Projection lens is optional.

OWNER’S MANUAL
This Multimedia Projector is designed with most advanced technology for portability, durability, and ease of use. This projector utilizes built-in multimedia features, a palette of 1.07 billion colors, and matrix liquid crystal display (LCD) technology.

◆ Functionally Rich

This projector has many useful functions such as lens shifting, ceiling and rear projection, perpendicular omnidirectional projection, variety of lens options, etc.

◆ Simple Computer System Setting

The projector has the Multi-scan system to conform to almost all computer output signals quickly (p.34). Supported resolution up to WUXGA.

◆ Useful Functions for Presentation

Digital zoom function allows you to focus on the crucial information during a presentation (pp.29, 40).

◆ Security Function

The Security function helps you to ensure security of the projector. With the Key lock function, you can lock the operation on the side control or remote control (p.53). PIN code lock functions prevents unauthorized use of the projector (pp.53–54).

◆ Lamp Control

Brightness of the projection lamp can be selected (p.51).

◆ Power Management

The Power management function reduces power consumption and maintains lamp life (p.52).

◆ Automatic Filter Replacement Function

The projector monitors the condition of the filter and replaces a filter automatically when it detects the clogging.

◆ Helpful Maintenance Functions

Lamp and filter maintenance functions provide for better and proper maintenance of the projector.

✔ Note:
- The On-Screen Menu and figures in this manual may differ slightly from the product.
- The contents of this manual are subject to change without notice.
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Trademarks
Each name of corporations or products in this book is either a registered trademark or a trademark of its respective corporation.
Before installing and operating the projector, read this manual thoroughly.
The projector provides many convenient features and functions. Operating the projector properly enables you to manage those features and maintains it in good condition for many years to come.
Improper operation may result in not only shortening the product life, but also malfunctions, fire hazard, or other accidents.
If your projector seems to operate improperly, read this manual again, check operations and cable connections and try the solutions in the “Troubleshooting” section in the back of this manual. If the problem still persists, contact the dealer where you purchased the projector or the service center.

The symbol mark and recycling systems described below apply to EU countries and do not apply to countries in other areas of the world.
Your product is designed and manufactured with high quality materials and components which can be recycled and/or reused.
The symbol mark means that electrical and electronic equipment, batteries and accumulators, at their end-of-life, should be disposed of separately from your household waste.

Note:
If a chemical symbol is printed beneath the symbol mark, this chemical symbol means that the battery or accumulator contains a heavy metal at a certain concentration. This will be indicated as follows: Hg: mercury, Cd: cadmium, Pb: lead.
In the European Union there are separate collection systems for used electrical and electronic equipment, batteries and accumulators. Please, dispose of them correctly at your local community waste collection/recycling centre.

Please, help us to conserve the environment we live in!

READ AND KEEP THIS OWNER'S MANUAL FOR LATER USE.
All the safety and operating instructions should be read before the product is operated.

Read all of the instructions given here and retain them for later use. Unplug this projector from AC power supply before cleaning. Do not use liquid or aerosol cleaners. Use a damp cloth for cleaning.

Follow all warnings and instructions marked on the projector.

For added protection to the projector during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet. This will prevent damage due to lightning and power line surges.

Do not expose this unit to rain or use near water... for example, in a wet basement, near a swimming pool, etc...

Do not use attachments not recommended by the manufacturer as they may cause hazards.

Do not place this projector on an unstable cart, stand, or table. The projector may fall, causing serious injury to a child or adult, and serious damage to the projector. Use only with a cart or stand recommended by the manufacturer, or sold with the projector. Wall or shelf mounting should follow the manufacturer’s instructions, and should use a mounting kit approved by the manufacturers.

An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.

Slots and openings in the back and bottom of the cabinet are provided for ventilation, to ensure reliable operation of the equipment and to protect it from overheating.

The openings should never be covered with cloth or other materials, and the bottom opening should not be blocked by placing the projector on a bed, sofa, rug, or other similar surface. This projector should never be placed near or over a radiator or heat register.

This projector should not be placed in a built-in installation such as a book case unless proper ventilation is provided.

Never push objects of any kind into this projector through cabinet slots as they may touch dangerous voltage points or short out parts that could result in a fire or electric shock. Never spill liquid of any kind on the projector.

Do not install the projector near the ventilation duct of air-conditioning equipment.

This projector should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supplied, consult your authorized dealer or local power company.

Do not overload wall outlets and extension cords as this can result in fire or electric shock. Do not allow anything to rest on the power cord. Do not locate this projector where the cord may be damaged by persons walking on it.

Do not attempt to service this projector yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

Unplug this projector from 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 projector.
c. If the projector has been exposed to rain or water.
d. If the projector does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the projector to normal operation.
e. If the projector has been dropped or the cabinet has been damaged.
f. When the projector exhibits a distinct change in performance—this indicates a need for service.

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 part. Unauthorized substitutions may result in fire, electric shock, or injury to persons.

Upon completion of any service or repairs to this projector, ask the service technician to perform routine safety checks to determine that the projector is in safe operating condition.

NOTE FOR CUSTOMERS IN THE US

LAMP(S) INSIDE THIS PRODUCT CONTAIN MERCURY AND MUST BE RECYCLED OR DISPOSED OF ACCORDING TO LOCAL, STATE OR FEDERAL LAWS.
**Air Circulation**

Openings in the cabinet are provided for ventilation. To ensure reliable operation of the product and to protect it from overheating, these openings must not be blocked or covered.

![Diagram of projector with air vents labeled]

**CAUTION**

Hot air is exhausted from the exhaust vent. When using or installing the projector, the following precautions should be taken.

- Do not put any flammable object or spray can near the projector, hot air is exhausted from the air vents.
- Keep the exhaust vent at least 3’ (1 m) away from any objects.
- Do not touch peripheral parts of the exhaust vent, especially screws and metallic parts. These areas will become hot while the projector is being used.
- Do not put anything on the cabinet. Objects put on the cabinet will not only get damaged but also may cause fire hazard by heat.
- Do not cover vents with papers or other materials.
- Make sure that there are no objects under the projector. An object under the projector may prevent the projector from taking cooling air through bottom vent.

Cooling fans are provided to cool down the projector. The fans’ running speed is changed according to the temperature inside the projector.

**IMPORTANT! Filter Maintenance!!**

The projector uses a lamp which generates significant heat. The cooling fans and air vents are provided to dissipate the heat by drawing air into the housing and the filter is located in the intake vents to prevent dust from getting inside of the projector.

In order to care for the projector appropriately, regular cleaning is required. Remove any dirt or dust that has accumulated on the projector.

If the projector reaches a time set in the timer setting, a Filter replacement icon (Fig. 1) appears on the screen and WARNING FILTER indicator on the top panel lights up (see below), indicating that the filter replacement is necessary.

If the projector detects that the filter is clogged and no scroll is left in the filter cartridge, a Filter cartridge replacement icon (Fig. 2) appears on the screen and WARNING FILTER indicator on the top panel lights up (see below). Stop using the projector immediately and replace the filter cartridge.

Blocking the air vents and leaving the projector uncleaned for a long time may not only damage the projector and may require costly repairs but may also cause accidents or fire.

For maintenance of the filter, refer to “Filter counter” on page 56 and “Maintenance and Care” on pages 57–59.

**Damages to the projector caused by using an uncleaned filter or improper maintenance will void the warranty on the projector.**
Installing the Projector in Proper Directions

Use the projector properly in specified positions. Improper positioning may reduce the lamp life and result in severe accident or fire hazard. This projector can project the picture in upward, downward, or inclined position in perpendicular direction to the horizontal plane.

✔ Note:
- To inverse or reverse the image, set the ceiling function to “On.” (pp. 40, 44)
- The projector can not be operated at an altitude above 3,000 meters.

Positioning Precautions

Avoid positioning the projector as described below when installing.

Do not roll the projector more than 10 degrees from side to side.

In upward projection, do not tilt the projector over 10 degrees right and left.

Do not put the projector on either side to project an image.

In downward projection, do not tilt the projector over 10 degrees right and left.

CAUTION ON CEILING MOUNTING

For ceiling mounting, you need the ceiling mount kit designed for this projector. When not mounted properly, the projector may fall, causing hazards or injury. For details, consult your dealer. The warranty on this projector does not cover any damage caused by use of any non-recommended ceiling mount kit or installation of the ceiling mount kit in an improper location.
Moving the Projector

Retract the adjustable feet to prevent damage to lens and cabinet. For safety, holding the projector on both sides by 2 or more people is recommended to move the projector because the projector is heavy. When moving the projector by one person from necessity, hold the handle carefully. Do not hold the lens mount cover. Moving it improperly may result in damage of cabinet or person’s injury.

CAUTION IN CARRYING OR TRANSPORTING THE PROJECTOR

– Do not drop or bump the projector, otherwise damages or malfunctions may result.
– When carrying the projector, use a suitable carrying case.
– Do not transport the projector by courier or any other transport service in an unsuitable transport case. This may cause damage to the projector. For information about transporting the projector by courier or any other transport service, consult your dealer.
– Do not put the projector in a case before it is cooled enough.
– Do not transport the projector with a replacement lens installed.
AC Power Cord Requirement

The AC Power Cord supplied with this projector meets the requirement for use in the country you purchased it.

AC Power Cord for the United States and Canada:

AC Power Cord used in the United States and Canada is listed by the Underwriters Laboratories (UL) and certified by the Canadian Standard Association (CSA). AC Power Cord has a grounding-type AC line plug. This is a safety feature to be sure that the plug will fit into the power outlet. Do not try to defeat this safety feature. Should you be unable to insert the plug into the outlet, contact your electrician. THE SOCKET-OUTLET SHOULD BE INSTALLED NEAR THE EQUIPMENT AND EASILY ACCESSIBLE.

AC Power Cord for the United Kingdom:

This cord is already fitted with a moulded plug incorporating a fuse, the value of which is indicated on the pin face of the plug. Should the fuse need to be replaced, an ASTA approved BS 1362 fuse must be used of the same rating, marked thus A S A. If the fuse cover is detachable, never use the plug with the cover omitted. If a replacement fuse cover is required, ensure it is of the same colour as that visible on the pin face of the plug (i.e. red or orange). Fuse covers are available from the Parts Department indicated in your User Instructions. WARNING: A PLUG WITH BARED FLEXIBLE CORD IS HAZARDOUS IF ENGAGED IN A LIVE SOCKET OUTLET.

The Wires in this mains lead are coloured in accordance with the following code:

- Green-and-yellow ············· Earth
- Blue ································· Neutral
- Brown ······························ Live

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

- The wire which is coloured green-and-yellow must be connected to the terminal in the plug which is marked by the letter E or by the safety earth symbol † or coloured green or green-and-yellow.
- The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black.
- The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.

WARNING: THIS APPARATUS MUST BE EARTHED.
Part Names and Functions

Front

1. Lens Mount Cover
2. Projection Lens (Option)
3. Indicators
4. Infrared Remote Receiver (Front)

5. Adjustable Feet
6. Terminals and Connectors
7. Handle
8. Side Control
9. Lamp Cover

Back

10. Infrared Remote Receiver (Rear)
11. Exhaust Vent

CAUTION

Hot air is exhausted from the exhaust vent. Do not put heat-sensitive objects near this side.

12. Main On/Off Switch
13. Power Cord Connector
14. Air Intake Vent
15. Air Filter Cover

*Kensington Security Slot
This slot is for a Kensington lock used to deter theft of the projector.

*Kensington is a registered trademark of ACCO Brands Corporation.
**Terminals and Connectors**

1. **SERIAL PORT IN TERMINAL**
   If you control the projector by computer, you must connect a cable (not supplied) from your computer to this terminal.

2. **SERIAL PORT OUT TERMINAL**
   This terminal outputs signal from SERIAL PORT IN. More than two projectors can be controlled with one computer by connecting SERIAL PORT IN of another projector to this terminal.

3. **USB CONNECTOR (Series B)**
   USB connector is used to service the projector.

4. **R/C JACK**
   When using the wired remote control, connect the wired remote control to this jack with a remote control cable (supplied).

5. **DVI INPUT TERMINAL**
   Connect computer output (Digital/DVI-D type) to this terminal. (p.20)
   HD (HDCP Compatible) signal can be also connected. (p.21)

6. **D-sub 15-PIN INPUT TERMINAL**
   Connect computer output (Analog D-sub 15-pin type) to this terminal. (p.20)

7. **5 BNC INPUT JACKS**
   Connect the component or composite video output signal from video equipment to VIDEO/Y, Pb/Cb, and Pr/Cr jacks or connect the computer output signal (5 BNC Type [Green, Blue, Red, Horiz. Sync, and Vert. Sync.]) to G, B, R, H/V, and V jacks (pp.20–21).

8. **S-VIDEO INPUT JACK**
   Connect the S-VIDEO output signal from video equipment to this jack (p.21).

*RESET button*
   A built-in micro processor which controls this unit may occasionally malfunction and need to be reset. This can be done by pressing the RESET button with a pen, which will shut down and restart the unit. Do not use the RESET function excessively.
Part Names and Functions

**Side Control and Indicators**

![Diagram of Side Control and Indicators]

**Side Control**

1. **ON/STAND-BY button**
   - Turn the projector on or off. (pp.23, 24)

2. **ZOOM button**
   - Zoom in and out the images. (p.27)

3. **MENU button**
   - Open or close the On-Screen MENU. (pp.25, 26)

4. **POINT buttons**
   - Select an item or adjust the value in the On-Screen MENU. (p.25)
   - Pan the image in DIGITAL ZOOM + mode. (p.40)

5. **SHUTTER button**
   - Close and open up the built-in shutter. (p.27)

6. **AUTO PC ADJ. button**
   - Automatically adjust the computer image to its optimum setting. (pp.27, 35)

7. **LENS SHIFT button**
   - Select the LENS SHIFT function. (p.27)

8. **FOCUS button**
   - Adjust the focus. (p.27)

9. **INPUT button**
   - Select an input source INPUT 1, INPUT 2, Input 3 or Input 4. (pp.31-33)

10. **SELECT button**
    - Used to execute the selected item. (p.25) It is also used to expand image in DIGITAL ZOOM mode. (p.40)

11. **INFORMATION button**
    - Display the input source information. (p.28).
**Indicators**

<p>| | |</p>
<table>
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</tr>
</thead>
</table>
| 1 | LAMP Indicator  
This indicator is dim when the projector is turned on. And bright when the projector is in stand-by mode. (pp.72-74) |
| 2 | READY indicator  
This indicator lights green when the projector is ready to be turned on. And it flashes green in Power Management mode. (pp.52, 72-74) |
| 3 | WARNING TEMP indicator  
This indicator flashes red when internal projector temperature is too high. (pp.65, 72-74) |
| 4 | WARNING FILTER indicator  
– Blink slow when the filter is being scrolled (pp. 57, 72).  
– Blink fast when the filter scroll is not working properly or the filter cartridge is not installed (pp.57, 74).  
– Light orange when the clogging of the filter is detected or the filter counter reaches a time set in the timer setting, urging immediate filter/ filter cartridge replacement (pp.56, 57, 74). |
| 5 | SHUTTER indicator  
Light blue when the shutter is closed. (p72) |
| 6 | LAMP 2 REPLACE indicator  
Turn orange when the life of the projection lamp2 draws to an end. (pp.61, 73) |
| 7 | LAMP 1 REPLACE indicator  
Turn orange when the life of the projection lamp1 draws to an end. (pp.61, 73) |
Remote Control

1. **ON/STAND-BY button**
   - Turn the projector on or off. (pp.23-24)

2. **AUTO PC button**
   - Automatically adjust the computer image to its optimum setting (pp.29, 35).

