4.0 m
203 cm (80 inches)	4.5 m	3.2 m
152 cm (60 inches)	3.4 m	2.4 m
102 cm (40 inches)	2.2 m	1.5 m



- Above is an illustration of maximum and minimum projection distances for the XG-NV1E 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

- Adjust to match the setup configuration.

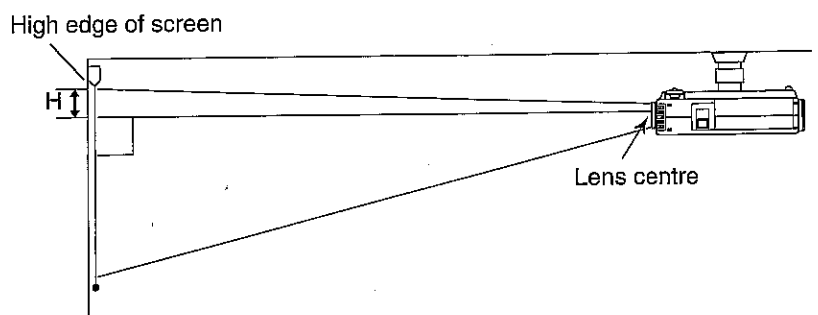


Picture size (diag.)	Distance from lens center to lower edge of screen (H)
762 cm (300 inches)	66 cm
381 cm (150 inches)	33 cm
254 cm (100 inches)	22 cm
203 cm (80 inches)	18 cm
152 cm (60 inches)	13 cm
102 cm (40 inches)	9 cm

- Ceiling Mount
When the projector is in the inverted position, use the upper edge of the screen as the base line.

Note:

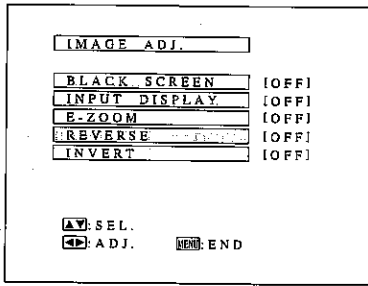
- Optimal image quality can be achieved with the projector positioned perpendicular to the screen.



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 ∇/\blacktriangle and $\blacktriangleleft/\blacktriangleright$ buttons.

1

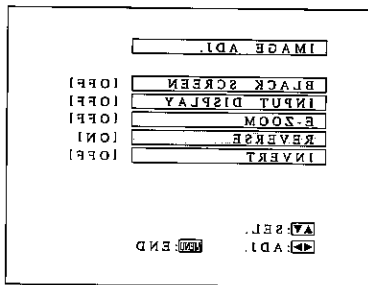


1. Press the MENU button.

With the MENU screen displayed, press the ADJUSTMENT ∇/\blacktriangle 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.

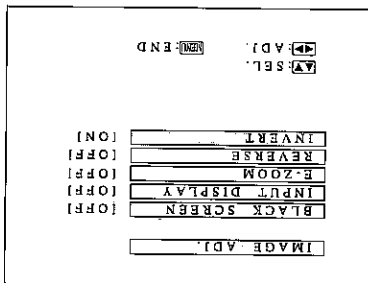
2



2. Reversed Image Mode

In the IMAGE ADJ. menu, press the ADJUSTMENT ∇/\blacktriangle buttons to select REVERSE. Then press the ADJUSTMENT $\blacktriangleleft/\blacktriangleright$ buttons to select ON. The reversed image will appear.

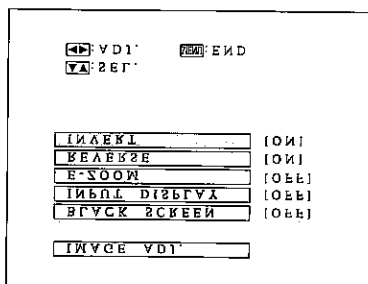
3



3. Inverted Image Mode

In the IMAGE ADJ. menu, press the ADJUSTMENT ∇/\blacktriangle buttons to select INVERT. Then press the ADJUSTMENT $\blacktriangleleft/\blacktriangleright$ 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.

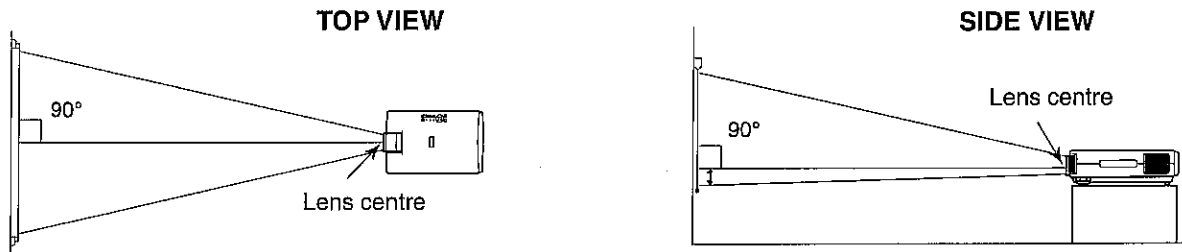
How to set up the projector and screen

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 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 on the previous page.

Example of a standard setup



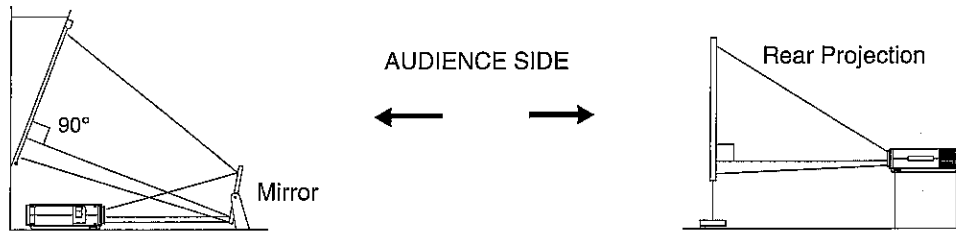
The projector lens should be centered in the middle of the screen.

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

■ 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.

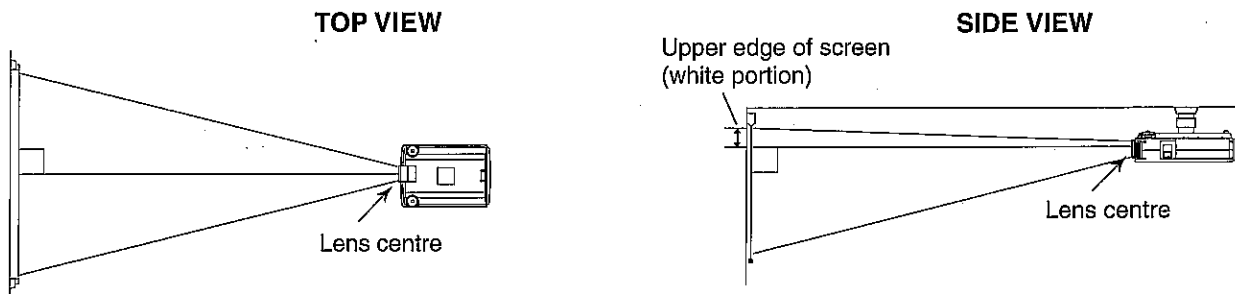


The projector lens should be centered in the middle of the screen.

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

Example of a 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-NV1T Ceiling Mount Bracket, AN-TK201/AN-TK202 Extension Tube for AN-NV1T)



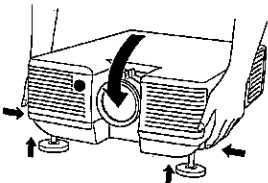
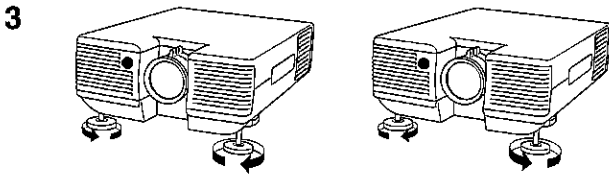
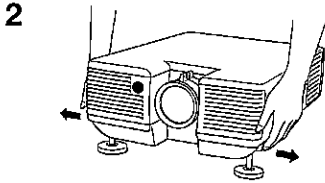
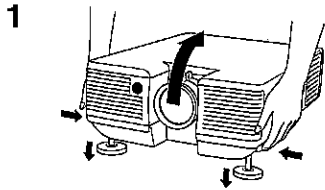
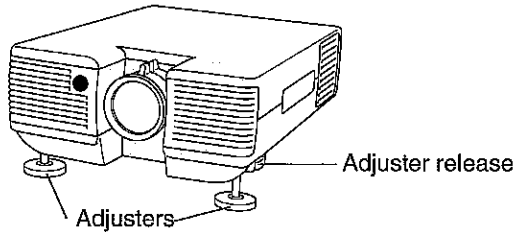
- If the relative positions of the projector and the screen are not properly adjusted, the picture will be distorted.

Note:

- Contact your nearest Authorized Sharp Industrial LCD products Dealer for inquires concerning setup.

Adjusting the Height of the Picture

Use the adjuster release to adjust the angle of the projector and height of the picture. Minor adjustments can be made with the adjusters.



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 adjusters' feet may not be resting on the table. To prevent the projector from wobbling, adjust the adjusters' feet 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, press the handle release located on the side of the unit to expose the handle and then carry it by the handle as shown. To close the handle, push it back into the side of the unit.

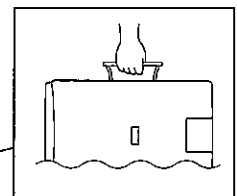
Note:

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.

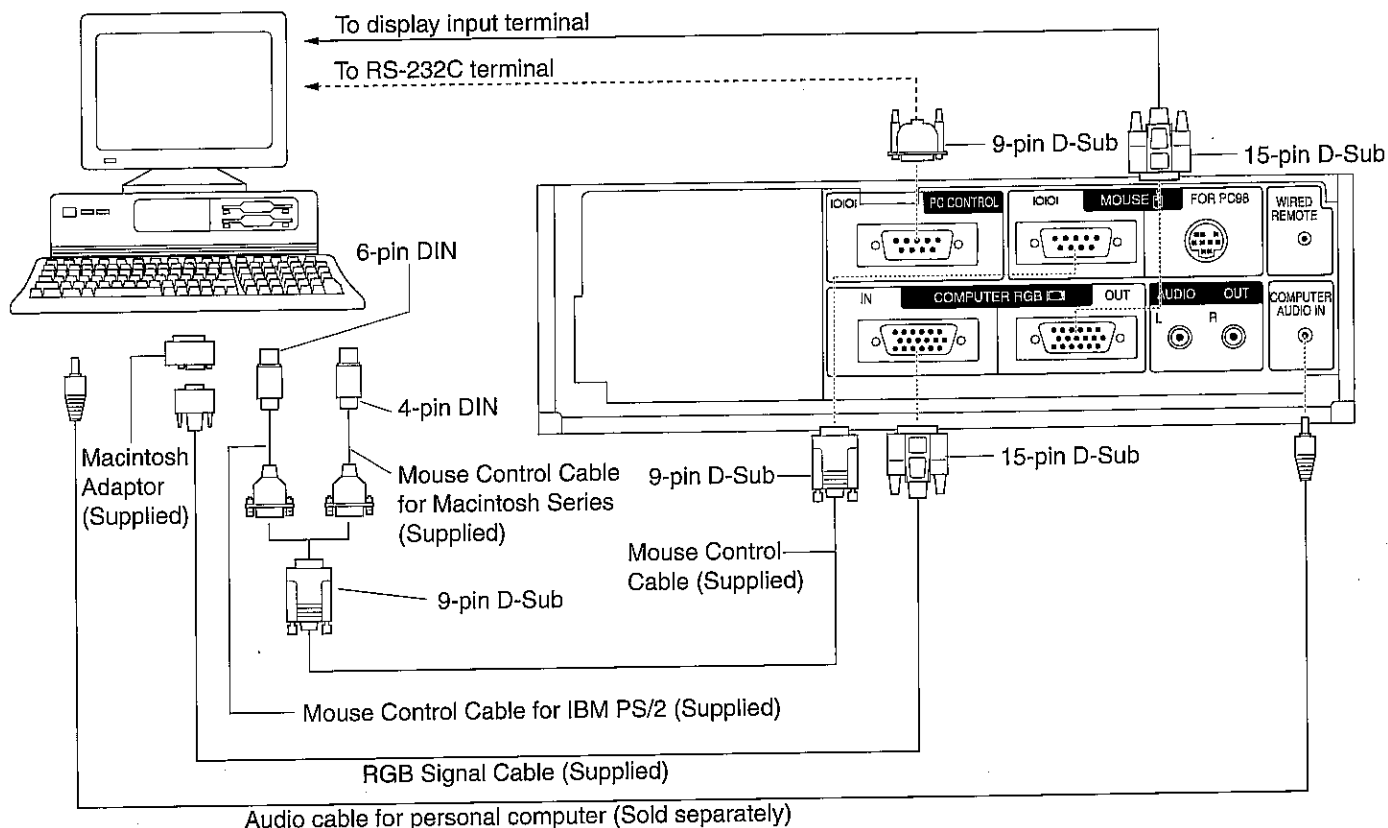
carrying handle



Connecting the Projector (RGB: 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.

- Press on the portion labeled PUSH and open the cover to make the necessary connections.



- You can connect your projector to a computer for easy projection of full color computer images and an external monitor for simultaneous viewing. See page 14 and 15 for details of the connections.
- Refer to page 16 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 page 29 and 30 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 7 for details.

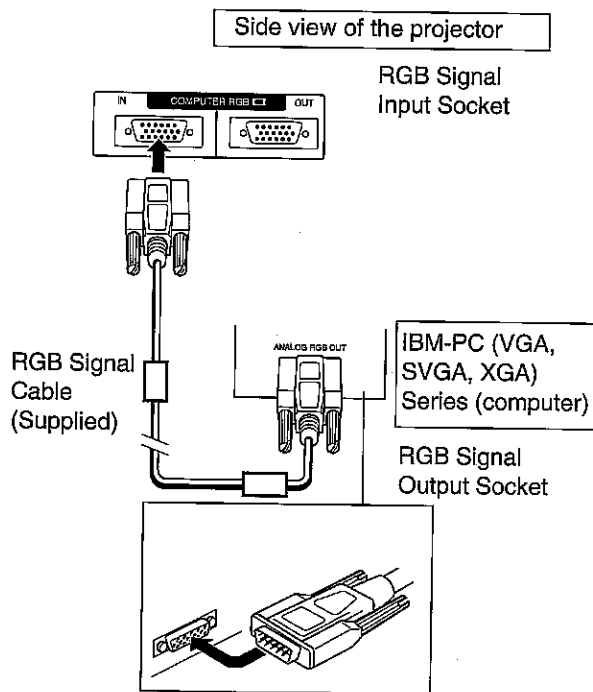
Notes:

- 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.

Connecting to the Computer RGB Input/Output Terminals

You can connect your projector to a computer for easy projection of full-color computer images, and an external monitor for simultaneous viewing.

1



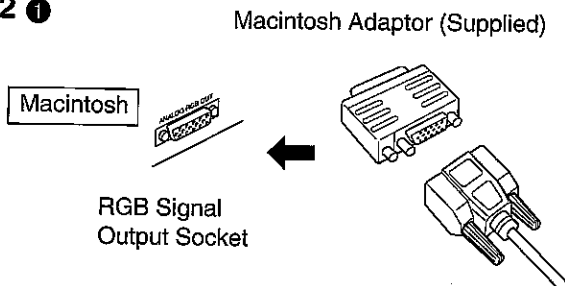
1. Connecting to an IBM-PC (VGA, SVGA, XGA) Series computer – 1,024 × 768 maximum resolution

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 or Mac display output port.