3. **LIGHT button**
   - Light the buttons on the remote control for about 10 seconds.

4. **MENU button**
   - Open or close the On-Screen MENU. (pp.25-26)

5. **POINT ▲▼◄► buttons**
   - Select an item or adjust the value in The ON-SCREEN MENU. (p.25)
   - Pan the image in DIGITAL ZOOM +/- mode. (p.40)

6. **LENS SHIFT button**
   - Select the LENS SHIFT function. (p.29)

7. **FOCUS buttons**
   - Adjust the focus. (p.29)

8. **ZOOM buttons**
   - Zoom in and out the images. (p.29)

9. **FREEZE button**
   - Freeze the picture on the screen. (p.29)

10. **D.ZOOM button**
    - Select the Digital zoom +/- mode and resize the image. (pp.29, 40)

11. **P-TIMER button**
    - Operate the P-TIMER function. (p.30)

12. **KEYSTONE button**
    - Correct keystone distortion. (pp.30, 40, 44)

13. **FILTER button**
    - Scroll the filter. (p.30)

14. **SHUTTER button**
    - Close the built-in shutter for light blocking. (pp.27, 30)

15. **SELECT button**
    - Execute the selected item. (p.25)
    - Expand or compress the image in the DIGITAL ZOOM mode. (p.40)

16. **SCREEN button**
    - Select the screen size. (pp.39-40)

17. **IMAGE ADJ. button**
    - Enter the image level adjustment mode. (pp.30, 45-47)

18. **INPUT 1, 2, 3, 4 buttons**
    - Select an input source. (pp.31-33)

19. **INFO. button**
    - Display the input source information. (p.29)

20. **IMAGE SEL. button**
    - Select the image level. (pp.30, 38, 42)

21. **Wired Remote Jack**
    - Connect the remote control cable to this jack when using as a wired remote control.

---

✔ **Note:**
To ensure safe operation, observe the following precautions:
- Do not bend, drop, or expose the remote control to moisture or heat.
- For cleaning, use a soft dry cloth. Do not apply benzene, thinner, spray, or any other chemical materials.
Remote Control Battery Installation

1 Open the battery compartment lid.

Pull up the lid and remove it.

2 Install new batteries into the compartment.

Two AA size batteries
For correct polarity (+ and –), be sure battery terminals are in contact with pins in the compartment.

3 Replace the compartment lid.

To ensure safe operation, please observe the following precautions:
- Use two (2) AA or LR6 type alkaline batteries.
- Always replace batteries in sets.
- Do not use a new battery with a used battery.
- Avoid contact with water or liquid.
- Do not expose the remote control to moisture or heat.
- Do not drop the remote control.
- If the battery has leaked on the remote control, carefully wipe the case clean and install new batteries.
- Risk of an explosion if battery is replaced by an incorrect type.
- Dispose of used batteries according to the instructions.

Remote Control Receivers and Operating Range

Point the remote control toward the projector (Infrared Remote Receivers) when pressing the buttons. Maximum operating range for the remote control is about 16.4’ (5 m) and 60 degrees in front and rear of the projector.

Infrared Remote Receivers are provided both in front and back of the projector. You can conveniently use both of the receivers.(pp. 10, 52)

Note:
- When hanging the projector from the ceiling, select the Infrared Remote Receiver which is located farther away from the fluorescent light.(p.52)

Wired Remote Control

The remote control can be used as a wired remote control. Wired remote control helps you use the remote control outside of the operating range (16.4’/ 5 m). Connect the remote control and the projector with the remote control cable. Connected with the remote control cable, the remote control does not emit wireless signal.
Remote Control Code

The eight different remote control codes (Code 1–Code 8) are assigned to this projector. Switching the remote control codes prevents interference from other remote controls when several projectors or video equipment next to each other are operated at the same time. Change the remote control code for the projector first before changing that for the remote control. See “Remote control” in the Setting Menu on page 52.

1 Check the Reset Switch to "Use position" in the compartment lid on the back of the remote control.

2 While holding down the MENU button, press and release the IMAGE ADJ. button the number of corresponding times you would like to set the number of the remote control code for the projector.

<table>
<thead>
<tr>
<th>Remote Control Code</th>
<th>Number of Times Pressing IMAGE ADJ. button</th>
</tr>
</thead>
<tbody>
<tr>
<td>Code 1</td>
<td>1</td>
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<tr>
<td>Code 2</td>
<td>2</td>
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<td>Code 3</td>
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<tr>
<td>Code 7</td>
<td>7</td>
</tr>
<tr>
<td>Code 8</td>
<td>8</td>
</tr>
</tbody>
</table>
**Lens Installation**

Before setting up the projector, install Projection Lens on the projector.

Before installation, check where the projector is used and prepare a suitable lens. For the specifications of Projection Lens, contact sales dealer where you purchased the projector.

- **Do not use the optional lens below for this projector. Otherwise damages may result.**
  
  **LENS MODEL NO. : AH-21031, AH-21032**

- Lens installation and replacement should be made by the qualified service personnel.

- When setting the projector after lens installation, be sure to replace a Lens Cap to protect a surface.

- When carrying or holding up the projector, be careful not to put your hands on lens part. It may damage lens, cabinet, or mechanical parts.

**Positioning Projector**

This projector is designed to project on a flat projection surface.

✔ **Note:**

*Brightness in room has a great influence on picture quality. It is recommended to limit ambient lighting in order to provide the best image.*
**Lens Shift Adjustment**

Projection lens can be moved from side to side and up and down with the motor-driven lens shift function. This function makes the positioning of images easy on the screen. (See page 27)

When the lens is shifted to the top:
- The display position can be shifted upward up to 50% elevation of the display.

When the lens is shifted to the bottom:
- The display position can be shifted downward up to 50% low level of the display.

When the lens is shifted to the leftmost:
- The display position can be shifted to the left in up to 10% width of the display.

When the lens is shifted to the rightmost:
- The display position can be shifted to the right in up to 10% width of the display.

**Picture Level and Pitch Adjustment**

The projection angle is adjustable up to 2.8 degrees upward and downward respectively by rotating front and back feet.

To raise the projector, rotate the feet clockwise.

To lower the projector or to retract the adjustable feet, rotate the feet counterclockwise.

To correct keystone distortion, press the KEYSTONE button on the remote control or select Keystone from the menu (see pages 14, 30, 40, 44).

Do not rotate the adjustable feet when you see the red line on the adjustable feet. The adjustable feet may fall off.

REAR ADJUSTABLE FEET (Refer to p.10)

ADJUSTABLE FEET
**Terminals of Projector**

The projector has two replaceable Interface board slots. The projector's functions can be extended by installing the optional interface boards into the terminal slots. 2 vacant slots (Input 3 and 4) are provided in your purchasing the projector. For the Optional Interface Boards, contact sales dealer where you purchased the projector.

2 TERMINAL SLOTS (Factory set)

**Replacement of Terminal**

**Note:**
- In the replacement of interface board, turn off the projector, press the Main On/Off Switch to Off and unplug the AC power cord from the AC outlet.

1. Remove 2 Screws from an interface board.

2. Pull out the interface board.

3. Replace the interface board. Insert a new interface board along Guide to fit Plug into Socket.

4. Tighten screws to secure the interface board.

**NOTES ON ORDERING OR USING OPTIONAL INTERFACE BOARD**

When ordering or using Optional Interface Board, contact your sales dealer. When contacting the sales dealer, tell the Option Control Number (Op.cont.No.) in the menu that is located on the bottom of the information menu. (See page 28)
Connecting to Computer

Cables used for connection
• VGA Cable (D-sub 15 pin) *
• DVI Cable
• BNC Cable (BNC x 5)
( *One cable is supplied; Other cables are not supplied with this projector.)

Unplug the power cords of both the projector and external equipment from the AC outlet before connecting cables.
Connecting to Video Equipment

Cables used for connection
- Video Cable (BNC x 3, BNC x 1)
- SCART-VGA Cable
- DVI Cable
- S-Video Cable
(Cables are not supplied with the projector.)

Unplug the power cords of both the projector and external equipment from the AC outlet before connecting cables.
Connecting the AC Power Cord

This projector uses nominal input voltages of 100-120 or 200–240 V AC. It is designed to work with single-phase power systems having a grounded neutral conductor. To reduce the risk of electrical shock, do not plug into any other type of power system. If you are not sure of the type of power being supplied, consult your authorized dealer or service station. Connect the projector with all peripheral equipment before turning on the projector.

CAUTION

The AC outlet must be near this equipment and must be easily accessible.

✓ Note:

Unplug the AC power cord or turn off the MAIN ON/OFF Switch when the projector is not in use. When the projector is in stand-by mode, it consumes a little electric power.

NOTE ON THE POWER CORD

AC power cord must meet the requirements of the country where you use the projector. Confirm the AC plug type with the chart below and proper AC power cord must be used. If the supplied AC power cord does not match your AC outlet, contact your sales dealer.

<table>
<thead>
<tr>
<th>Projector side</th>
<th>AC Outlet side</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1" alt="Power Cord Connector" /></td>
<td><img src="image2" alt="For the U.S.A. and Canada" /></td>
</tr>
<tr>
<td>To POWER CORD CONNECTOR on your projector.</td>
<td>Ground To the AC Outlet. (120 V AC)</td>
</tr>
<tr>
<td><img src="image3" alt="For Continental Europe" /></td>
<td>For Continental Europe To the AC Outlet. (200–240 V AC)</td>
</tr>
<tr>
<td><img src="image4" alt="For the U.K." /></td>
<td>For the U.K. To the AC Outlet. (200–240 V AC)</td>
</tr>
</tbody>
</table>
**Turning On the Projector**

1. Complete peripheral connections (with a computer, VCR, etc.) before turning on the projector.

2. Connect the projector’s AC power cord into an AC outlet and turn on the MAIN ON/OFF Switch. The LAMP indicator lights red and the READY indicator lights green.

3. Press the ON/STAND-BY button on the side control or on the remote control. The LAMP indicator dims red and the cooling fans start to operate. The preparation display appears on the screen and the countdown starts.

4. After the countdown, the input source that was selected the last time and the Lamp mode icon (see page 60) appear on the screen.

If the projector is locked with a PIN code, PIN code Input Dialog Box will appear. Enter the PIN code as instructed below.

**Enter a PIN code**

Use the Point ▲▼ buttons on the side control or on the remote control to enter a number. Press the Point ► button to fix the number and move the red frame pointer to the next box. The number changes to “✳.” Repeat this step to complete entering a four-digit number. After entering the four-digit number, move the pointer to “Set.” Press the SELECT button so that you can start to operate the projector.

If you fixed an incorrect number, use the Point ◄ button to move the pointer to the number you want to correct, and then enter the correct number.

If you entered an incorrect PIN code, “PIN code” and the number (✳✳✳✳) will turn red for a moment. Enter the correct PIN code all over again.

**What is PIN code?**

PIN (Personal Identification Number) code is a security code that allows the person who knows it to operate the projector. Setting a PIN code prevents unauthorized use of the projector.

A PIN code consists of a four-digit number. Refer to the PIN code lock function in the Setting Menu on page 53-54 for locking operation of the projector with your PIN code.

**CAUTION ON HANDLING PIN CODE**

If you forget your PIN code, the projector can no longer be started. Take special care in setting a new PIN code; write down the number in a column on page 80 of this manual and keep it on hand. Should the PIN code be missing or forgotten, consult your dealer or service center.
Turning Off the Projector

1 Press the ON/STAND-BY button on the side control or on the remote control, and “Power off?” appears on the screen.

2 Press the ON/STAND-BY button on the side control or on the remote control again to turn off the projector. The LAMP indicator lights bright and the READY indicator turns off. After the projector is turned off, the cooling fans operate. You cannot turn on the projector during this cooling down period.

3 When the projector has cooled down enough, the READY indicator lights green and then you can turn on the projector. To turn off the MAIN ON/OFF Switch, wait until the projector is completely cooled down.

4 Unplug the AC power cord from the AC outlet.

**Note:**
- When the On start function is set to “On,” the projector will be turned on automatically by connecting the AC power cord to an AC outlet (p.53).
- The running speed of cooling fans is changed according to the temperature inside the projector.
- Do not put the projector in a case before the projector is cooled enough.
- If the WARNING TEMP. indicator blinks red, see “Warning Indicators” on page 65.
- The projector cannot be turned on during the cooling period with the READY indicator turned off. You can turn it on again after the READY indicator becomes green again.

⚠️ **Warning:**
- To maintain the life of the lamp, once you turn the projector on, wait at least five minutes before turning it off. Do not unplug the AC power cord while cooling fans are running or before the ready indicator lights green again. Otherwise, it will result in shortening of the lamp life.
- Do not operate the projector continuously without rest. Continuous use may result in shortening the lamp life. Turn off the projector and let stand for about an hour in every 24 hours.
How to Operate the On-Screen Menu

The projector can be adjusted or set via the On-Screen Menu. For each adjustment and setting procedure, refer to the respective sections in this manual.

1. Press the MENU button on the side control or the remote control to display the On-Screen Menu.

2. Use the Point ◀ ▶ buttons to select a Menu icon. Use the Point ▲▼ buttons to select an item in the selected menu.

3. Press the SELECT button to show the item data. Use the Point ◀ ▶ buttons to adjust the values.

To close the On-Screen Menu, press the MENU button again.

✔ Note:
• The selected item is not active until the SELECT button is pressed.
Basic Operation

**Menu Bar**
For detailed functions of each menu, see “Menu Tree” on pages 69-71.

### For Computer Source

1. **Guide Window**  
   Show the selected Menu of the On-Screen Menu.

2. **Input Menu**  
   Used to select an input source Computer or Video (pp. 31-33).

3. **PC System Menu**  
   Used to select computer system (p. 34).

4. **PC Adjust Menu**  
   Used to adjust the parameters to match with the input signal format (pp. 35-37).

5. **Image Select Menu**  
   Used to select an image level among Standard, Real, and Image 1–10 (p. 38).

6. **Image Adjust Menu**  
   Used to adjust the computer image. [Contrast/ Brightness/Color management/Auto picture control/Color temp./White balance (R/G/B)/Offset (R/G/B)/Sharpness/ Gamma/Reset/Store] (pp. 45-47).

7. **Screen Menu**  
   Used to adjust the size of the image. [Normal/True/Wide/Full screen/Custom/Keystone/Ceiling/Rear/Reset/Digital zoom +/-] (pp. 39-40).

8. **Setting Menu**  
   Used to set the projector’s operating configurations (pp. 48-56).

9. **Information Menu**  
   Display the input source information (p. 28).

### For Video Source

1. **Guide Window**  
   Show the selected Menu of the On-Screen Menu.

2. **Input Menu**  
   Used to select an input source Computer or Video (pp. 31-33).

3. **AV System Menu**  
   Used to select the system of selected video source (p. 41).

4. **Image Select Menu**  
   Used to select an image level among Standard, Cinema, and Image 1–10 (p. 42).