2 ①

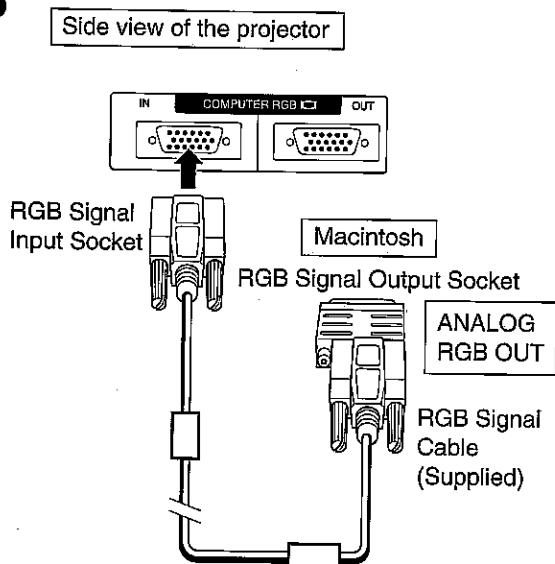


2. Connecting to a Macintosh Series Computer

- 640 × 480 resolution

① First, 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.

②



② Next, 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.

- 832 × 624 resolution

When connecting in the 832 × 624 dot mode, use a Macintosh adaptor with display mode switching function available from your local computer dealer.

3. Connecting to other compatible computers

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

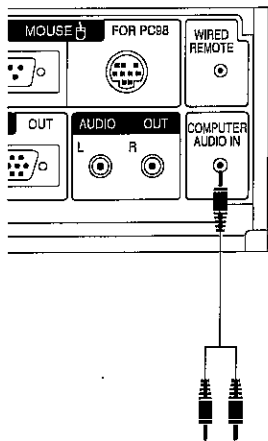
Notes:

- 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.

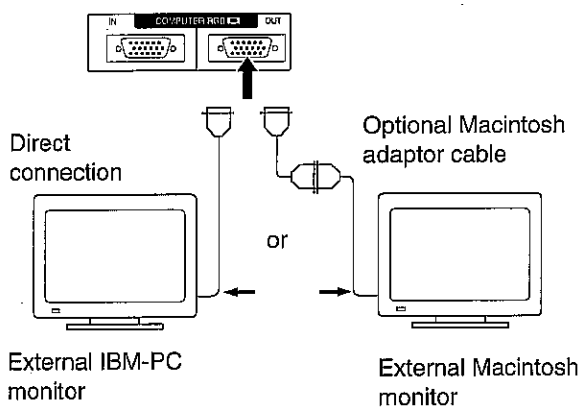
4. Connecting to the COMPUTER RGB AUDIO INPUT

- RGB 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



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.

Caution (Apple Macintosh)

Do not connect the COMPUTER RGB OUTPUT to any monitor except the following:

Apple Color RGB Monitor 13"/14" (640 × 480) or 16"/17" (832 × 624)

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)

Note:

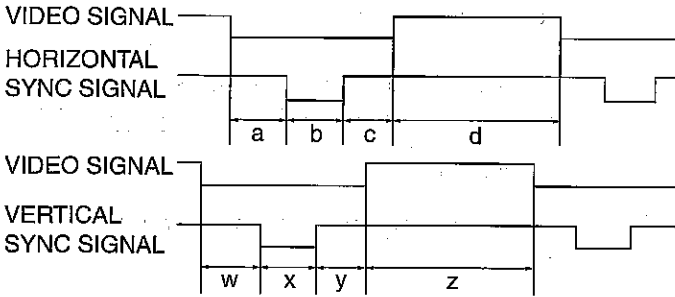
- When using the projector with an external IBM-PC monitor, connect the monitor using the supplied cable. When using the projector with a Macintosh monitor, an optional adaptor cable is required. Before using any other type of monitor, carefully check the monitor's interface specifications and make sure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

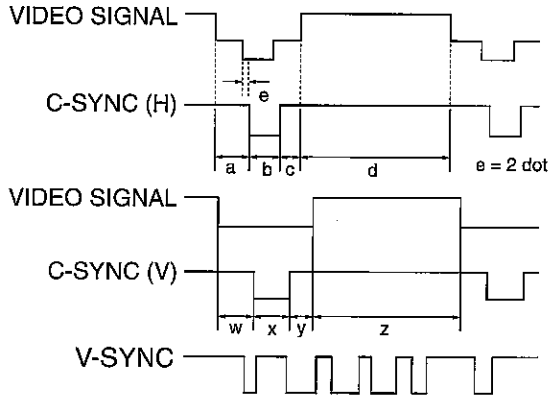
Input Signals (Recommended Timing)

For IBM and compatibles

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



For Apple Macintosh Series



MODE		IBM										Apple										
		VGA										Macintosh™ IIx	Macintosh™ LC	Macintosh™								
		TEXT		Graphic			Graphic	Graphic	VESA Guideline	VESA Standard	VESA Standard	VESA Guideline	VESA Standard	VESA Standard	13" Monitor	13" Monitor	16" Monitor					
		720 dot	640 dot			640 dot	800 dot	800 dot	800 dot	800 dot	800 dot	1024 dot	1024 dot	1024 dot	640 dot	640 dot	832 dot					
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 max. 75Ω load	0.7Vp-p max. 75Ω load	0.7Vp-p max. 75Ω load	
		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		
H S Y N C	FRONT PORCH	a	dot		17		14		24	24	40	56	16	24	24	16	64	78	31			
	SYNC	b	dot		108		96		40	72	128	120	80	136	136	96	64	62	65			
	BACK PORCH	c	dot		55		50		128	128	88	64	160	160	144	176	96	116	224			
	VIDEO PERIOD	d	dot		720		640		640	800	800	800	800	1,024	1,024	1,024	640	640	832			
	1H (a+b+c+d)	dot		900		800		832	1,024	1,056	1,040	1,056	1,344	1,328	1,312	864	896	1,152				
	1 dot	ns		35.3082		39.7219		31.746	27.777	25.000	20.000	20.202	15.385	13.3	12.7	33.0888	31.914063	17.468				
	1/H	kHz		31.4689		31.4688		37.860	35.156	37.879	48.077	46.875	48.383	58.476	60.023	35.0000	34.971149	49.693				
	1/dot	MHz		28.322		25.175		31.500	36.000	40.000	50.000	49.500	65.000	75.0	78.75	30.2400	31.334149	57.246				
	LEVEL	TTL		TTL		TTL		TTL	TTL	TTL	TTL	TTL	TTL	TTL	TTL	TTL	TTL	TTL	TTL			
	SYNC POLARITY	+/-	+	-	+	-	-	-	+/-	+	+	+	-	-	+	-	-	-	-			
V S Y N C	FRONT PORCH	w	H	38	13	38	13	11	9	1	37	1	3	3	1	3	3	1				
	SYNC	x	H	2	2	2	2	2	3	2	4	6	3	6	6	3	3	3	3			
	BACK PORCH	y	H	59	34	59	34	32	28	22	23	23	21	29	29	28	39	39	39			
	VIDEO PERIOD	z	H	350	400	350	400	480	480	600	600	600	600	768	768	768	480	480	624			
	1V (w+x+y+z)	H		449		449		449	449	525	520	625	628	666	625	806	806	800	625	625	667	
			ms		14.2681		14.2681		14.2681	14.2681	16.6832	13.735	17.778	16.879	13.853	13.333	16.666	14.272	13.326	15.00	15.00	13.423
	1/v	Hz		70.0866		70.0866		70.0863	70.0863	59.9405	72.309	56.250	60.317	72.188	75.000	60.006	70.069	75.029	66.67	66.67	74.502	
	LEVEL	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 a (800 x 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 with the INPUT SELECT button and press the MENU button to select the RGB INPUT ADJ. mode.