5. **Image Adjust Menu**  
   Used to adjust the picture image. [Contrast/Brightness/Color/Tint/Color management/Auto picture control/Color temp./White balance (R/G/B)/Offset (R/G/B)/Sharpness/ Gamma/Noise reduction/Progressive/Reset/Store] (pp. 45-47)

6. **Screen Menu**  
   Used to adjust the size of the image. [Normal/True/Wide/Full screen/Custom/Keystone/Ceiling/Rear/Reset] (pp. 43-44).

7. **Setting Menu**  
   Used to set the projector’s operating configurations (pp. 48-56).

8. **Information Menu**  
   Display the input source information (p. 28).
Operating with Projector Control

Zoom Adjustment
Press the ZOOM button and “Zoom” will be displayed on the screen. And then press the point ▲▼ buttons to zoom in and out the image.

Focus Adjustment
Press the FOCUS button and “Focus” will be displayed on the screen. And then press the point ▲▼ buttons to adjust the focus of the image.

Lens Shift Adjustment
Press the LENS SHIFT button and “Lens shift” will be displayed on the screen. Use the Point ▲▼ buttons to position the screen to the desired point without having picture distortion.

The screen can be moved up or down to 50 percent, or sideways up to 10 percent from the central axis of the lens shift.

Auto PC Adjustment
Operate the Auto PC Adj. function. The computer screen adjustment can be done easily by pressing this button. See page 35 for details.

Shutter Function
Shutter function allows you to completely block out light to the screen. Press the SHUTTER button to close the shutter inside the projector. To open up the shutter, press the SHUTTER button again. Refer to p.55 for detail of setting for the Shutter function.

✔ Note:
- The SHUTTER button on the side control and the remote control cannot be effective when Shutter Protection is “On” in the Setting menu. (p.55)
- The SHUTTER indicator on the projector’s top lights blue when the shutter is closed. (pp.13, 72)
- The projector will shut down automatically when the set time on Shutter management has passed. (p55)
- The Power management function does not work when the shutter is closed. (p.52)
**Information**

Information display can be used to confirm the current operating condition of the projector and the signal being projected through the projector.

Press the INFORMATION button to display the information window on the screen. To hide the information window, press the INFORMATION button again or Point ◄► buttons.

The information window can also be selected from the menu.

---

**Information Menu**

<table>
<thead>
<tr>
<th>Input</th>
<th>Input 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>RGB(PC analog)</td>
<td></td>
</tr>
<tr>
<td>H-sync freq.</td>
<td>0.0 Hz</td>
</tr>
<tr>
<td>V-sync freq.</td>
<td>0.0 Hz</td>
</tr>
<tr>
<td>Screen</td>
<td>Normal</td>
</tr>
<tr>
<td>Language</td>
<td>English</td>
</tr>
<tr>
<td>Lamp mode</td>
<td></td>
</tr>
<tr>
<td>Lamp control</td>
<td></td>
</tr>
<tr>
<td>Power management</td>
<td>Ready</td>
</tr>
<tr>
<td>Shutter management</td>
<td>Remote control</td>
</tr>
<tr>
<td></td>
<td>Projector</td>
</tr>
<tr>
<td>Security</td>
<td>Keylock</td>
</tr>
<tr>
<td>PIN code lock</td>
<td>Off</td>
</tr>
<tr>
<td>Remote control</td>
<td>Code 1</td>
</tr>
<tr>
<td>Option control No. 10</td>
<td></td>
</tr>
</tbody>
</table>

* The H- and V-sync freq. values described in this figure may be different from the actual values.
Operating with Remote Control

Using the remote control for some frequently used operations is advisable. Just pressing one of the buttons enables you to make the desired operation quickly without calling up the On-Screen Menu.

AUTO PC button

Press the AUTO PC button on the remote control to operate the Auto PC Adj. function. The computer screen adjustment can be done easily by pressing this button. See page 35 for details.

LENS SHIFT button

See page 27 for details.

ZOOM buttons

Press the ZOOM buttons on the remote control to zoom in and out the image. See page 27 for details.

FOCUS buttons

Press the FOCUS buttons on the remote control to adjust focus of the image. See page 27 for details.

FREEZE button

Press the FREEZE button on the remote control to freeze the picture on the screen. To cancel the FREEZE function, press the FREEZE button again or press any other button.

SCREEN button

Press the SCREEN button on the remote control to select the desired screen size. The selected screen size mode appears on the screen for 4 seconds. See pages 39 to 40 and 43 to 44 for details. Press and hold the SCREEN button for more than 5 seconds to return all the screen size adjustment setting to the factory default setting.

D.ZOOM button

Press the D.ZOOM button on the remote control to enter to the Digital zoom +/- mode. See page 40 for details.

INFO. button

Press the INFO. button on the remote control to display the information window on the screen.

See the previous page for details.
SHUTTER button
See page 27 for details.

FILTER button
Press and hold the FILTER button for more than five seconds to replace the filter mechanically. See page 51 for details.

Note:
- The filter cannot be rewound.
- When the filter is replaced, the total accumulated time of the filter use is automatically set to 0.

IMAGE ADJ. button
Press the IMAGE ADJ. button on the remote control to adjust a image level of the screen. For more detail, see pp.45-47.

IMAGE SEL. button
Press the IMAGE SEL. button on the remote control to select a desired image level of the screen. For more detail, see pp.38, 42.

P-TIMER button
Press the P-TIMER button on the remote control. The Timer display “00 : 00” appears on the screen and starts to count time (00 : 00–59 : 59). To stop the P-TIMER, press the P-TIMER button. To cancel the P-TIMER, press the P-TIMER button again.

KEYSTONE button
Press the KEYSTONE button on the remote control. The “Keystone” appears on the screen.

Use the Point △▼◄► buttons to correct keystone distortion. The keystone adjustment can be stored (pp.40, 44).

- The white arrows indicate that there is no correction.
- A red arrow indicates the direction of correction.
- An arrow disappears at the maximum correction.
- If you press the KEYSTONE button on the remote control again while the Keystone dialog box is being displayed, the keystone adjustment will be canceled.
- The adjustable range can be limited depending on the input signal.
- “Keystone” disappears after 10 seconds.
Input

Side Control

Press the INPUT button on the side control. It switches to INPUT 1, INPUT 2, INPUT 3 and INPUT 4 as you press the INPUT button.

Before using the INPUT button on the side control, you must select a correct input source by On-Screen Menu and the latest input source will be displayed.

Remote Control

Press the INPUT 1, INPUT 2, INPUT 3 or INPUT 4 button on the remote control. It switches to INPUT 1, INPUT 2, INPUT 3 or INPUT 4 as you press the INPUT button.

Before using the INPUT button on the remote control, you must select a correct input source by On-Screen Menu and the latest input source will be displayed.

✔ Note:
- Empty slots cannot be selected.
- When a slot is empty, the input is displayed in grayout.
Computer Input Source Selection

Menu Operation

When Selecting the INPUT 1 with DVI/D-sub 15 terminals

1. Press the MENU button to display the On-Screen Menu.
   Use the Point ▲▼ buttons to move the red frame pointer to the INPUT Menu icon.

2. Use the Point ▲▼ buttons to move the red arrow pointer to the desired input and then press the SELECT button.
   Then you can switch to the desired input.

3. Press the select button again. The Source Select Menu appears.

4. Use the Point ▲▼ buttons to select the desired source and then press the SELECT button.

   **RGB (PC analog)**
   When your computer is connected to the INPUT 1 (ANALOG) terminal, select RGB (PC analog).

   **RGB (PC digital)**
   When your computer is connected to the INPUT 1 (DIGITAL) terminal, select RGB (PC digital).

When Selecting the INPUT 2 with 5-BNC/Video/S-Video terminals

5. Use the Point ▲▼ buttons to move the red arrow pointer to the desired input and then press the SELECT button.

   **RGB**
   When your computer is connected to the INPUT 2 (5 BNC INPUT JACKS) terminal, select RGB.

**Note:**
- When a slot is empty, the input is displayed in grayout.
**Video Input Source Selection**

**Menu Operation**

**When Selecting the INPUT 1 with DVI/D-sub 15 terminals**

When connecting to video equipment, select the type of Video source in the Source Select Menu.

- **RGB (Scart)**
  - When scart video equipment is connected to the INPUT 1 (ANALOG) terminal, select RGB (Scart).

- **RGB (AV HDCP)**
  - If the HDCP-compatible signal source is connected to the INPUT 1 (DIGITAL) terminal, select RGB (AV HDCP).

**When Selecting the INPUT 2 with 5-BNC/Video/S-Video terminals**

When connecting to video equipment, select the type of Video source in the Source Select Menu.

- **Y, Pb/Cb, Pr/Cr**
  - When the video input signal is connected to the Y-Pb/Cb-Pr/Cr jacks, select Y, Pb/Cb, Pr/Cr.

- **Video**
  - When the video input signal is connected to the VIDEO jack, select Video.

- **S-Video**
  - When the video input signal is connected to the S-VIDEO jack, select S-Video.

**Note:**
- **HDCP** (High-bandwidth Digital Content Protection) is a system for protecting digital entertainment content which is delivered by DVI (Digital Visual Interface) from being copied. The specification of HDCP is decided and controlled by Digital Content Protection, LLC. Should the specification be changed, this projector may not display the digital content protected by HDCP.
- When a slot is empty, the input is displayed in grayout.
Computer System Selection

Automatic Multi-Scan System

This projector automatically tunes to various types of computers based on VGA, SVGA, XGA, SXGA, SXGA+, WXGA, UXGA, or WUXGA (refer to “Compatible Computer Specifications” on pages 75-76). If a computer is selected as a signal source, this projector automatically detects the signal format and tunes to project a proper image without any additional settings. (Some computers need to be set manually.)

One of the following messages may appear when:

- **Auto** The projector cannot recognize the connected signal conforming to the provided PC Systems. The “Auto” is displayed on the PC System Menu icon and the Auto PC Adjustment function works to display proper images. If the image is not projected properly, a manual adjustment is required. (pp. 36-37)

- **-----** There is no signal input from the computer. Check the connection between your computer and the projector. (See “Troubleshooting” on page 66.)

- **Mode 1** The preset system is manually adjusted in the PC Adjust Menu. The adjusted data can be stored in the Mode 1–10. (pp. 36-37)

- **SVGA 1** PC systems provided in this projector is chosen. The projector chooses a proper system provided in the projector and displays it.

* Mode 1 and SVGA 1 are examples.

Selecting Computer System Manually

PC system can also be selected manually.

1. Press the MENU button to display the On-Screen Menu. Use the Point buttons to move the red frame pointer to the PC System Menu icon.

2. Use the Point buttons to move the red arrow pointer to the desired system, and then press SELECT button.
**Auto PC Adjustment**

Auto PC Adjustment function is provided to automatically adjust Fine sync, Total dots, Horizontal and Vertical positions to conform to your computer.

**Direct Operation**

The Auto PC adjustment function can be operated directly by pressing the AUTO PC button on the remote control or the AUTO PC ADJ. button on the side control.

**Menu Operation**

1. Press the MENU button to display the On-Screen Menu. Use the Point buttons to move the red frame pointer to the PC Adjust Menu icon.

2. Use the Point buttons to move the red frame pointer to the AUTO PC adj. icon and then press the SELECT button twice.

**To store the adjusted parameters.**

The adjusted parameters from the Auto PC Adjustment can be stored in the projector. Once the parameters are stored, the setting can be done just by selecting Mode in PC SYSTEM Menu (p.34). See MANUAL PC ADJUSTMENT on pages 36-37.

**Remote Control**

![Remote Control Diagram]

**Side Control**

![Side Control Diagram]

**PC ADJUST MENU**

![PC Adjust Menu Icon]

Move the red frame pointer to the Auto PC adj. icon and press the SELECT button twice.

“Please wait...” appears while the Auto PC adjustment is in process.

**✔ Note:**

- Fine sync, Total dots, Horizontal and Vertical position of certain computers cannot be fully adjusted with the Auto PC Adjustment function. When the image is not provided properly with this operation, manual adjustments are required. (pp. 36-37)
- Auto PC Adjustment cannot be operated in Digital Signal Input on the DVI terminal and “480p,” “575p,” “480i,” “575i,” “720p,” “1035i,” or “1080i” is selected on the PC SYSTEM Menu.
- Depending on the condition of signals and the type and length of cables, the signals may not be properly viewed.
**Manual PC Adjustment**

Some computers employ special signal formats which may not be tuned by Multi-Scan system of this projector. Manual PC Adjustment enables you to precisely adjust several parameters to match those special signal formats. The projector has 10 independent memory areas to store those parameters manually adjusted. It allows you to recall the setting for a specific computer.

**Note:** The PC Adjust Menu cannot be operated when the digital signal input on the DVI terminal is selected on PC System Menu.

1. Press the MENU button to display the On-Screen Menu. Use the Point buttons to move the red frame pointer to the PC Adjust Menu icon.

2. Use the Point buttons to move the red frame pointer to the desired item and then press the SELECT button to display the adjustment dialog box. Use the Point buttons to adjust the setting value.

**Fine sync**
Use the Point buttons to adjust the value, eliminating a flicker from the image displayed (from 0 to 31).

**Total dots**
Use the Point buttons to adjust the number of total dots in one horizontal period to match your PC image.

**Position H**
Use the Point buttons to adjust the horizontal picture position.

**Position V**
Use the Point buttons to adjust the vertical picture position.

**Current mode**
Press the SELECT button to show H-sync freq. and V-sync freq. of the connected computer.

**Clamp**
Use the Point buttons to adjust the clamp level. When the image has dark bars, try this adjustment.

**Display area H**
Use the Point buttons to adjust the horizontal area displayed by this projector.

**Display area V**
Use the Point buttons to adjust the vertical area displayed by this projector.
Exit the PC Adjust Menu.

**Reset**
To reset the adjusted data, select Reset and press the SELECT button. A confirmation box appears and then select [Yes]. All adjustments will return to their previous figures.

**Mode free**
To clear the adjusted data, select Mode free and then press the SELECT button. Move the red arrow pointer to the Mode that you want to clear and then press the SELECT button.

**Store**
To store the adjusted data, select Store and then press the SELECT button. Move the red arrow pointer to one of the Mode 1 to 10 in which you want to store, and then press the SELECT button.

**Quit**
Exit the PC Adjust Menu.

**To clear the adjusted data.**

![Diagram showing the mode list and a confirmation box with options: OK? Yes No.](image)

To clear the adjusted data, select Mode free and then press the SELECT button. Move the red arrow pointer to the Mode that you want to clear and then press the SELECT button.

**To store the adjusted data.**

![Diagram showing the mode list and a confirmation box with options: OK? Yes No.](image)

To store the adjusted data, select Store and then press the SELECT button. Move the red arrow pointer to one of the Mode 1 to 10 in which you want to store, and then press the SELECT button.

This Mode has stored parameters.

Confirmation box appears and then select [Yes].

Vacant

Values of “Total dots,” “Position H,” “Display area H,” “Position V,” “Display area V.”
Image Level Selection

Direct Operation
Press the IMAGE SEL. button on the remote control to select the desired image level.

Remote Control

Menu Operation

1 Press the MENU button to display the On-Screen Menu.
   Use the Point buttons to move the red frame pointer to the Image Select Menu icon.

2 Use the Point buttons to move the red frame pointer to the desired image level and then press the SELECT button.

Standard
Normal picture level preset on the projector.

Real
Picture level with improved halftone for graphics.

IMAGE 1–10
User preset picture adjustment in the Image Adjust Menu. (p. 47)
Screen Size Adjustment

Select the desired screen size that conforms to the input signal source.

1. Press the MENU button to display the On-Screen Menu. Use the Point ▲▼ buttons to move the red frame pointer to the Screen Menu icon.

2. Use the Point ▼ buttons to move the red frame pointer to the desired function and then press the SELECT button.

- Normal
  Provide the image at the normal computer aspect ratio of 4:3.

- True
  Provide the image in its original size. When the original image size is larger than the screen size (1024 x 768), the projector enters to the panning mode automatically. Use the Point ▲▼ ▼ buttons to pan the image. When adjusted, the arrows will turn red. When reached to the correction limits, the arrows will disappear.

- Wide
  Provide the image to fit the wide video aspect ratio (16:9) by expanding the image width uniformly. This function can be used to provide the squeezed video signal at 16:9.

- Full screen
  Provide the full screen image.

- Custom
  Adjust the screen scale and position manually with this function.
  Press the SELECT button at Custom and the “Custom” is displayed on the screen for a few seconds. To display the Aspect dialog box, press the SELECT button at Custom again and then the Aspect dialog box appears.

  Scale H/V............. Adjust the Horizontal/Vertical screen scale.
  H&V................... When set to “On,” the aspect ratio is fixed. The “Scale V” appears dimmed and becomes unavailable. Adjust “Scale H,” then the screen scale is automatically modified based on the aspect ratio.
  Position H/V.......... Adjust the Horizontal/Vertical screen position.
  Common .............. Save the adjusted scale to all the inputs. Press the SELECT button at Common to display a confirmation box. To save the scale, press the SELECT button at “Yes.” When Custom is selected, the saved scale is used.
  Reset ............... Reset the all adjusted values. Press the SELECT button at Reset to display a confirmation box. To reset, press the SELECT button at “Yes.”

Note:
- True, Full screen, and Digital zoom +/- cannot be selected when no signal is detected in the PC System Menu. (p.34)
- The projector cannot display and resolution higher than 1600 x 1200. If your computer’s screen resolution is higher than 1600 x 1200, lower the resolution before connecting the projector.
- The image data other than XGA (1024 x 768) is modified to fit the screen size in initial mode.
- The panning function may not operate properly if the stored Mode in the PC Adjust Menu is used. (p. 37)
**Keystone**

This function is used to store or reset the keystone correction when the Main On/Off Switch is pressed to Off or the AC power cord is unplugged. Use the Point buttons to switch between each option.

- **Store**... Keep the keystone correction even when the Main On/Off Switch is pressed to Off or the AC power cord is unplugged.
- **Reset**... Release the keystone correction when the Main On/Off Switch is pressed to Off or the AC power cord is unplugged.

To correct keystone distortion, press the Select button. The Keystone dialog box appears. Use the Point buttons to correct keystone distortion. (p.30)

**Ceiling**

When this function is set to “On,” the picture is top/bottom and left/right reversed. This function is used to project the image from a ceiling-mounted projector.

**Rear**

When this function is set to “On,” the picture is left/right reversed. This function is used to project the image from the rear of the screen.

**Reset**

This function returns all adjusted values to the factory default settings. Press the SELECT button at Reset to display a confirmation box. To reset, press the SELECT button at “Yes.”

**Quit**

Exit the Screen Size Adjustment Menu.

---

**For zooming in and out the images**

**Digital zoom +**

Select Digital zoom +. The On-Screen Menu disappears and “D. zoom +” appears. Press the SELECT button to expand the image size. Use the Point buttons to pan the image. The Panning function can work only when the image is larger than the screen size.

You can also enter the Digital zoom + mode by pressing the D.ZOOM button on the remote control.

**Digital zoom –**

Select Digital zoom –. The On-Screen Menu disappears and “D.zoom –” appears. Press the SELECT button to compress the image size.

You can also enter the Digital zoom – mode by pressing the D.ZOOM button on the remote control.

To exit the Digital Zoom +/- mode, press any button except the D.ZOOM, SELECT, and Point buttons.
**Video System Selection**

1. Press the MENU button to display the On-Screen Menu. Use the Point ◄► buttons to move the red frame pointer to the AV System Menu icon.

2. Use the Point ▲▼ buttons to move the red arrow pointer to the desired system and then press the SELECT button.

**Video Jack or S-Video Jack**

**Auto**
The projector automatically detects an incoming video system, and adjusts itself to optimize its performance.

**PAL/SECAM/NTSC/NTSC4.43/PAL-M/PAL-N**
If the projector cannot reproduce proper video image, select a specific broadcast signal format from among PAL, SECAM, NTSC, NTSC 4.43, PAL-M, and PAL-N.

**Y, Pb/Cb, Pr/Cr Jacks**

**Auto**
The projector automatically detects an incoming video signal, and adjusts itself to optimize its performance. When the Video System is 1035i or 1080i, select the system manually.

**COMPONENT VIDEO SIGNAL FORMAT**
If the projector cannot reproduce proper video image, select a specific component video signal format from among 480i, 575i, 480p, 575p, 720p, 1035i, and 1080i.

✔ **Note:**
- The AV System menu cannot be selected when selecting RGB(Scart).
**Image Level Selection**

**Direct Operation**

Press the IMAGE SEL. button on the remote control to select the desired image level.

```
Standard
    ↓
Cinema
    ↓
Image 1
    ↓
    ... 
    ↓
Image 10
```

**Menu Operation**

1. Press the MENU button to display the On-Screen Menu. Use the Point buttons to move the red frame pointer to the Image Select Menu icon.

2. Use the Point buttons to move the red frame pointer to the desired image level and then press the SELECT button.

- **Standard**
  Normal picture level preset on the projector.

- **Cinema**
  Picture level adjusted with fine tone.

- **IMAGE 1–10**
  User preset picture adjustment in the Image Adjust Menu. (p. 47)
**Screen Size Adjustment**

1. Press the MENU button to display the On-Screen Menu. Use the Point buttons to move the red frame pointer to the Screen Menu icon.

2. Use the Point buttons to move the red frame pointer to the desired function and then press the SELECT button.

- **Normal**
  Provide the image at the normal video aspect ratio of 4:3.

- **Wide**
  Provide the image at the wide screen ratio of 16:9.

- **Custom**
  Adjust the screen scale and position manually with this function.
  Press the SELECT button at Custom and the “Custom” is displayed on the screen for a few seconds. To display the Aspect dialog box, press the SELECT button at Custom again and then the Aspect dialog box appears.

  - **Scale H/V**.............. Adjust the Horizontal/Vertical screen scale.
  - **H&V**.................. When set to “On,” the aspect ratio is fixed. The “Scale V” appears dimmed and becomes unavailable. Adjust “Scale H,” then the screen scale is automatically modified based on the aspect ratio.
  - **Position H/V**......... Adjust the Horizontal/Vertical screen position.
  - **Common**............. Save the adjusted scale to all the inputs.
    Press the SELECT button at Common to display a confirmation box. To save the scale, press the SELECT button at “Yes.” When Custom is selected, the saved scale is used.
  - **Reset**............... Reset the all adjusted values. Press the SELECT button at Reset to display a confirmation box. To reset, press the SELECT button at “Yes.”

**Note:**
- Wide cannot be operated when “720p,” “1035i,” or “1080i” is selected on AV System Menu (p.41).
- When no signal is detected, “Normal” is set automatically and the Aspect dialog box disappears.
- The adjustable range for Scale H/V and Position H/V is limited depending on the input signal.
Keystone

This function is used to store or reset the keystone correction when the Main On/Off Switch is pressed to Off or the AC power cord is unplugged. Use the Point buttons to switch between each option.

Store . . . Keep the keystone correction even when the Main On/Off Switch is pressed to Off or the AC power cord is unplugged.

Reset . . . Release the keystone correction when the Main On/Off Switch is pressed to Off or the AC power cord is unplugged.

To correct keystone distortion, press the Select button. The Keystone dialog box appears. Use the Point buttons to correct keystone distortion. (p.30)

Ceiling

When this function is set to “On,” the picture is top/bottom and left/right reversed. This function is used to project the image from a ceiling-mounted projector.

Rear

When this function is set to “On,” the picture is left/right reversed. This function is used to project the image from the rear of the screen.

Reset

This function returns all adjusted values to the factory default settings. Press the SELECT button at Reset to display a confirmation box. To reset, press the SELECT button at “Yes.”

Quit

Exit the Screen Size Adjustment Menu.
Image Adjustment

1. Press the MENU button to display the On-Screen Menu. Use the Point ▼ buttons to move the red frame pointer to the Image Adjust Menu icon.

2. Use the Point ▲▼ buttons to move the red frame pointer to the desired item and then press the SELECT button to display the adjustment dialog box. Use the Point ◄► buttons to adjust the setting value.

**Contrast**
Press the Point ◄ button to decrease contrast; press the Point ► button to increase the contrast (from 0 to 63).

**Brightness**
Press the Point ◄ button to decrease the brightness; press the Point ► button to increase the brightness (from 0 to 63).

**Color ✽**
Press the Point ◄ button to decrease the intensity of the color; press the Point ► button to increase the intensity of the color (from 0 to 63).

**Tint ✽**
Press the Point ◄► buttons to adjust the tint value to obtain proper color balance (from 0 to 63).

**Color Management**
The Color Management function can be used to adjust the LEVEL, PHASE, and GAMMA of the selected display colors (except for black, white, and gray) on the screen and replace these colors with other colors if required. You can store up to eight (8) color management data.

1. Use the Point ▲▼ buttons to move the red frame pointer to Color Management, and then press the SELECT button. The projected image freezes, and the COLOR MANAGEMENT POINTER appears.

2. Use the Point ▲▼ ►▼ buttons to move the pointer to the spot where you want to adjust the color and then press the SELECT button. The COLOR SELECTION window appears, and the color in the center of the pointer is selected and you can adjust the color.

3. Use the Point ▲▼ ►▼ buttons to adjust the LEVEL and PHASE of the color, and then press the SELECT button to confirm the setting. Then use the Point ▲▼ buttons to adjust the GAMMA for the color and press the SELECT button to accept the setting. After adjusting, press the SELECT button to go to the COLOR MANAGEMENT LIST.

**COLOR SELECTION MODE**

- **LIST**
  Go to the COLOR MANAGEMENT LIST.

**Note:**
- ✽ Displayed in grayout in the computer Input.
- ✽ Tint cannot be selected when the video system is PAL, SECAM, PAL-M, or PAL-N (p.41).
- ✽ Color management is displayed in grayout when there is no signal.
COLOR SELECTION MODE (continued)

COLOR M.
Return to the COLOR MANAGEMENT POINTER. (If you press the MENU button on the side control or the remote control, it returns to the COLOR MANAGEMENT POINTER and you will need to reselect and readjust the color.)

MENU
Return to the IMAGE ADJUST Menu. Any settings that have been changed will not be stored. To store the changed settings, be sure to select “LIST” and go to the COLOR MANAGEMENT LIST.

4 In the COLOR MANAGEMENT LIST, the adjusted color data are checkmarked. You can decide whether or not to apply the adjusted color data in the list to the projected image (see below).

LIST MODE

Clear the check mark if you do not want to apply the adjusted color data; select the check mark and then press the SELECT button. The check mark disappears.

COLOR PALETTE
Return to the COLOR SELECTION mode so that you can readjust the setting for the color in that line. (This option is not available if the check mark is cleared.)

DEL
Select the DEL box if you want to delete the adjusted data. Press the SELECT button and a confirmation box appears and then select [Yes].

ALL DEL
Delete all the data in the list. Press the SELECT button and a confirmation box appears and then select [Yes].

COLOR M.
The same function as stated above.

Auto picture control
Use the Point buttons to select the desired Auto picture control position (Off, L1 or L2).

Off . . . . . . Auto picture control OFF position.
L1 . . . . . . Auto picture control LEVEL 1 position.
L2 . . . . . . Auto picture control LEVEL 2 position.

Color temp.
Use the Point buttons to select the desired Color temp. level (XLow, Low, Mid, or High).
White balance (Red/Green/Blue)
Press the Point ◀ button to lighten red/green/blue tone; press the Point ▶ button to deepen red/green/blue tone (from 0 to 63).

Offset (Red/Green/Blue)
Press the Point ◀ button to lighten red/green/blue tone of the black level of an image; press the Point ▶ button to deepen red/green/blue tone of the black level of an image (from 0 to 63).

Sharpness
Press the Point ◀ button to decrease the sharpness of the image; press the Point ▶ button to increase the sharpness of the image (from 0 to 31).

Gamma
Use the Point ◀ ▶ buttons to adjust the gamma value to obtain a better balance of contrast (from 0 to 15).

Noise reduction *
Noise interference on the screen can be reduced. Press the Point ◀ ▶ buttons to change the noise reduction mode.
Off . . . . Noise reduction mode is “Off”
On . . . . Noise reduction mode is “On”

Progressive *
An interlaced video signal can be displayed in progressive mode. Press the Point ◀ ▶ buttons to change the progressive scan mode.
Off . . . . Progressive scan mode is “Off.”
On . . . . Progressive scan mode is “On.”
Film . . . For watching a film. With this function, the projector reproduces pictures faithful to the original film quality.

✔ Note:
• Picture is distorted at the moment of On/Off /Film switching.

Reset
To reset the adjusted data, select Reset and press the SELECT button. A confirmation box appears and then select [Yes]. All adjustments will return to their previous figures.

Store
To store the adjusted data, move the red frame pointer to the Store icon and press the SELECT button. The Image Level Menu appears. Move the red arrow pointer to any of the Image 1 to 10 in which you want to set and press the SELECT button. A confirmation box appears and then select [Yes].

Quit
Exit the Image Adjust Menu.

✔ Note:
* Displayed in grayout in the computer Input.
• When the White balance Red, Green, or Blue is adjusted, the Color temp. level will change to “Adj.”
• The Film mode in the Progressive function cannot be selected when the video signal format is 1080i or 1035i.
• Progressive cannot be selected when “480p,” “575p,” or “720p” is selected (p.41).
Setting

This projector has a Setting menu that allows you to set up other various functions.

1. Press the MENU button to display the On-Screen Menu. Use the Point ▲▼ buttons to move the red frame pointer to the Setting Menu icon.

2. Use the Point ▲▼ buttons to move the red frame pointer to the desired item and then press the SELECT button. The Setting dialog box appears.

Language
The language used in the On-Screen Menu is available in English, German, French, Italian, Spanish, Portuguese, Dutch, Swedish, Russian, Chinese, Korean, or Japanese.

Menu
This function allows you to adjust the position of the On-Screen Display and the value adjustment bar in the Picture Image Adjustment Menu.

Position
This function is used to adjust the On-Screen Menu display position. Press the SELECT button and the adjustment screen appears (arrows appear). Use the Point ▲▼▼▼ buttons to adjust the position. After making the adjustment, press the SELECT button to return to the Menu screen.

Simple menu
When this function is set to “On,” the value adjustment bar in the Picture Image Adjustment Menu appears on the screen.

Display
This function decides whether to display On-Screen Displays.
On . . . . . . . Show all the On-Screen Displays. Use this function when you want to project images after the lamp becomes bright enough. The factory default setting is in this option.

Countdown Off . . . Show the input image instead of the countdown when turning on the projector. Use this function when you want to project the image as early as possible even when the lamp is not bright enough.