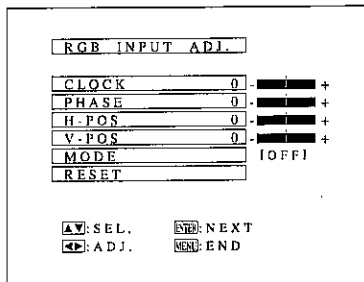
With the MENU screen displayed, press the ADJUSTMENT ▼/▲ buttons to select RGB INPUT ADJ. Then press the ENTER button to display the RGB INPUT ADJ. screen.

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.

2



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 center the on-screen image by moving it to the left or right.

VERTICAL POSITION ADJUSTMENT (UP/DOWN)

- Used to center 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.

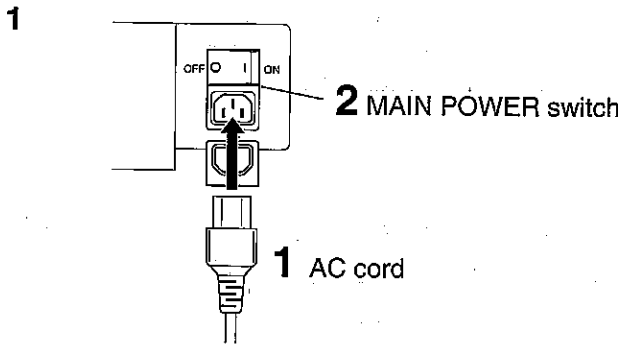
INITIAL RESET

- To return the H-POS, V-POS, PHASE and CLOCK adjustments to their initial settings, select RESET and then press the ENTER button.

Notes:

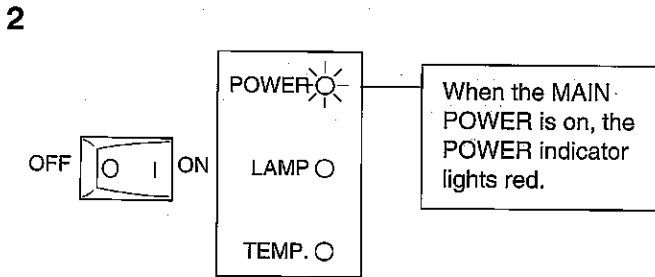
- Flickering, vertical stripes, or contrast irregularities may also occur when the image is reversed. Once again, use the ADJUSTMENT ◀/▶ buttons for HORIZONTAL (LEFT/RIGHT) and VERTICAL (UP/DOWN) POSITION ADJUSTMENTS to adjust for the optimum picture.
- Avoid displaying computer patterns which repeat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

Basic Operation of the Projector



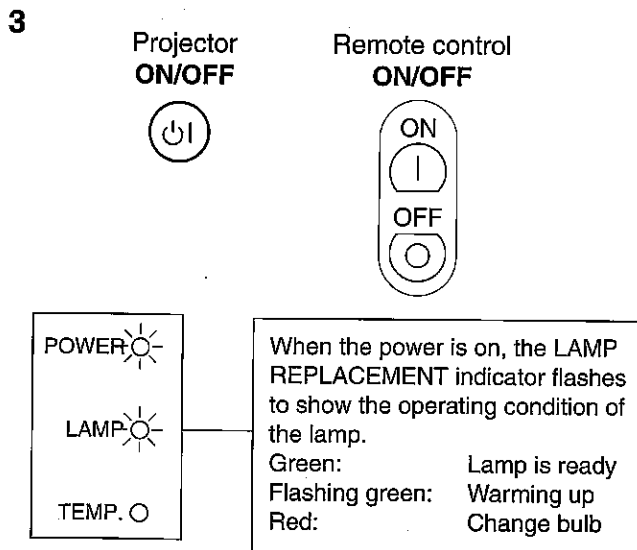
1. Connect the AC cord

Open the socket cover and connect the supplied AC cord to the socket.



2. Turn on the MAIN POWER

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



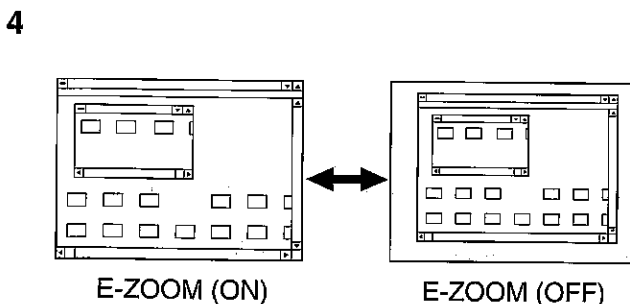
3. Turn on the POWER

Press the POWER ON/OFF button on the projector or the POWER ON button of 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 27, "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 odour will soon disappear with use.



4. E-ZOOM Function

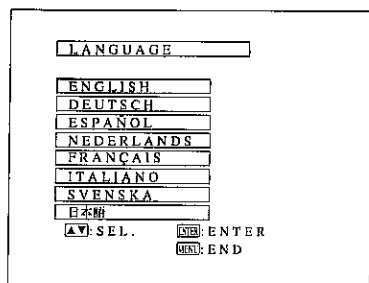
This projector has an E-ZOOM mode which enlarges the display when inputting an image of less than 800 × 600 dots in size. The E-ZOOM button of the remote control is used to operate E-ZOOM function.

See page 23, "E-ZOOM Function" for details.

Notes:

- E-ZOOM function does not operate with monochrome images or in SVGA (800 × 600) and Mac 16" (832 × 624) modes.

On-Screen Display



5. 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, 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 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.

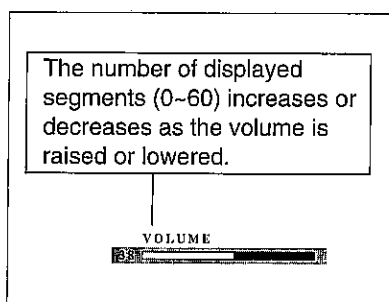
6. Press the Input Select button

When the INPUT SELECT button is pressed, the resolution currently displayed will be indicated for about 4 seconds under "RGB," as shown on the left. (Refer to the second example when connecting to Mac display.)

	RGB 1024×768 60 Hz	RGB 800×600 60 Hz	
Mac	RGB 640×480 35 KHz	RGB 640×480 34.97 KHz	RGB 832×624

Notes:

- 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.



7. Adjust the volume

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

MUTE

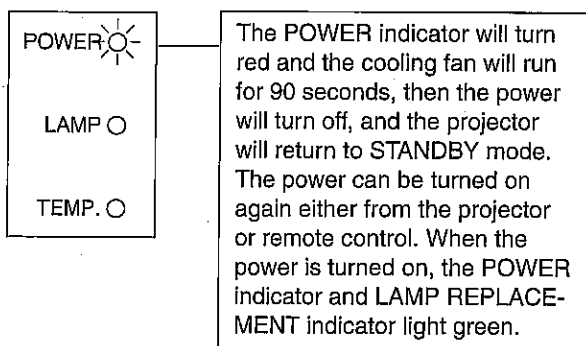
- Press the MUTE button to temporarily turn off the sound.
- Press the MUTE button once again to turn the sound back on.

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.

Note:

- When the MAIN POWER switch on the projector is turned to OFF, the power cannot be turned on with the remote control.

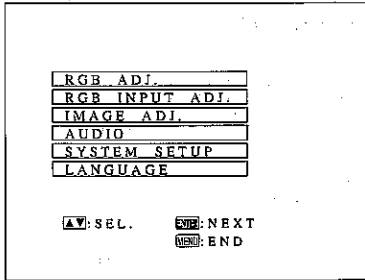


Adjusting the Picture

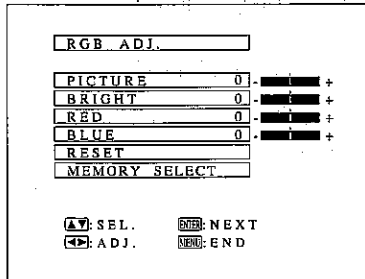
- This projector's picture is factory preset to standard settings. However, you can adjust it to suit your own preferences with the ADJUSTMENT buttons on the projector and the remote control.
- Four picture modes can be adjusted: "PICTURE," "BRIGHT," "RED," and "BLUE."

Adjusting the Picture

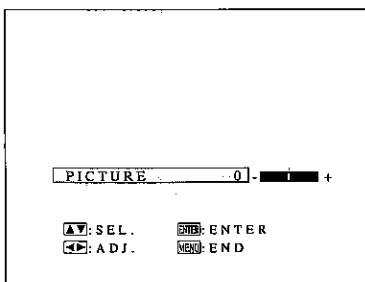
1 On-Screen Display



2



3



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 "RGB ADJ.," then press the ENTER button.

2. Adjust the Picture

- Press the ADJUSTMENT ▼/▲ buttons to highlight the picture adjustment item you want to adjust yellow.
- Press the ADJUSTMENT ◀/▶ buttons to move the "█" 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 "RGB ADJ." mode and press ENTER button.	

3. Display Only the Item to Adjust

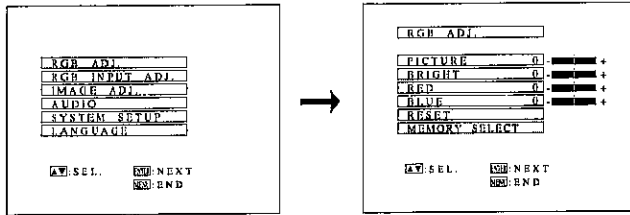
- Press the ADJUSTMENT ▼/▲ buttons to highlight the picture adjustment item you want to adjust yellow. If you press ENTER at this time, only the selected item will be displayed.
- Press the ADJUSTMENT ◀/▶ buttons to move the "█" mark of the selected adjustment item to the desired setting.
- The adjustment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

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

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.

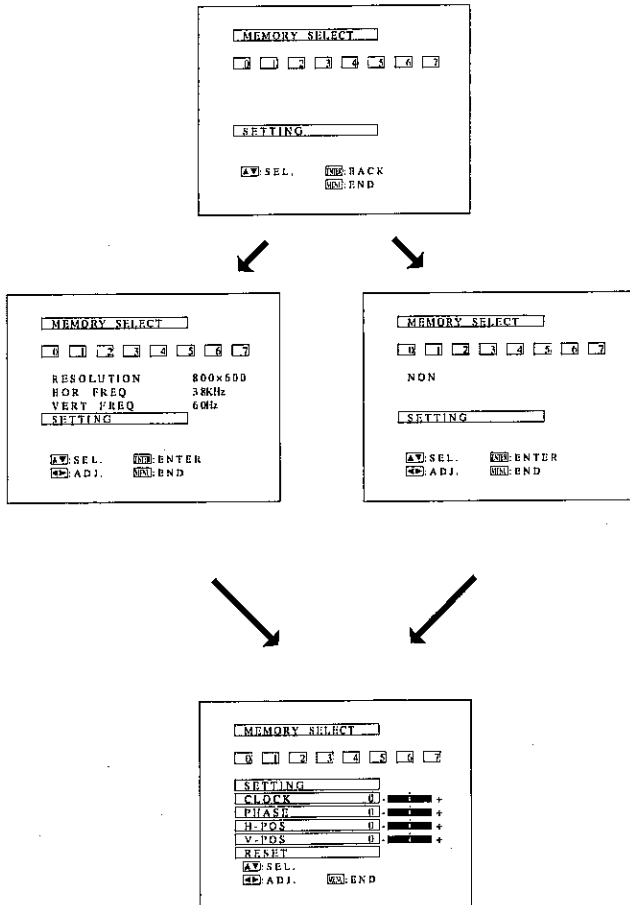
1 When RGB is selected.



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 "RGB ADJ." Press the ENTER 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 ENTER button to change the image.

2



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 next screen. (If you do not want to adjust any, 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.

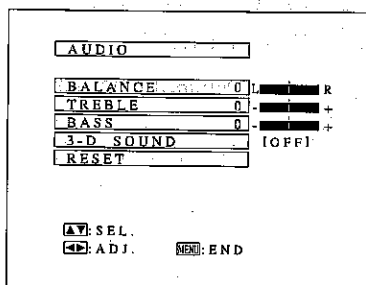
3. Press the MENU button anytime to exit RGB ADJ.

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, and also select the SRS 3-D SOUND mode.

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

On-Screen Display



SRS 3-D SOUND (OFF)

Adjusting the Balance, Treble, Bass

- 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 ADJUSTMENT ▼/▲ buttons to select RESET, then press the ENTER button.

Note:

When the SRS 3-D SOUND is turned on, the balance is reset.

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

Selecting and Adjusting the SRS 3-D SOUND Mode

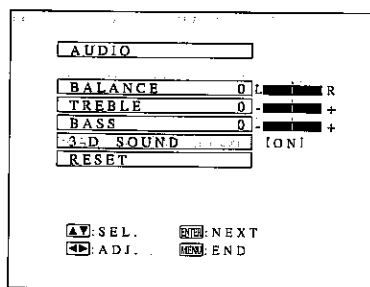
The Sound Retrieval System is a sound system that recreates the effect of three dimensional acoustics. This allows one to enjoy a dynamic sound with a feeling of both width and depth.

- 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 SRS 3-D SOUND with the ADJUSTMENT ▼/▲ buttons. Then press the ADJUSTMENT ◀/▶ buttons to select ON, and press the ENTER button to change the image.
- The five types of SRS 3-D modes are listed below. Press the ADJUSTMENT ▼/▲ buttons to highlight the SRS 3-D mode desired yellow. Then press the ENTER button to set the SRS 3-D mode.

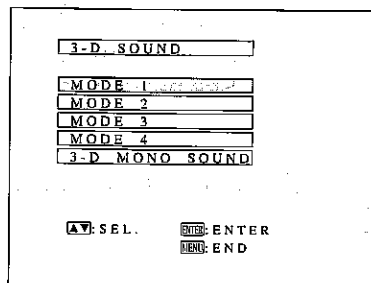
Description of Adjustment Items

- Mode 1 Sound image that produces an intimate soundfield as in a medium-sized hall.
- Mode 2 Maximum soundfield as music comes out beyond the speakers.
- Mode 3 Great for live recording and vocal music.
- Mode 4 This setting greatly increases the amount of vocals or center sounds in a recording.
- Mono 3-D stereo sound from a monaural sound source.

On-Screen Display



On-Screen Display



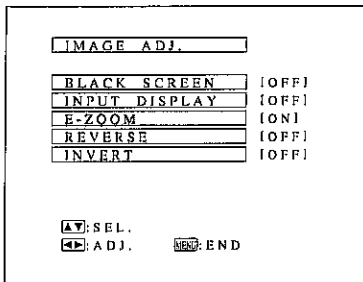
E-ZOOM Function

E-ZOOM Function

- This projector has an E-ZOOM (640 × 480 dot etc.) mode which enlarges the display when inputting an image of less than 800 × 600 dot in resolution. In the XGA (1024 × 768 dot) mode, compression enables full-mode display.

1

On-Screen Display



1. Press the MENU button to select E-ZOOM mode.

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 E-ZOOM, and press the ADJUSTMENT ◀/▶ buttons to select ON. When the VGA (640 × 480 dot) is input, the projector will enter E-ZOOM mode.

E-ZOOM (ON): The screen image will be enlarged to 800 × 600 dot.