Off . . . . . . . Hide the On-Screen Displays except:
- On-Screen Menu
- “Power off?” (p.24)
- Color management operation screen (p.45-46)
- “No signal” for Power management (p.52)
- P-TIMER (p.30)
- “Please wait...” for Auto PC adjustment (p.35)
- Arrows for panning mode

Background
The selected background screen will be displayed when no input signal is detected.
Blue . . . Blue colored background.
User . . . The image you captured.
Black . . . Black colored background.

Note:
- “User” cannot be selected when the image is not captured.
Logo

This function allows you to customize the screen logo with Logo select, Capture, and Logo PIN code lock functions.

✔ Note:
• When “On” is selected in the Logo PIN code lock function, Logo select and Capture functions cannot be selected.

Logo select

This function decides on the starting-up display from among the following options.
- User... Show the image you captured.
- Default... Show the factory-set logo.
- Off... Show the countdown display only.

Capture

This function enables you to capture an image being projected to use it for a starting-up display or interval of presentations.

Select Capture and press the SELECT button.
A confirmation box appears and select [Yes] to capture the projected image.

After capturing the projected image, go to the Logo select function and set it to “User”. Then the captured image will be displayed the next time you turn on the projector.

To cancel the Capture function, select [No].

✔ Note:
• Before capturing an image, select “Standard” in the Image Select Menu to capture a proper image. (pp. 38, 42)
• A signal from a computer can be captured up to XGA (1024 x 768).
• Certain signals may not be captured properly.
• When capturing the image that has been adjusted by the Keystone function, the adjusted data is automatically reset and the projector captures an image without keystone correction.
• When starting to capture a new image, the previously stored image is cleared even if you cancel the capturing.
• Once you exit the Logo Menu after setting the Logo lock to “On,” you are required to enter the PIN code every attempting to change the Logo setting.
• “User” cannot be selected when the image is not captured.
Logo PIN code lock

This function prevents an unauthorized person from changing the screen logo.

Off . . . . The screen logo can be changed freely from the Logo Menu.
On . . . . The screen logo cannot be changed without a Logo PIN code.

If you want to change the Logo PIN code lock setting, press the SELECT button and the Logo PIN code dialog box appears. Enter a Logo PIN code by following the steps below. The initial Logo PIN code is set to “4321” at the factory.

Enter a Logo PIN code

Use the Point ▲▼ buttons on the side control or on the remote control to enter a number. Press the Point ► button to fix the number and move the red frame pointer to the next box. The number changes to “✳.” Repeat this step to complete entering a four-digit number. After entering the four-digit number, move the pointer to “Set.” Press the SELECT button so that you can change the Logo PIN code lock setting.

If you fixed an incorrect number, use the Point ◀ button to move the pointer to the number you want to correct, and then enter the correct number.

If you entered an incorrect Logo PIN code, “Logo PIN code” and the number (✳✳✳✳) will turn red for a moment. Enter the correct PIN code all over again.

Change the Logo PIN code lock setting

Use the Point ◀► buttons to switch On/Off, and then press the Point ▼ button to move the pointer to “Quit.” Press the SELECT button to close the dialog box.

CAUTION:
WHEN YOU HAVE CHANGED THE LOGO PIN CODE, WRITE DOWN THE NEW PIN CODE IN COLUMN OF THE LOGO PIN CODE NO. MEMO ON PAGE 80, AND KEEP IT SECURELY. SHOULD THE LOGO PIN CODE BE LOST OR FORGOTTEN, THE LOGO PIN CODE SETTING CAN NO LONGER BE CHANGED.

Change the Logo PIN code

Logo PIN code can be changed to your desired four-digit number. Press the Point ▼ button to select “Logo PIN code change” and then press the SELECT button. The New Logo PIN code input dialog box appears. Set a new Logo PIN code.

Be sure to note the new Logo PIN code and keep it on hand. If you lost the number, you could no longer change the Logo PIN code setting. For details on PIN code setting, refer to “PIN code lock” on pages 53–54.
Lamp mode

This Projector is equipped with 2 Projection Lamps and the number of using lamps can be switched to 2 lamps or 1 lamp. Using 1 lamp maintains the life of Projection Lamps.

To change over Lamp Mode

Set "2 lamps mode" or "1 lamp mode" by pressing the Point buttons. When the Lamp Mode is switched from "2 lamps mode" to "1 lamp mode", the image becomes a little darker. When the Lamp Mode is switched from "1 lamp mode" to "2 lamps mode", the image becomes brighter gradually.

Note:
- When neither of the two lamps is lighted, the projector will shutdown automatically.
- When either of the two lamps does not light up, the LAMP 1/2 REPLACE indicator blinks orange and the projector will light the other automatically.
- After changing the Lamp Mode, it cannot be switched again for 90 seconds.

Lamp control

This function allows you to change the brightness of the screen.

Auto . . . . . Brightness according to the input signal.
Normal . . . Normal brightness.
Eco . . . . . Lower brightness. Lower brightness reduces the lamp power consumption and extends the lamp life.

Filter control

You can replace the filter with this function. Press the SELECT button at Filter control to display a confirmation box. To replace, press the SELECT button at "YES" and the electrically operated filter starts to scroll.

You can also replace the filter by using the remote control (p. 30).

Note:
- Filter replacement icon and "Please wait..." message appear on the screen when the filter is being scrolled.
- The filter cannot be rewound.
- When the filter is replaced, the total accumulated time of the filter use is automatically set to 0.

Fan control

Choose the running speed of cooling fans from the following options.
Normal....... Normal speed.
Max .......... Faster than the normal speed.
Remote control

The eight different remote control codes (Code 1–Code 8) are assigned to the projector; the factory-set, initial code (Code 1) and the other seven codes (Code 2 to Code 8).

The same code should be set on both the projector and the remote control. For example, operating the projector in “Code 7”, the remote control code also must be switched to “Code 7”.

To change the code for the projector:
Select a remote control code in this Setting Menu.

To change the code for the remote control:
Check the Reset Switch to “Use position” in the compartment lid on the back of the remote control.
And then while holding down the MENU button, press and release the IMAGE ADJ. button the number of corresponding times you would like to set the number of the remote control code for the projector. (See page 16)

To reset the code for the remote control:
Slide the Reset Switch to “Reset position” in the compartment lid on back of the remote control.

RC sensor

Select a location of the infrared remote receiver of the remote control. See “Remote Control Receivers and Operating Range” on page 15 for details.
Both ……… Activate both the front and back receiver.
Front ……… Activate only the front receiver.
Back ……… Activate only the back receiver.

Power management

For reducing power consumption as well as maintaining the lamp life, the Power management function turns off the projection lamp when the projector is not used for a certain period.

If the input signal is interrupted and no button is pressed for more than 30 seconds, the timer display with “No signal” appears. It starts the countdown until the lamp is turned off. The countdown time can be set between 1 and 30 minutes.

Use the Point ▶ buttons to set the countdown timer.

Select one of the following options:
Ready . . . . When the lamp has been fully cooled down, the READY indicator starts blinking. In this condition, the projection lamp is turned on if the input signal is reconnected or any button on the side control or remote control is pressed.
Shutdown . . When the lamp has been fully cooled down, the power is turned off.
Off . . . . . . Power Management function is off.

✔ Note:
• Factory default is “Ready: 5 min.”
• When the shutter is closed while the Power management function is working, the Power management function is released.
On start
When this function is set to “On,” the projector will be automatically turned on just by connecting the AC power cord to the wall outlet.

✔ Note:

- Make sure that the MAIN ON / OFF switch is ON, otherwise the On start function does not work.
- Be sure to turn off the projector properly (see “Turning Off the Projector” on page 24). If the projector is turned off in the incorrect sequence, the On start function does not work properly.

Security

Key lock
This function locks the side control and remote control buttons to prevent operation by unauthorized persons.

- . . . . . Unlocked.
- . . . . . Lock the side control buttons. To unlock, use the remote control.
- . . . . . Lock the remote control buttons. To unlock, use the side control.

If the side control accidentally becomes locked and you do not have the remote control nearby and unable to operate the projector, contact the service station.

PIN code lock
This function prevents the projector from being operated by unauthorized persons and provides the following setting options for security.

- Off . . . . Unlocked.
- On1 . . . Enter the PIN code every time turning on the projector.
- On2 . . . Enter the PIN code to operate the projector once the Main On/Off Switch is pressed to Off or the power cord is unplugged; as long as the AC power cord is connected and the Main On/Off Switch is pressed to ON, the projector can be operated without a PIN code.

Whenever you change the PIN code lock setting or the PIN code (the four-digit number), you are required to enter the PIN code. “1234” is set as the initial PIN code at the factory.

If you want to change the PIN code lock setting, press the SELECT button and the PIN code dialog box appears. Enter a PIN code by following the steps on the next page.
Enter a PIN code

Use the Point ▲▼ buttons on the side control or on the remote control to enter a number. Press the Point ► button to fix the number and move the red frame pointer to the next box. The number changes to “✳.” Repeat this step to complete entering a four-digit number. After entering the four-digit number, move the pointer to “Set.” Press the SELECT button so that you can change the PIN code lock setting.

If you fixed an incorrect number, use the Point ◄ button to move the pointer to the number you want to correct, and then enter the correct number.

If you entered an incorrect PIN code, “PIN code” and the number (✳✳✳✳) will turn red for a moment. Enter the correct PIN code all over again.

Change the PIN Code Lock setting

Use the Point ◄► button to select Off, On1, or On2 and then move the pointer to “Quit” with the Point ▼ button. Press the SELECT button to close the dialog box.

Change the PIN Code

The PIN code can be changed to your desired four-digit number. Press the Point ▼ buttons to select “PIN code change” and press the SELECT button. The New PIN code input dialog box appears. Set a new PIN code.

CAUTION: WHEN YOU HAVE CHANGED THE PIN CODE, WRITE DOWN A NEW PIN CODE IN COLUMN OF THE PIN CODE NO. MEMO ON PAGE 80, AND KEEP IT SECURELY. IF YOU FORGET YOUR PIN CODE, THE PROJECTOR CAN NO LONGER BE STARTED.

Projector ID

This feature allows users to set serial communication configuration (Projector ID) when several projectors are connected via the RS-232C terminal (serial port) of the projector.

Use the Point ◄► buttons to adjust the Projector ID.

- Projector ID ... 1 - 999. (Factory default setting : Projector ID 1)
Shutter

Shutter function is available to block out light to the screen, so that the screen can be used for the other presenters.

Protection

Prohibits the shutter operation from the remote control and the projector’s side control.

Remote control    Selecting “On” prohibits the shutter operation from the remote control.
Projector . . .    Selecting “On” prohibits the shutter operation from the side control.

It is possible to prohibit the shutter operation from both of the remote control and the side control.

Management

The Shutter Management function turns off the projection lamp when the projector is left with the shutter closed and the set time has passed away. The count-down time can be set between 5 and 180 minutes. When the count-down time has elapsed, the shutter will be opened up automatically and the lamp will be turned off to cool itself down. The SHUTTER indicator is blinking blue during this cooling-off period. When the lamp has been fully cooled down, the READY indicator turns green lighting and the SHUTTER indicator keeps blinking. Should the ON / STAND-BY button be pressed in this condition, the projection lamp will be turned on and the SHUTTER indicator turns off.

Lamp counter

This function is used to reset the lamp counter.

When the lamp life reaches a recommended lamp replacement time, the time shown in the dialog box turns red and the Lamp replacement icon appears on the screen, indicating that the end of lamp life is approaching.

When replacing the projection lamp, reset the lamp counter. See “Resetting the Lamp Counter” on page 62.

Note:
• The Lamp replacement icon will not appear when the Display function is set to “Off” (p.48), or during “Freeze” (p.29).

Note:
• The Factory default value is set to 180 minutes for the count down time.
• The Shutter Management function cannot be halted.
**Filter counter**

This function is used to set a time for the filter replacement.

Use the Point ▲▼ buttons to move the red frame pointer to Filter counter and then press the SELECT button. A dialog box appears showing the Used time option and the Scrolls remaining option.

**Used Time**
- Show the total accumulated time of the filter use, timer setting option and the Reset options. When the projector reaches a time set in the timer setting, the Filter replacement icon (Fig. 1) appears on the screen and the total accumulated time turns red, indicating that the filter replacement is necessary. If the filter is out of scroll and the projector reaches a time set in the timer setting, Fig. 2 appears on the screen, indicating that the filter cartridge replacement is necessary.

**Scrolls remaining**
- Show the scroll counter and the Reset options. When the filter scroll is counted down to 1 (Scroll counter on the screen is showing “0 scroll(s)”, the last scroll icon (Fig. 3) appears on the screen. When the filter scroll is counted down to 0, the Filter cartridge replacement icon (Fig. 4) appears on the screen and the WARNING FILTER indicator lights orange, indicating that the filter cartridge replacement is necessary.

To set a timer, press the SELECT button on Used time option. Move the red arrow pointer to the timer setting option and use the Point◀▶ buttons to select from (Off/ 400H/700H/1000H) depending on the use environment.

When replacing the Filter cartridge, reset the Filter counter and the Scroll counter (p.59).

**Note:**
- Do not reset the Filter counter and the Scroll counter without replacing the Filter cartridge. Be sure to reset the Filter counter and the Scroll counter only after replacing the Filter cartridge.
- Timer setting notifies that the filter needs replacement. To replace the filter, use the filter control function (p.51).

**Test pattern**

Various test pattern are available for use when setting up the projector.

**Factory default**

This function returns all setting values except for the user logo, PIN code lock, Logo PIN code lock, lamp counter, filter counter and filter timer to the factory default settings.

**Quit**

Exit the Setting Menu.
Maintenance and Care

Filter Instructions

Filter prevents dust from accumulating on the optical elements inside the projector. Should the filter becomes clogged with dust particles, it will reduce cooling fans’ effectiveness and may result in internal heat buildup and adversely affect the life of the projector. This projector has an electrically operated filter which helps you to replace the filter easily. The projector monitors the condition of the filter at all time and replaces a filter with a new one automatically when it detects the clogging.

If the projector reaches a time set in the timer setting (p. 56), a Filter replacement icon (Fig.1) appears on the screen and the WARNING FILTER indicator on the top panel lights up (p.74). When you see this icon, replace the filter as soon as possible (pp.30, 51). If the filter is out of scroll and the projector reaches a time set in the timer setting, Fig. 2 appears on the screen, indicating that the filter cartridge replacement is necessary.

When the filter scroll is counted down to 1, the Last scroll icon (Fig.3) appears on the screen, indicating that there is one scroll left in the filter cartridge (p.56).

If the projector detects that the filter is clogged and no scroll is left in the filter cartridge, a Filter cartridge replacement icon (Fig. 4) appears on the screen and the WARNING FILTER indicator on the top panel lights up (p.74). When you see this icon, replace the filter cartridge (p.58) and reset the Filter counter (p.59) and the Scroll counter (p.59).

When the filter is being scrolled by the remote control (p.30) or the Filter control function in the setting menu (p.51), a Filter replacement icon and “Please wait...” message (Fig.5) appear on the screen and the WARNING FILTER indicator blinks slow (approx. 2 seconds ON, 2 seconds OFF) (p.72).

The WARNING FILTER indicator blinks fast when the projector detects an abnormal condition, the filter cartridge is not installed properly, or the filter scroll is not working properly (p.74).