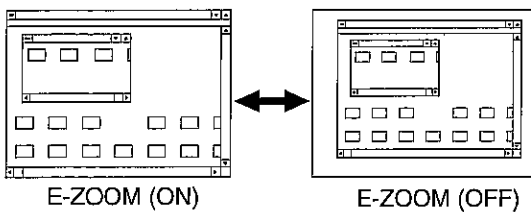
E-ZOOM (OFF): The resolution of the image does not change.

E-ZOOM (---): No input

Notes:

- Select ON 1 or ON 2 to set the status for either a 640 × 400 dot image or 640 × 350 dot image in the E-ZOOM mode.
- In the E-ZOOM mode, an enlarged display increases the amount of data processed on the screen and a compressed image decreases the number of lines displayed, which may make characters difficult to read.

2



2. Press the E-ZOOM button on the remote control.

The E-ZOOM button on the remote control can be used to select E-ZOOM and NO E-ZOOM modes.

Note:

- In SVGA (800 × 600 dots) or Mac 16" (832 × 624 dots) mode, (---) appears, indicating the E-ZOOM function does not operate in this mode.

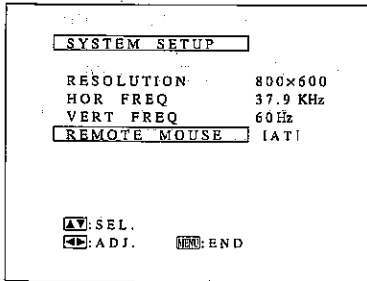
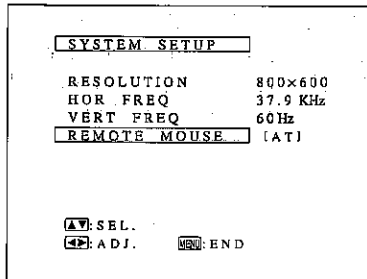
3. Press the MENU button anytime to exit E-ZOOM mode.

Notes:

- E-ZOOM function does not operate in SVGA (800 × 600) or Mac 16" (832 × 624) mode.
- When connecting to some Mac 16" notebook computers, 832 × 624 dot signals may be output even in 640 × 480 mode, thus disabling the E-ZOOM function.
- When connecting to some SVGA notebook computers, 800 × 600 dot signals may be output even in 640 × 480 mode, thus disabling the E-ZOOM function.

Functions on the Projector

On-Screen Display



Setting Up the System

- Using this function, you can check the input signal and select the remote mouse.

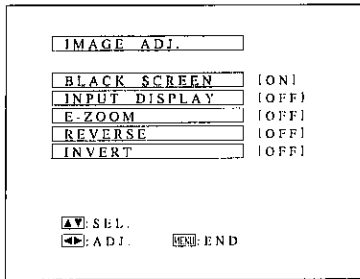
Checking the system

- 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 will be displayed on the screen.
- Press the MENU button to select the normal screen mode.

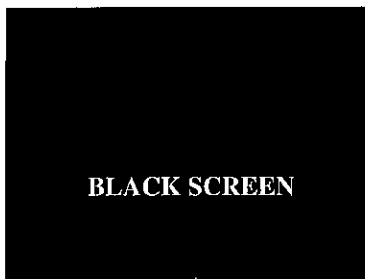
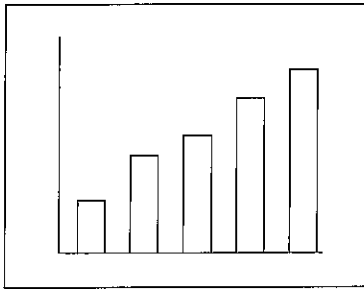
Selecting the Remote Mouse

- 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.

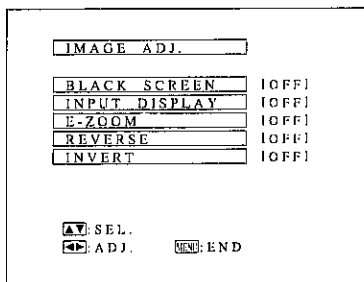
On-Screen Display



LCD Projector



On-screen Display



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 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 shown. Press the ADJUSTMENT ▼/▲ buttons to select "BLACK SCREEN," and press the ADJUSTMENT ◀/▶ buttons to select ON. Then press the MENU button to display the black screen.

Note:

- When BLACK SCREEN is set to OFF, the screen will change to the presentation image when you press the MENU button.

Using the On-Screen Display Override Function

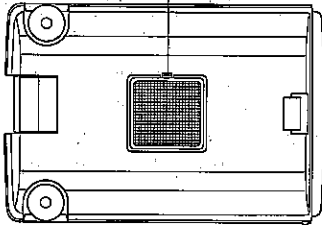
The On-Screen Displays ("RGB 1024 × 768, 60Hz," etc.) that appear during input select can be turned off.

- Press the MENU button. While the MENU screen is displayed, press the ADJUSTMENT ▼/▲ buttons to select IMAGE ADJ. Then press the 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 1024 × 768, 60Hz," etc.) will not be displayed during input select.

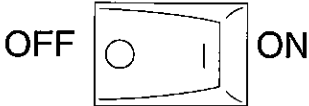
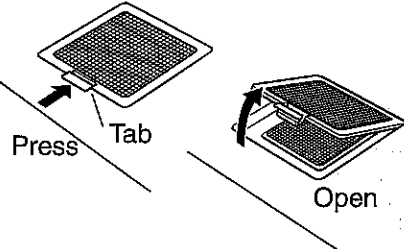
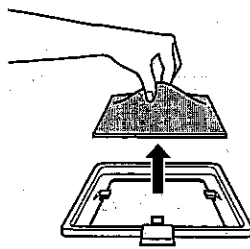
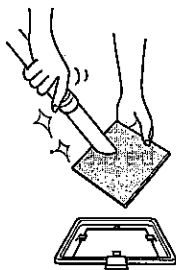
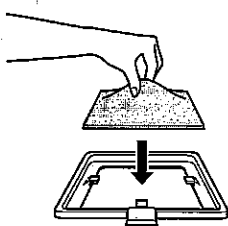
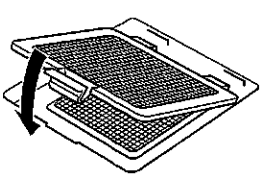
Air Filter Maintenance

- 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 Sharp Industrial LCD Products Dealer or Service Centre replace the filter (PFILD 0051CEZZ) when it is no longer possible to clean it.

AIR FILTER cover



Cleaning and Replacing the Filter

<p>1 Turn OFF the MAIN POWER.</p>  <p>POWER indicator goes off. Unplug the power cord.</p>	<p>2 Remove the FILTER COVER.</p> <p>Press the arrow mark on the air filter cover and pull straight out.</p> 	<p>3 Remove the AIR FILTER.</p> <p>Grasp the air filter between your fingers and lift it out of the filter cover.</p> 
<p>4 Clean the AIR FILTER.</p> <p>Clean the dust off the air filter and cover with a vacuum cleaner.</p> 	<p>5 Replace the AIR FILTER.</p> <p>Place the filter underneath the tabs on the filter frame. Return the air filter to its original position in the filter cover.</p> 	<p>6 Replace the FILTER COVER.</p> <p>Insert the two tabs on the end of the filter cover into the filter cover opening and press the filter cover into position.</p> 

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

Lamp/Maintenance Indicators

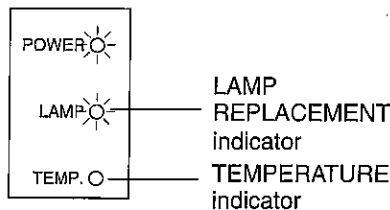
Lamp

- The Lamp has a finite operating life. The lamp for this projector has a usable life of 2000 cumulative hours. This number may differ, however, depending on the ambient conditions.
- 1. When the lamp is nearing the end of its operating life, the picture and color quality will deteriorate. If the lamp is used for more than 1900 hours, the LAMP REPLACEMENT indicator will light red and "LAMP" will flash in yellow letters on the screen when you turn the projector on to alert you that it is time to replace the lamp. In this situation, take your projector to the nearest Authorised Sharp Industrial LCD Products Dealer or Service Centre for replacement.

Caution: Once you are alerted that the lamp requires replacement, be sure to take your projector to the nearest Authorized Sharp Industrial LCD Products Dealer or Service Centre for replacement.

- 2. When the number of hours the lamp is used reaches 2000, 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 2000 hours, "LAMP" will flash on screen in red letters for five minutes and then the power will turn off.
- 3. 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 page 26.)
		• Cooling fan breakdown. • Internal circuit failure.	• Take the projector to your nearest Authorised Sharp Industrial LCD Products Dealer or Service Centre for repair.
LAMP REPLACEMENT indicator	The lamp does not light up.	• Burnt-out lamp. • Lamp circuit failure.	• Take the projector to your nearest Authorised Sharp Industrial LCD Products Dealer or Service Centre for repair.
	The lamp requires replacement.	• The lamp has been used for over 1900 hours.	

Notes:

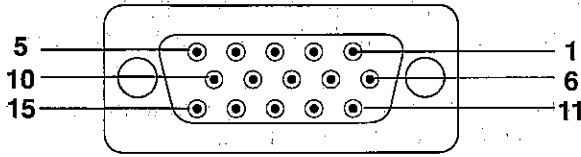
- If the TEMPERATURE indicator comes on, solve the problem and then wait until the projector has cooled down completely before turning the power back on. (At least 5 minutes.)
- When the power is turned off and then turned on again, as during a brief rest, the LAMP replacement indicator may be triggered, 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.	<ul style="list-style-type: none"> • The projector AC cord is not plugged into the AC wall outlet. • The main power button is not pressed. • The input is wrong. (See page 19.) • Cables improperly connected to rear panel of the projector. (See pages 13, 14 and 15.) • Remote control batteries have run down. (See page 6.) • The optional cable for the remote control is properly inserted. • The main power of the remote control is not turned on. • The remote control's MOUSE/ADJUSTMENT switch is set to MOUSE. • The usable life of the lamp has been reached. (See page 27.)
Sound is heard but no picture appears.	<ul style="list-style-type: none"> • Cables improperly connected to rear panel of the projector. (See pages 13, 14 and 15.) • The BRIGHTNESS and PICTURE adjustments are set to minimum position. (See page 20.)
Picture is blurred.	<ul style="list-style-type: none"> • Adjust the focus. (See page 8.) • The projection distance is too long or too short to allow for proper focus. (See page 9.)
Picture appears but no sound is heard.	<ul style="list-style-type: none"> • Cables improperly connected to rear panel of the projector. (See pages 13, 14 and 15.) • Volume is set to minimum. (See pages 19.)
An unusual sound is occasionally heard from the cabinet.	<ul style="list-style-type: none"> • 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.	<ul style="list-style-type: none"> • Refer to "Lamp/Maintenance Indicators" on page 27.

Connection Pin Assignments

Analog RGB Signal Input and Output Terminal : 15-pin mini D-sub female connector

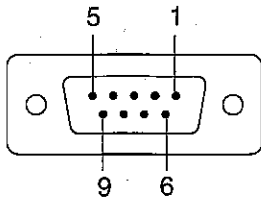


Computer Input

Analog

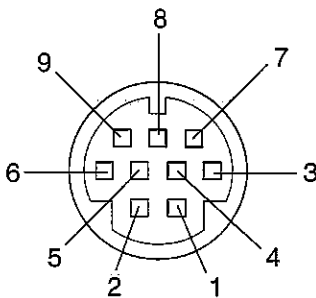
- | | |
|------------------------------|----------------------------|
| 1. Video input (red) | 8. Earth (blue) |
| 2. Video input (green) | 9. GND |
| 3. Video input (blue) | 10. GND |
| 4. Reserve input 1 | 11. GND |
| 5. Composite sync (Mac only) | 12. Reserve input 2 |
| 6. Earth (red) | 13. Horizontal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

Mouse Input Terminal (for IBM/Mac) : 9-pin D-sub female connector



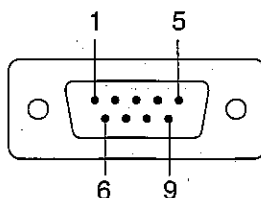
Pin No.	Signal	Name	I/O	Reference
1	CD	Carrier Detect	Input	Connected to internal circuit
2	RD	Receive Data	Input	Connected to internal circuit
3	SD	Send Data	Output	Connected to internal circuit
4	ER	Equipment Ready	Output	Connected to internal circuit
5	SG	Signal Ground		Connected to internal circuit
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	Input	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 control the projector by connecting the two via an RS-232C cable (not supplied).

2. Communication conditions

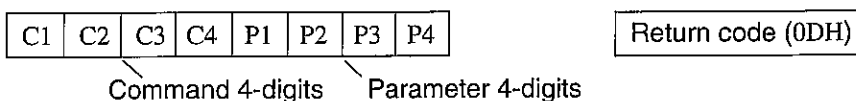
Set the serial port settings of the computer to match that of the table below.

Signal format: Conforms to RS-232C standard.
 Baud rate: 9600bps
 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



Response code format

Normal response



Problem response (communication error or incorrect command)



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 at 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	
LANGUAGE SELECTION	M	E	L	A	-	-	-	1	ENGLISH
					-	-	-	2	DEUTSCH
					-	-	-	3	ESPANOL
					-	-	-	4	NEDERLANDS
					-	-	-	5	SVENSKA
					-	-	-	6	ITALIANO
					-	-	-	7	FRANCAIS
					-	-	-	8	JAPANESE
VOLUME ADJUSTMENT	V	O	L	A	-	-	*	*	VOLUME (0 ~ 60)
	M	U	T	E	-	-	-	0	MUTE OFF
					-	-	-	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)
	S	R	S	M	-	-	-	0	SRS OFF
					-	-	-	1	SRS MODE1
					-	-	-	2	SRS MODE2
					-	-	-	3	SRS MODE3
					-	-	-	4	SRS MODE4
					-	-	-	5	3D MONO
	A	A	R	E	-	-	-	0	AUDIO DISPLAY
				-	-	-	1	RESET	

Note:

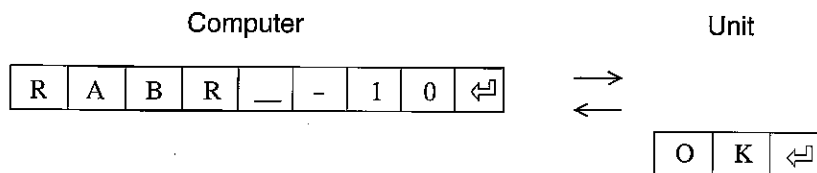
If a dash appears in the parameter column enter a space. If an asterisk appears enter a value in the range indicated in brackets under CONTROL CONTENTS. See the example on the next page.