✔ Note:

• Do not use the filter cartridge with other projector. The filter counter and the scroll counter do not recognize the correct number of remaining scrolls of the used filter cartridge and the reset function cannot work properly. It may cause a breakdown.

• Make sure that the projection lamps are turned off when you are replacing the filter cartridge. If you replace the filter cartridge when the projection lamps are turned on, the projector will be shut down automatically for safety purposes.

• Do not forget to reset the filter counter and the scroll counter in the setting menu after replacing the filter cartridge. If you forget to reset the filter counter and the scroll counter, the projector cannot recognize the correct number of remaining scrolls and it may cause a breakdown.

• When the projector is kept used for 3 minutes without getting the filter cartridge replaced after the Fig.4 appears on the screen, the projector is turned off automatically to prevent the damage of optical components.

• Do not expose the filter cartridge to water or liquid, or it may cause a breakdown.

• Replace the filter cartridge after all the scroll is used up. If you replace the filter cartridge when there are some scrolls left in the filter cartridge, the filter counter and the scroll counter do not recognize the correct number of remaining scrolls and the reset function cannot work properly. It may cause a breakdown.

• The used part of the filter can be seen on the edge of the Filter cartridge after scrolling the filter, but there is no problem for the use of the projector.

Fig.1 Filter replacement icon

Fig.2 Last scroll icon

Fig.3 Filter cartridge replacement icon

Please wait...

Fig.5 Filter replacement icon and “Please wait...” message.
Replacing the Filter Cartridge

1. Turn off the projector, press the Main On/Off Switch to Off and unplug the AC power cord from the AC outlet.

2. First, clean up the dust on the projector and around the air vents.

3. Slide and open the Filter cover. (See the right figure.)

4. Pull out the filter cartridge by holding the finger grip.

5. Put the new one back into the position and close the filter cover. Make sure that the filter cartridge is properly and fully inserted.

6. Connect the AC power cord to the projector and turn on the projector.

7. Reset the filter counter and the scroll counter (p.59).

CAUTION
Make sure the filter cartridge is inserted in the projector. If the filter cartridge is not inserted, the projector cannot be turned on. Do not put anything into the air vents. Doing so may result in malfunction of the projector.

RECOMMENDATION
We recommend avoiding dusty/smoky environments when operating the projector. Usage in these environments may cause a poor image quality.

When using the projector under dusty or smoky conditions, dust may accumulate on a lens, liquid crystal panels, or optical elements inside the projector. Such condition may degrade the quality of the projected image. When the symptoms above are noticed, contact your authorized dealer or service station for proper cleaning.

ORDER REPLACEMENT FILTER CARTRIDGE
Replacement filter cartridge can be ordered through your dealer. When ordering, give the following information to the dealer.

- Model No. of your projector
  LC-X8
- Replacement Filter Cartridge
  Service Parts Code: 610 335 9830
Resetting the Filter Counter

Be sure to reset the Filter counter after replacing the filter cartridge.

1. Press the MENU button to display the On-Screen Menu. Use the Point buttons to move the red frame pointer to the Setting Menu icon.

2. Use the Point buttons to move the red frame pointer to Filter counter and then press the SELECT button. A dialog box appears showing the Used time option and the Scrolls remaining option. Use the Point buttons to select Used time.

3. Used time shows the total accumulated time of the filter use, a timer setting option, and the Reset option. Select Reset and the “Filter counter Reset?” appears. Select [Yes] to continue.

4. Another confirmation dialog box appears, select [Yes] to reset the Filter counter.

Resetting the Scroll Counter

Be sure to reset the Scroll counter after replacing the filter cartridge.

1. Press the MENU button to display the On-Screen Menu. Use the Point buttons to move the red frame pointer to the Setting Menu icon.

2. Use the Point buttons to move the red frame pointer to Filter counter and then press the SELECT button. A dialog box appears showing the Used time option and the Scrolls remaining option. Use the Point buttons to select Scroll(s) remaining.

3. Scroll(s) remaining shows the number of the remaining scrolls and the Reset option. Select Reset and the “Scroll counter Reset?” appears. Select [Yes] to continue.

4. Another confirmation dialog box appears, select [Yes] to reset the Scroll counter.

Note:
While the scroll counter reset is in progress, “Please wait...” message appears on the screen, the cooling fans operate and the filter cartridge is adjusted.
**Lamp Management**

This Projector is equipped with 2 Projection Lamps to ensure brighter image and those lamps are controlled by the Lamp Management Function. The Lamp Management Function detects the status of lamps and shows the status on screen or on the LAMP 1/2 REPLACE indicators. This function also automatically controls the Lamp Mode when any of lamps is out for the end of life or malfunctions.

**Lamp 1/2 Replace Indicators**

The LAMP 1/2 REPLACE indicators light orange when any of Projection Lamps is nearing its end, and flash when any of them becomes out. Check the number of lamp on the Lamp Status Display or the LAMP 1/2 REPLACE indicators and replace the lamp.

**Lamp Status Display**

The Lamp Status Display appears on screen when the projector is turned on or the input position (input 1, input 2, Input 3 or input 4) is switched. This shows the status of each lamp as; ON, OFF, NEAR END, or OUT. Refer to the following for each status.

- **Yellow Lamp** — Projection Lamp lights normally.
- **Dim Lamp** — Projection Lamp is turned off.
- **Red Lamp** — Projection Lamp is nearing its end. When the image becomes darker or the color becomes unnatural, replace lamp. (LAMP 1/2 REPLACE indicator lights orange.)
- **X Mark on Lamp** — (LAMP 1/2 REPLACE indicator flashes orange.) Projection lamp is defective or fails to be turned on. Restart the projector on, and make sure lamp is on. If this mark still appears, replace lamp corresponding with number marked X.

**Lamp Mode Changeover**

The Lamp Management Function automatically changes the lighting lamp (Lamp Mode) by detecting the status of lamp. When either of the 2 lamps is out, the projector operates with 1 lamp. The Lamp Mode can be switched to 2 lamps or 1 lamp manually. Refer to the SETTING section on page 51.
Lamp Replacement

When the projection lamp of the projector reaches its end of life, the Lamp replacement icon appears on the screen and LAMP 1/2 REPLACE indicator lights orange. Replace the lamp with a new one promptly. The timing when the LAMP 1/2 REPLACE indicators should light is depending on the lamp mode.

Indicators

<table>
<thead>
<tr>
<th>Lamp Status Display</th>
</tr>
</thead>
<tbody>
<tr>
<td>READY</td>
</tr>
<tr>
<td>WARNING TEMP.</td>
</tr>
<tr>
<td>WARNING FILTER</td>
</tr>
<tr>
<td>SHUTTER</td>
</tr>
<tr>
<td>LAMP 2 REPLACE</td>
</tr>
<tr>
<td>LAMP 1 REPLACE</td>
</tr>
</tbody>
</table>

LAMP 1 / 2 REPLACE indicators

Note: The Lamp replacement icon will not appear when the Display function is set to “Off” (p.48), or during “Freeze” (p.29).

Follow these steps to replace the lamp.

1. Check the number of lamp to be replaced on the Lamp Status Display.
2. Turn off the projector, press the Main On/Off Switch to Off and unplug the AC power cord from the AC outlet. Let the projector cool for at least 45 minutes.
3. Loosen a screw on the Lamp Cover. Slide and open the Lamp Cover until it makes a clicking sound. (See the right figure.)
4. Loosen two screws and pull out the Lamp to be replaced by grasping handle.
5. Replace the Lamp with a new one and tighten two screws. Make sure the Lamp is set properly.
6. Put the Lamp Cover back and tighten a screw.
7. Connect the AC Power Cord to the projector and turn on the projector.
8. Reset the Lamp Replacement Counter. (Refer to section “Resetting the Lamp Counter” on page 62.)

Note: Do not reset LAMP REPLACEMENT COUNTER when lamp is not replaced.

CAUTION: DO NOT OPERATE THE PROJECTOR WHILE ANY OF LAMPS IS REMOVED. IT MAY RESULT IN MALFUNCTIONS, FIRE HAZARD, OR OTHER ACCIDENTS.

NOTES ON LAMP REPLACEMENT

To maintain quality of picture (better balance of color and brightness in entire screen), we recommend replacing both 2 lamps at a time.

WARNING: TURN OFF THE UV LAMP BEFORE OPENING THE LAMP COVER.

CAUTION

Allow the projector to cool, for at least 45 minutes before you open Lamp Cover. The inside of the projector can become very hot.

For continued safety, replace with a lamp assembly of the same type.

Do not drop the lamp assembly or touch a glass bulb! The glass can shatter and may cause injury.
**Resetting the Lamp Counter**

Be sure to reset the Lamp counter after the lamp is replaced. When the Lamp counter is reset, the LAMP 1/2 REPLACE indicator stops lighting and the Lamp replacement icon disappears.

1. Press the MENU button to display the On-Screen Menu. Use the Point buttons to move the red frame pointer to the Setting Menu icon.

2. Use the Point buttons to move the red frame pointer to Lamp counter and then press the SELECT button. A dialog box appears. Select a lamp and the “Lamp replacement counter Reset?” appears. Select [Yes] to continue.

3. Another confirmation dialog box appears and select [Yes] to reset the Lamp counter.

✔ **Note:**

- Do not reset the Lamp counter without replacing the lamp. Be sure to reset the Lamp counter only after replacing the lamp.

**ORDER REPLACEMENT LAMP**

Replacement Lamp can be ordered through your dealer. When ordering a Projection Lamp, give the following information to the dealer.

- **Model No. of your projector**: LC-X8

- **Replacement Lamp Type No.**: POA-LMP128

(Service Parts No. 610 341 9497)
LAMP HANDLING PRECAUTIONS

This projector uses a high-pressure lamp which must be handled carefully and properly. Improper handling may result in accidents, injury, or create a fire hazard.

- Lamp lifetime may differ from lamp to lamp and according to the environment of use. There is no guarantee of the same lifetime for each lamp. Some lamps may fail or terminate their lifetime in a shorter period of time than other similar lamps.

- If the projector indicates that the lamp should be replaced, i.e., if the LAMP 1/2 REPLACE indicators light up, replace the lamp with a new one IMMEDIATELY after the projector has cooled down. (Follow carefully the instructions in the Lamp Replacement section of this manual.) Continuous use of the lamp with the LAMP 1/2 REPLACE indicators lighted may increase the risk of lamp explosion.

- Lamp may explode as a result of vibration, shock or degradation as a result of hours of use as its lifetime draws to an end. Risk of explosion may differ according to the environment or conditions in which the projector and lamp are being used.

IF A LAMP EXPLODES, THE FOLLOWING SAFETY PRECAUTIONS SHOULD BE TAKEN.

If a lamp explodes, disconnect the projector’s AC plug from the AC outlet immediately. Contact an authorized service station for a checkup of the unit and replacement of the lamp. Additionally, check carefully to ensure that there are no broken shards or pieces of glass around the projector or coming out from the cooling air circulation holes. Any broken shards found should be cleaned up carefully. No one should check the inside of the projector except those who are authorized trained technicians and who are familiar with projector service. Inappropriate attempts to service the unit by anyone, especially those who are not appropriately trained to do so, may result in an accident or injury caused by pieces of broken glass.
Cleaning the Projection Lens

Turn off the projector, press the Main On/Off Switch to Off and unplug the AC power cord from the AC outlet before cleaning.

Gently wipe the projection lens with a cleaning cloth that contains a small amount of non-abrasive camera lens cleaner, or use a lens cleaning paper or commercially available air blower to clean the lens.

Avoid using an excessive amount of cleaner. Abrasive cleaners, solvents, or other harsh chemicals might scratch the surface of the lens.

Cleaning the Projector Cabinet

Turn off the projector, press the Main On/Off Switch to Off and unplug the AC power cord from the AC outlet before cleaning.

Gently wipe the projector body with a soft dry cleaning cloth. When the cabinet is heavily soiled, use a small amount of mild detergent and finish with a soft dry cleaning cloth. Avoid using an excessive amount of cleaner. Abrasive cleaners, solvents, or other harsh chemicals might scratch the surface of the cabinet.

When the projector is not in use, put the projector in an appropriate carrying case to protect it from dust and scratches.
Warning Indicators

The WARNING indicators show the state of the function which protects the projector. Check the state of the WARNING TEMP indicator and the LAMP indicator to take proper maintenance.

The projector is shut down and the WARNING TEMP. indicator is blinking red.

When the temperature inside the projector reaches a certain level, the projector will be automatically shut down to protect the inside of the projector. The LAMP indicator turns red brighter and the WARNING TEMP indicator blinks while the projector is being cooled down. When the projector has cooled down enough (to its normal operating temperature), it can be turned on again by pressing the ON/STAND-BY button.

✓ Note:
• The WARNING TEMP indicator continues to blink even after the temperature inside the projector returns to normal. When the projector is turned on again, the WARNING TEMP indicator stops blinking.

Then check the matters below:
– Did you provide appropriate space for the projector to be ventilated? Check the installing condition to see if the air vents of the projector are not blocked.
– Has the projector been installed near an Air-Conditioning/Heating Duct or Vent? Move the installation of the projector away from the duct or vent.
– Is the filter clean? Replace the filter with a new one.

The projector is shut down; and the LAMP indicator is lighting and other indicators are blinking.

When the projector detects an abnormal condition, it will be automatically shut down to protect the inside of the projector and the LAMP indicator lights on and other indicators blink. In this case, unplug the AC power cord and plug it, and then turn on the projector once again to verify operation. If the projector cannot be turned on and these indicators are still lighting and blinking, unplug the AC power cord and contact the service station.

CAUTION
DO NOT LEAVE THE PROJECTOR WITH THE AC POWER CORD CONNECTED UNDER AN ABNORMAL CONDITION. IT MAY RESULT IN FIRE OR ELECTRIC SHOCK.
Troubleshooting
Before calling your dealer or service center for assistance, check the items below once again.

1. Make sure you have properly connected the projector to peripheral equipment as described on pages 20–21.
2. Check the cable connection. Make sure that all computers, video equipment, and power cords are properly connected.
3. Make sure that all power is switched on.
4. If the projector still does not produce an image, restart your computer.
5. If an image still does not appear, disconnect the projector from your computer and check your computer monitor’s display. A problem may be noticed with your graphics controller rather than with the projector. (When you reconnect the projector, be sure to turn the computer and monitor off before you turn on the projector. Turn on equipment in the order of the projector and computer.)
6. If a problem still persists, check the following solutions.