RS-232C Terminal Specifications

CONTROL ITEM	COMMAND				PARAMETER				CONTROL CONTENTS
	C1	C2	C3	C4	P1	P2	P3	P4	
RGB 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
					-	-	-	1	RESET
RGB INPUT ADJUSTMENT	I	N	C	L	-	*	*	*	CLOCK (-60 ~ +60)
	I	N	P	H	-	*	*	*	PHASE (-60 ~ +60)
	I	A	H	P	-	*	*	*	HPOS (-60 ~ +60)
	I	A	V	P	-	*	*	*	VPOS (-30 ~ +30)
	I	A	R	E	-	-	-	0	RGB INPUT DISPLAY
					-	-	-	1	RESET
SCREEN SETTING	I	M	E	Z	-	-	-	0	E-ZOOM OFF
					-	-	-	1	E-ZOOM ON
	I	M	B	E	-	-	-	0	BLUE SCREEN OFF
					-	-	-	1	BLUE SCREEN ON
	I	M	B	K	-	-	-	0	BLACK SCREEN OFF
					-	-	-	1	BLACK SCREEN ON
	I	M	D	I	-	-	-	0	INPUT DISPLAY OFF
					-	-	-	1	INPUT DISPLAY ON
	I	M	R	E	-	-	-	0	REVERSE OFF
					-	-	-	1	REVERSE ON
VIDEO CONFIRMATION	I	M	I	N	-	-	-	0	INVERT OFF
					-	-	-	1	INVERT ON
MOUSE ADJUSTMENT	S	Y	S	E	-	-	-	0	DISPLAY
	R	E	M	O	-	-	-	1	REMOTE MOUSE AT
SCREEN MODE MEMORY					-	-	-	2	REMOTE MOUSE 98
	M	E	M	A	-	-	-	0	MEMORY RELEASE
					-	-	-	*	MEMORY SELECTION (1 ~ 7)

Example:

When BRIGHT of RGB ADJUSTMENT is set to -10.



Specifications

Product Type	LCD Projector
Model	XG-NV1E
Display method	LCD panel × 3, RGB optical shutter method
LCD panel	Panel size: 3.3 cm (1.3") (19.8 [H] × 26.4 [W] mm) Display method: Translucent TN liquid crystal panel Drive method: TFT (Thin Film Transistor) Active Matrix panel No. of dots: 519,168 dots (832 [H] × 624 [V])
Lens	F2.8 to 3.3, f = 53 to 74 mm
Projection lamp	265 W Metal halide
Contrast ratio	100:1
Audio output	3 W + 3 W (Stereo)
Computer RGB input signal	Video Signal: 15-pin mini D-sub connector: RGB separate type analog input: 0.7 Vp-p, positive, 75 terminated Stereo Minijack: AUDIO, 0.5 Vrms, more than 22 k (stereo) Horizontal sync. signal: TTL level (positive/negative) or composite sync (Apple only) Vertical sync. signal: Same as above
RS-232C input terminal	9-pin D-sub male connector for controlling personal computer
Mouse input terminal (for IBM/Mac)	9-pin D-sub female connector for wireless mouse
Mouse input terminal (for PC98)	9-pin mini DIN connector for wireless mouse
Speaker system	3" (8 cm) round × 2
Rated voltage	AC 200 V - 240 V
Rated frequency	60/50 Hz
Power consumption	355 W
Standby consumption	4 W
Operating temperature	5°C to 40°C
Storage temperature	-20°C to 60°C
Cabinet	Plastic
Laser Pointer of Remote Control	Wave length : 670nm Max. output : 1mW Class II Laser Product
Dimensions (W × D × H)	264 × 388 × 120 mm
Weight	7.5 kg
Supplied accessories	Remote control unit, Four AA batteries, Extra air filter, RGB signal cable (3 m), Macintosh adaptor, Mouse control cable for IBM PS/2 (15 cm), Mouse control cable for Macintosh (15 cm), Mouse control cable (3 m), AC cord, Lens cover (installed)
Replacement parts	Remote control (RRMCG 1343CESA), Air filter (PFILD0051CEZZ), VGA cable (QCNW-4422CEZZ), Macintosh adaptor (QPLGJ1510CEZZ), Mouse control cable for IBM PS/2 (QCNW-4754CEZZ), Mouse control cable for Macintosh (QCNW-4755CEZZ), Mouse control cable (QCNW-4620CEZZ), AC cord

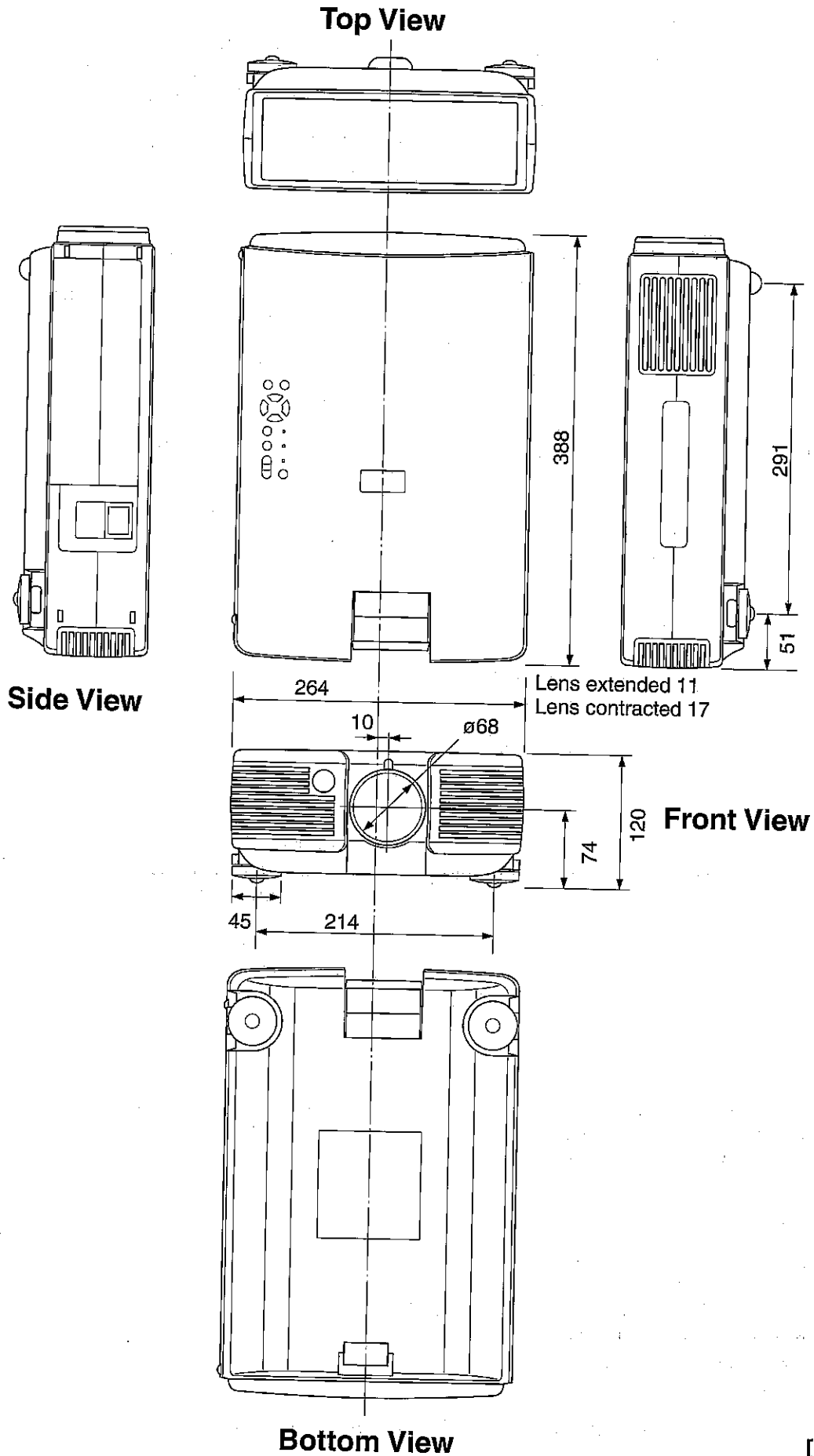
Our projector uses LCD (Liquid Crystal Display) panels. These very sophisticated panels contain 519,168 pixels (× RGB) TFTs (Thin Film Transistors).

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 6 inactive TFTs, which may result in illuminated or inactive 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



[Units:mm]