<table>
<thead>
<tr>
<th>Problem:</th>
<th>Solutions</th>
</tr>
</thead>
</table>
| **No power.** | – Plug the power cord of the projector into the AC outlet.  
– Turn the MAIN ON/OFF switch to ON.  
– Press the ON/STAND-BY Button to ON.  
– Make sure the READY Indicator lights.  
– Check the indicators. If the LAMP indicator lights and the other indicators blink, the projector cannot be turned on. (Refer to page 65.)  
– Check the projection lamp. (Refer to page 61.) |
| **PIN code dialog box appears at start-up.** | – PIN code lock is being set. Enter a PIN code; the “1234” or numbers you have set (see pages 23, 53-54) |
| **The initial display is not shown.** | – Make sure “Off” or “Countdown Off” are not chosen at Display function. (See “SETTING” section on page 48) |
| **The initial display is not same with the default one.** | – Make sure “User” or “Off” are not chosen at Logo select function. (See “SETTING” section on page 49) |
| **When the projector is on and you press the input button, an icon other than the Lamp mode icon appears.** | – That is the Filter warning icon. Refer to page 56. |
| **An icon other than Input mode or Lamp mode icon appears.** | – That is the Lamp replacement icon or the Filter warning icon. See page 55-56. |
| **No image.** | – Check the connection between your computer or video equipment and the projector.  
– See if the input signal is correctly output from your computer. Some laptop computers may need to be changed the setting for monitor output when connected to the projector. See your computer’s instruction manual for the setting.  
– It takes about 20 seconds to display an image after turning on the projector.  
– See if the selected system is corresponding with your computer or video equipment.  
– Select correct input source once again through menu operation (see pages 31, 41-42).  
– Make sure the temperature is not out of Operating Temperature (41°F–104°F [5°C–40°C]). |
<table>
<thead>
<tr>
<th>Icon</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>⚡️</td>
<td>The end of lamp life is approaching. Replace the lamp with a new one promptly. (See page 55)</td>
</tr>
<tr>
<td>⚡️</td>
<td>The filter is out of scroll. Replace the filter cartridge with a new one promptly. (See pages 57-58)</td>
</tr>
<tr>
<td>✅</td>
<td>✔ Note: Moving the projector from a cool temperature location to a warm temperature location may result in moisture condensation on Projection Lens. In such cases, leave the projector OFF and wait until condensation evaporates. − Projecting from excessive slant angle to the screen may cause keystone distortion and partial imperfect focus.</td>
</tr>
<tr>
<td>✅</td>
<td>The image is out of focus. − Adjust the focus of the projector. − Check Projection Lens to see if it needs cleaning.</td>
</tr>
<tr>
<td>✅</td>
<td>The image is not bright enough. − Check if “Contrast” or “Brightness” are adjusted properly. (See page 45) − Check if “Image level” is selected properly. (See pages 38, 42) − Check the Lamp control function. (See “SETTING” section on page 51) − Check the Lamp 1/2 replace indicators. If it lights, the end of lamp life is approaching. Replace the lamp with a new one promptly. (See page 61) − The image is darker when 1 lamp mode is selected, compared with 2 lamp mode. Check the lamp mode at SETTING section on page 51.</td>
</tr>
<tr>
<td>✅</td>
<td>The color is strange. − Check the Input signal, color system, video system, or computer system mode.</td>
</tr>
<tr>
<td>✅</td>
<td>The image is Left/Right reversed. − Check the Ceiling / Rear function. (See pages 40, 44.)</td>
</tr>
<tr>
<td>✅</td>
<td>The image is Top/Bottom reversed. − Check the Ceiling function. (See pages 40, 44.)</td>
</tr>
<tr>
<td>✅</td>
<td>The image is distorted or runs off. − Check “PC Adjust” menu or “Screen” menu and adjust them.</td>
</tr>
<tr>
<td>✅</td>
<td>Auto PC adjustment function does not work. − Check the Input signal. Auto PC Adjustment function cannot work when 480p, 575p, 720p, 480i, 575i, 1035i, or 1080i is selected or when the digital signal is input into DVI terminal. (See page 35)</td>
</tr>
<tr>
<td>✅</td>
<td>Some displays are not seen during the operation. − Check the Display function (see page 48).</td>
</tr>
<tr>
<td>✅</td>
<td>The setting does not remain after turning off power. − Make sure you selected “Store” after adjusting settings. Some settings cannot be stored if not registered with “Store”.</td>
</tr>
<tr>
<td>✅</td>
<td>Power management function does not work. − Power management function cannot work while “Freeze” function is running or the shutter is closed.</td>
</tr>
<tr>
<td>✅</td>
<td>Image disappears automatically. − Check the power management function in the Setting. The power management is set to ‘On’ at the factory.</td>
</tr>
<tr>
<td>✅</td>
<td>Capture function does not work. − Check the connection to see if there is signal.</td>
</tr>
<tr>
<td>✅</td>
<td>Some menus cannot be selected. − Each of the Video Input and Computer Input has a limit on selectable menus.</td>
</tr>
</tbody>
</table>
### Appendix

#### The power is turned off automatically.
- Power management function runs by initial setting. Check “SETTING” section on page 52.

#### You cannot operate with the side control.
- The side control is not available if the side control is locked at “Key lock” under “Security” of SETTING section. Please check “SETTING” section on page 53.

#### The Remote Control does not work.
- Check the batteries.
- Check if the RC sensor is set properly. (See page 52)
- Make sure no obstruction is between the projector and remote control.
- Make sure you are not too far from the projector when using the remote control.
- Maximum operating range is 16.4’ (5m).
- Make sure that the remote control code conforms to the projector’s code.
- Make sure the reset switch in the compartment lid on back of the remote control is set to use position.
- Unlock the Key lock function for the remote control. (See page 53)
- Wireless remote control does not work when the remote control cable is connected to the projector. (See page 52)

#### Indicators blinks or lights.
- Check the status of the projector with referring to “INDICATORS AND PROJECTOR CONDITION” on pages 72-74.

#### ! appears on the screen
- Your operation is invalid. Operate correctly.

#### Unable to unlock the Logo PIN code lock, Security key lock or Security PIN code lock.
- Contact the dealer where you purchased the projector or the service center.

#### Forget the Logo PIN code or Security PIN code.
- Contact the dealer where you purchased the projector or the service center.

---

**WARNING:**

High voltages are used to operate this projector. Do not attempt to open the cabinet.

If problems still persist after following all operating instructions, contact the dealer where you purchased the projector or the service center. Specify the model number and explain about the problem. We will advise you how to obtain service.

---

This symbol on the nameplate means the product is Listed by Underwriters Laboratories Inc. It is designed and manufactured to meet rigid U.L. safety standards against risk of fire, casualty, and electrical hazards.

The CE Mark is a Directive conformity mark of the European Community (EC).
**Menu Tree**

**Computer Input/Video Input**

- **Input**
  - Input 1: RGB (PC analog) → Go to System (1)
  - Input 1: RGB (Scart) → Go to System (1)
  - Input 1: RGB (PC digital) → Go to System (1)
  - Input 1: RGB (AV HDCP) → Go to System (1)
  - Input 2: RGB → Go to System (1)
  - Input 2: Y, Pb/Cb, Pr/Cr → Go to System (3)
  - Input 2: Video → Go to System (2)
  - Input 2: S-video → Go to System (2)
  - Input 3: (For Optional Interface Boards)
  - Input 4: (For Optional Interface Boards)

**Information**

- Input
- H-sync freq.
- V-sync freq.
- Screen
- Language
- Lamp mode
- Lamp control
- Power management
- Shutter management
- Remote Control
- Projector
- 5 - 180 Min
- Key lock
- PIN code lock
- Security
- Remote control

**Image Adjust**

- Contrast 0–63
- Brightness 0–63
- Color * 0–63
- Tint * 0–63
- Color management
- Color Gamma
- List Menu
- Color M. All Del Menu Color M.
- Auto picture control Off/L1/L2
- Color temp. XLow
  - Low
  - Mid
  - High
  - Adj.
  - Red 0–63
  - Green 0–63
  - Blue 0–63
  - Offset Red/Green/Blue/Quit
- Sharpness 0–31
- Gamma 0–15
- Noise reduction Off/On
- Progressive Off/On/Film
- Reset Yes / No
- Store Image 1
  - Image 10
  - Quit

*Displayed in grayout in the computer Input.*

**Note:**
- The Menu display varies depending on the input signal.
## Appendix

### Computer Input

#### SVGA1

**System (1)**
- Mode 1
- Mode 2
- SVGA 1
- SVGA 2
- SVGA 3

**Image Select**
- Standard
- Real
- Image 1
- Image 10

*System displayed in the System Menu varies depending on the input signal.*

#### PC Adjust

- Auto PC adj.
- Fine sync.
- Total dots
- Position H
- Position V
- Current mode
- Clamp
- Display area - H
- Display area - V
- Reset
- Yes/No
- Mode free
- Store
- Mode 1
- Mode 10
- Quit

#### Screen

- Normal
- True
- Wide
- Full screen
- Custom
- H-sync freq.
- V-sync freq.
- Position H
- Position V
- Common
- Reset
- Digital zoom +
- Digital zoom -
- Keystone
- Store
- Reset
- On/Off
- Rear
- Yes/No
- Quit

### Video Input

**System (2)**
- Auto
- PAL
- SECAM
- NTSC
- NTSC 4.43
- PAL-M
- PAL-N

**Image Select**
- Standard
- Cinema
- Image 1
- Image 10

**System (3)**
- Auto
- 1080i
- 1035i
- 720p
- 575p
- 480p
- 575i
- 480i

**Screen**
- Normal
- Wide
- Custom
- Scale
- Position H / V
- Common
- Reset
- Keystone
- Store
- Reset
- On/Off
- Rear
- Yes/No
- Quit

### Note:
- The Menu display varies depending on the input signal.
Computer Input/Video Input

Setting

Language
12 languages provided.
Quit

Menu
Position/Simple Menu/Quit

Display
Off/Countdown Off/On

Background
Blue/User/Black

Logo
Logo select
Off/Default/User
Capture
Yes/No
Logo PIN code lock
On/Off
Logo PIN code change
Quit

Lamp mode
2-Lamp mode/ 1-Lamp mode

Lamp control
Auto/Normal/Eco

Filter control
Yes/No

Fan control
Normal/Max

Remote Control
Code 1

RC sensor
Both/Front/Back

Power management
Off/Ready/Shut down
1–30 Min.
Quit

On start
On/Off

Security
Key lock

Projector ID
1–999

Shutter
Protection
Remote control
On / Off
Projector
On / Off

Management
5 - 180 Min.
Quit

Lamp counter
Lamp 1/2 [ ] Hour(s)
Reset
Yes/No
Quit

Filter counter
Used time
1 [ ] Hour(s)
Off/400H/700H/1000H
Reset
Yes/No
Quit

Scrolls remaining
Scroll(s)
Reset
Yes/No
Quit

Test pattern
8 test patterns provided
Quit

Factory default
Yes/No
Quit
# Indicators and Projector Condition

Check the indicators for the projector condition.

The projector is operating normally.

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Projector Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="red" alt="LAMP red" /> <img src="green" alt="READY green" /> <img src="red" alt="WARNING TEMP red" /> <img src="orange" alt="WARNING FILTER orange" /> <img src="blue" alt="SHUTTER blue" /> <img src="orange" alt="LAMP 1/2 REP orange" /></td>
<td>The projector is off. (The main On/Off switch is OFF position or the AC power cord is unplugged.)</td>
</tr>
<tr>
<td><img src="red" alt="LAMP red" /> <img src="green" alt="READY green" /> <img src="red" alt="WARNING TEMP red" /> <img src="orange" alt="WARNING FILTER orange" /> <img src="blue" alt="SHUTTER blue" /> <img src="orange" alt="LAMP 1/2 REP orange" /></td>
<td>The projector is in stand-by mode. Press the ON/STAND-BY button to turn on the projector.</td>
</tr>
<tr>
<td><img src="red" alt="LAMP red" /> <img src="green" alt="READY green" /> <img src="red" alt="WARNING TEMP red" /> <img src="orange" alt="WARNING FILTER orange" /> <img src="blue" alt="SHUTTER blue" /> <img src="orange" alt="LAMP 1/2 REP orange" /></td>
<td>The projector is operating normally. (The Shutter is open)</td>
</tr>
<tr>
<td><img src="red" alt="LAMP red" /> <img src="green" alt="READY green" /> <img src="red" alt="WARNING TEMP red" /> <img src="orange" alt="WARNING FILTER orange" /> <img src="blue" alt="SHUTTER blue" /> <img src="orange" alt="LAMP 1/2 REP orange" /></td>
<td>The projector is operating normally. (The Shutter is closed)</td>
</tr>
<tr>
<td><img src="red" alt="LAMP red" /> <img src="green" alt="READY green" /> <img src="red" alt="WARNING TEMP red" /> <img src="orange" alt="WARNING FILTER orange" /> <img src="blue" alt="SHUTTER blue" /> <img src="orange" alt="LAMP 1/2 REP orange" /></td>
<td>The projector is preparing for stand-by or the projection lamp is being cooled down. The projector cannot be turned on until cooling is completed and the READY indicator lights green.</td>
</tr>
<tr>
<td><img src="red" alt="LAMP red" /> <img src="green" alt="READY green" /> <img src="red" alt="WARNING TEMP red" /> <img src="orange" alt="WARNING FILTER orange" /> <img src="blue" alt="SHUTTER blue" /> <img src="orange" alt="LAMP 1/2 REP orange" /></td>
<td>The projection lamp is being cooled down in the Power management mode.</td>
</tr>
<tr>
<td><img src="red" alt="LAMP red" /> <img src="green" alt="READY green" /> <img src="red" alt="WARNING TEMP red" /> <img src="orange" alt="WARNING FILTER orange" /> <img src="blue" alt="SHUTTER blue" /> <img src="orange" alt="LAMP 1/2 REP orange" /></td>
<td>The projector is in the Power management mode.</td>
</tr>
<tr>
<td><img src="red" alt="LAMP red" /> <img src="green" alt="READY green" /> <img src="red" alt="WARNING TEMP red" /> <img src="orange" alt="WARNING FILTER orange" /> <img src="blue" alt="SHUTTER blue" /> <img src="orange" alt="LAMP 1/2 REP orange" /></td>
<td>The projection lamp is being cooled down in the Shutter management mode.</td>
</tr>
<tr>
<td><img src="red" alt="LAMP red" /> <img src="green" alt="READY green" /> <img src="red" alt="WARNING TEMP red" /> <img src="orange" alt="WARNING FILTER orange" /> <img src="blue" alt="SHUTTER blue" /> <img src="orange" alt="LAMP 1/2 REP orange" /></td>
<td>The projector is in the Shutter management mode. Press the ON/STAND-BY button to turn on the projector.</td>
</tr>
<tr>
<td><img src="red" alt="LAMP red" /> <img src="green" alt="READY green" /> <img src="red" alt="WARNING TEMP red" /> <img src="orange" alt="WARNING FILTER orange" /> <img src="blue" alt="SHUTTER blue" /> <img src="orange" alt="LAMP 1/2 REP orange" /></td>
<td>The filter is scrolled using the FILTER button on the remote control or the Filter control function in the setting menu. When the filter is being scrolled, the Filter replacement icon and “Please wait...” message (Fig. 1) appear on the screen.</td>
</tr>
</tbody>
</table>

![Filter replacement icon and “Please wait...”](Fig.1)
The projector is detecting abnormal condition.

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Projector Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>![LAMP red]</td>
<td>The temperature inside the projector is elevated close to the abnormally high level.</td>
</tr>
<tr>
<td>![READY green]</td>
<td>The temperature inside the projector is abnormally high. The projector cannot be turned on. When the projector is cooled down enough and the temperature returns to normal, the READY indicator lights green and the projector can be turned on. (The WARNING TEMP. indicator keeps blinking.)</td>
</tr>
<tr>
<td>![WARNING TEMP. red]</td>
<td>The projector has been cooled down enough and the temperature returns to normal. When turning on the projector, the WARNING TEMP. indicator stops blinking. Check and replace the filter.</td>
</tr>
<tr>
<td>![WARNING FILTER orange]</td>
<td>The lamp cannot light up. (The projector is preparing for stand-by or the projection lamp is being cooled down. The projector cannot be turned on until cooling is completed.)</td>
</tr>
<tr>
<td>![SHUTTER blue]</td>
<td>The lamp cannot light up. (The lamp has been cooled down enough and the projector is in stand-by mode and ready to be turned on with the ON/STAND-BY button.)</td>
</tr>
<tr>
<td>![LAMP 1/2 REP. orange]</td>
<td>When either of the 2 lamps is out, the projector operates with 1 lamp.</td>
</tr>
<tr>
<td>![LAMP REPLACE 1 and 2]</td>
<td>The lamp has been used overtime. Replace the lamp immediately and then reset the lamp counter. The indicator will be turned off after resetting the counter.</td>
</tr>
</tbody>
</table>

**WARNING FILTER**

When the filter detects clogging, reaches a time set in the timer setting or runs out of the filter scroll, the WARNING FILTER indicator lights orange. When this indicator lights orange, replace the filter or the filter cartridge with a new one promptly. Reset the Filter counter and Scroll counter after replacing the filter cartridge (p.59).

**LAMP REPLACE 1 and 2**

When the LAMP 1 REPLACE indicator and the LAMP 2 REPLACE indicator light orange, replace the projection lamps with new ones promptly. And then reset the Lamp time after replacement of the lamps. See pages 55, 61, and 62.
The projector is detecting abnormal condition.

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Projector Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Image" /> <img src="image2.png" alt="Image" /> <img src="image3.png" alt="Image" /> <img src="image4.png" alt="Image" /></td>
<td>If the Filter counter reached a time set in the timer setting, a Filter replacement icon (Fig.2) appears on the screen and the WARNING FILTER indicator on the top panel lights up. Replace the filter as soon as possible. If the filter is out of scroll and the projector reaches a time set in the timer setting, Fig. 3 appears on the screen and the WARNING FILTER indicator lights up. Replace the filter cartridge as soon as possible. If the filter is clogged and no scroll is left in the filter cartridge, a Filter cartridge replacement icon (Fig.4) appears on the screen and the WARNING FILTER indicator lights up. Replace the filter cartridge as soon as possible. <strong>Note:</strong> •Fig.2, Fig.3 and Fig.4 icon will not appear when the Display function is set to “Off” (p.48), or during “Freeze” (p.29).</td>
</tr>
<tr>
<td><img src="image5.png" alt="Image" /> <img src="image6.png" alt="Image" /> <img src="image7.png" alt="Image" /> <img src="image8.png" alt="Image" /></td>
<td>The projector detects an abnormal condition during filter scroll.</td>
</tr>
<tr>
<td><img src="image9.png" alt="Image" /> <img src="image10.png" alt="Image" /> <img src="image11.png" alt="Image" /> <img src="image12.png" alt="Image" /></td>
<td>The projector is being cooled down after detecting an abnormal condition during filter scroll.</td>
</tr>
<tr>
<td><img src="image13.png" alt="Image" /> <img src="image14.png" alt="Image" /> <img src="image15.png" alt="Image" /> <img src="image16.png" alt="Image" /></td>
<td>The projector has been cooled down enough and is in the stand-by mode after detecting an abnormal condition during filter scroll.</td>
</tr>
<tr>
<td><img src="image17.png" alt="Image" /> <img src="image18.png" alt="Image" /> <img src="image19.png" alt="Image" /> <img src="image20.png" alt="Image" /></td>
<td>The filter cartridge is not installed in the projector. Check the filter compartment to see if the filter cartridge is installed in the projector. When the filter cartridge is installed and the indicators continue to light and blink, read the column below.</td>
</tr>
<tr>
<td><img src="image21.png" alt="Image" /> <img src="image22.png" alt="Image" /> <img src="image23.png" alt="Image" /> <img src="image24.png" alt="Image" /></td>
<td>The projector detects an abnormal condition and cannot be turned on. Unplug the AC power cord and plug it again to turn on the projector. If the projector is turned off again, unplug the AC power cord and contact the dealer or the service center. Do not leave the projector on. It may cause an electric shock or a fire hazard.</td>
</tr>
<tr>
<td><img src="image25.png" alt="Image" /> <img src="image26.png" alt="Image" /> <img src="image27.png" alt="Image" /> <img src="image28.png" alt="Image" /></td>
<td>The shutter is out of control.</td>
</tr>
<tr>
<td><img src="image29.png" alt="Image" /> <img src="image30.png" alt="Image" /> <img src="image31.png" alt="Image" /> <img src="image32.png" alt="Image" /></td>
<td>The shutter is out of control. (The projector is in the cooling mode.)</td>
</tr>
<tr>
<td><img src="image33.png" alt="Image" /> <img src="image34.png" alt="Image" /> <img src="image35.png" alt="Image" /> <img src="image36.png" alt="Image" /></td>
<td>The shutter is out of control. (The projector is in the stand-by mode.) In that case, contact the service station immediately.</td>
</tr>
</tbody>
</table>
Compatible Computer Specifications

Basically this projector can accept the signal from all computers with the V- and H-Frequency mentioned below and less than 230 MHz of Dot Clock.

PC Adjustment can be limited when these modes are selected.

<table>
<thead>
<tr>
<th>ON-SCREEN DISPLAY</th>
<th>RESOLUTION</th>
<th>H-Freq.(kHz)</th>
<th>V-Freq.(Hz)</th>
</tr>
</thead>
<tbody>
<tr>
<td>VGA 1</td>
<td>640x480</td>
<td>31.470</td>
<td>59.880</td>
</tr>
<tr>
<td>VGA 2</td>
<td>720x400</td>
<td>31.470</td>
<td>70.090</td>
</tr>
<tr>
<td>VGA 3</td>
<td>640x400</td>
<td>31.470</td>
<td>70.090</td>
</tr>
<tr>
<td>VGA 4</td>
<td>640x480</td>
<td>37.860</td>
<td>74.380</td>
</tr>
<tr>
<td>VGA 5</td>
<td>640x480</td>
<td>37.860</td>
<td>72.810</td>
</tr>
<tr>
<td>VGA 6</td>
<td>640x480</td>
<td>37.500</td>
<td>75.000</td>
</tr>
<tr>
<td>VGA 7</td>
<td>640x480</td>
<td>43.269</td>
<td>85.000</td>
</tr>
<tr>
<td>MAC LC13</td>
<td>640x480</td>
<td>34.970</td>
<td>66.600</td>
</tr>
<tr>
<td>MAC 13</td>
<td>640x480</td>
<td>35.000</td>
<td>66.600</td>
</tr>
<tr>
<td>480p</td>
<td>640x480</td>
<td>31.470</td>
<td>59.880</td>
</tr>
<tr>
<td>575p</td>
<td>768x576</td>
<td>31.250</td>
<td>50.000</td>
</tr>
<tr>
<td>575i</td>
<td>768x576</td>
<td>15.625</td>
<td>50.000</td>
</tr>
<tr>
<td>480i</td>
<td>640x480</td>
<td>15.734</td>
<td>60.000</td>
</tr>
<tr>
<td>SVGA 1</td>
<td>800x600</td>
<td>35.156</td>
<td>56.250</td>
</tr>
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<td>SVGA 2</td>
<td>800x600</td>
<td>37.880</td>
<td>60.320</td>
</tr>
<tr>
<td>SVGA 3</td>
<td>800x600</td>
<td>46.875</td>
<td>75.000</td>
</tr>
<tr>
<td>SVGA 4</td>
<td>800x600</td>
<td>53.674</td>
<td>85.060</td>
</tr>
<tr>
<td>SVGA 5</td>
<td>800x600</td>
<td>48.080</td>
<td>72.190</td>
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<td>SVGA 6</td>
<td>800x600</td>
<td>34.500</td>
<td>53.380</td>
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<tr>
<td>SVGA 7</td>
<td>800x600</td>
<td>38.000</td>
<td>60.510</td>
</tr>
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<td>SVGA 8</td>
<td>800x600</td>
<td>38.600</td>
<td>60.310</td>
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<tr>
<td>SVGA 9</td>
<td>800x600</td>
<td>32.700</td>
<td>51.090</td>
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<tr>
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<td>800x600</td>
<td>38.000</td>
<td>60.510</td>
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<td>MAC 16</td>
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<td>74.550</td>
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<td>70.070</td>
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<td>60.310</td>
<td>74.920</td>
</tr>
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<td>48.500</td>
<td>60.020</td>
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<td>44.000</td>
<td>54.580</td>
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<td>63.480</td>
<td>79.350</td>
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<td>1024x768</td>
<td>36.000</td>
<td>87.170</td>
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<td>1024x768</td>
<td>62.040</td>
<td>77.070</td>
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<td>61.000</td>
<td>75.700</td>
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<td>86.960</td>
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<td>1024x768</td>
<td>46.900</td>
<td>58.200</td>
</tr>
<tr>
<td>XGA 14</td>
<td>1024x768</td>
<td>47.000</td>
<td>58.300</td>
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<td>MAC 15</td>
<td>1024x768</td>
<td>58.030</td>
<td>72.000</td>
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<td>MAC 19</td>
<td>1024x768</td>
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<td>75.080</td>
</tr>
<tr>
<td>SXGA 1</td>
<td>1152x864</td>
<td>64.200</td>
<td>70.400</td>
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<td>1280x1024</td>
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<td>58.600</td>
</tr>
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<td>SXGA 3</td>
<td>1280x1024</td>
<td>63.900</td>
<td>60.000</td>
</tr>
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<td>SXGA 4</td>
<td>1280x1024</td>
<td>63.340</td>
<td>59.980</td>
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<td>SXGA 5</td>
<td>1280x1024</td>
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<td>75.700</td>
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<td>46.900</td>
<td>58.200</td>
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<td>47.000</td>
<td>58.300</td>
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<td>60.240</td>
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<tr>
<td>WSXGA+ 1</td>
<td>1680x1050</td>
<td>65.290</td>
<td>59.954</td>
</tr>
<tr>
<td>WSXGA+ 1</td>
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<td>75.000</td>
<td>60.000</td>
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<td>1600x1200</td>
<td>81.260</td>
<td>65.000</td>
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<td>87.500</td>
<td>70.000</td>
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<td>1080i</td>
<td>1920x1080</td>
<td>28.125</td>
<td>50.000</td>
</tr>
</tbody>
</table>

* “True” cannot be selected when WUXGA1, UXGA2, UXGA3, UXGA4 and UXGA5 are selected (p.39)
When an input signal is digital from the DVI terminal, refer to the chart below.

<table>
<thead>
<tr>
<th>ON-SCREEN DISPLAY</th>
<th>RESOLUTION</th>
<th>H-Freq.(kHz)</th>
<th>V-Freq.(Hz)</th>
</tr>
</thead>
<tbody>
<tr>
<td>D-VGA</td>
<td>640x480</td>
<td>31.470</td>
<td>59.940</td>
</tr>
<tr>
<td>D-480p</td>
<td>720x480</td>
<td>31.470</td>
<td>59.880</td>
</tr>
<tr>
<td>D-575p</td>
<td>720x575</td>
<td>31.250</td>
<td>50.000</td>
</tr>
<tr>
<td>D-SVGA</td>
<td>800x600</td>
<td>37.789</td>
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<td>D-XGA</td>
<td>1024x768</td>
<td>43.363</td>
<td>60.000</td>
</tr>
<tr>
<td>D-WXGA 1</td>
<td>1366x768</td>
<td>48.360</td>
<td>60.000</td>
</tr>
<tr>
<td>D-WXGA 2</td>
<td>1360x768</td>
<td>47.700</td>
<td>60.000</td>
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<td>1376x768</td>
<td>48.360</td>
<td>60.000</td>
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<tr>
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<td>56.160</td>
<td>72.000</td>
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<td>1366x768</td>
<td>46.500</td>
<td>50.000</td>
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<td>1280x768</td>
<td>47.776</td>
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</tr>
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<td>D-WXGA 7</td>
<td>1280x768</td>
<td>60.289</td>
<td>74.893</td>
</tr>
<tr>
<td>D-WXGA 8</td>
<td>1280x768</td>
<td>68.633</td>
<td>84.837</td>
</tr>
<tr>
<td>D-WXGA 9</td>
<td>1280x800</td>
<td>49.600</td>
<td>60.050</td>
</tr>
<tr>
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<td>1280x800</td>
<td>41.200</td>
<td>50.000</td>
</tr>
<tr>
<td>D-WXGA 11</td>
<td>1280x800</td>
<td>49.702</td>
<td>59.810</td>
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<td>63.980</td>
<td>60.020</td>
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<td>60.276</td>
<td>58.069</td>
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<table>
<thead>
<tr>
<th>ON-SCREEN DISPLAY</th>
<th>RESOLUTION</th>
<th>H-Freq.(kHz)</th>
<th>V-Freq.(Hz)</th>
</tr>
</thead>
<tbody>
<tr>
<td>D-SXGA+ 1</td>
<td>1400x1050</td>
<td>63.970</td>
<td>60.190</td>
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<td>65.350</td>
<td>60.120</td>
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<td>65.120</td>
<td>59.900</td>
</tr>
<tr>
<td>D-WSXGA+ 1</td>
<td>1680x1050</td>
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<td>33.750</td>
<td>60.000</td>
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<td>33.750</td>
<td>60.000</td>
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<td>28.125</td>
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<td>D-1080p/24</td>
<td>1920x1080</td>
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<td>48.000</td>
</tr>
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</table>

✓ Note:
- Depending on the condition of signals and the type and length of cables, these signals may not be properly viewed.
- Specifications are subject to change without notice.
## Technical Specifications

### Mechanical Information

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Projector Type</td>
<td>Multi-media Projector</td>
</tr>
<tr>
<td>Dimensions (W x H x D)</td>
<td>20.87” x 10.53” x 29.8” (530 mm x 267.5 mm x 757 mm)</td>
</tr>
<tr>
<td>Net Weight</td>
<td>60.85lbs (27.6 kg)</td>
</tr>
<tr>
<td>Feet Adjustment</td>
<td>0˚ to 2.8˚</td>
</tr>
</tbody>
</table>

### Panel Resolution

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>LCD Panel System</td>
<td>1.8” TFT Active Matrix type, 3 panels</td>
</tr>
<tr>
<td>Panel Resolution</td>
<td>1,024 x 768 dots</td>
</tr>
<tr>
<td>Number of Pixels</td>
<td>2,359,296 (1,024 x 768 x 3 panels)</td>
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</table>

### Signal Compatibility

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color System</td>
<td>PAL, SECAM, NTSC, NTSC4.43, PAL-M, and PAL-N</td>
</tr>
<tr>
<td>High Definition TV Signal</td>
<td>480i, 480p, 575i, 575p, 720p, 1035i, and 1080i</td>
</tr>
<tr>
<td>Scanning Frequency</td>
<td>H-sync. 15 kHz–120 kHz, V-sync. 48 Hz–120 Hz</td>
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### Optical Information

<table>
<thead>
<tr>
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<th>Specification</th>
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</thead>
<tbody>
<tr>
<td>Projection Lamp</td>
<td>330 W NSHA lamp x 2</td>
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### Interface

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input 1</td>
<td>DVI-D Terminal (Digital), Mini D-Sub 15-pin Terminal (Analog)</td>
</tr>
<tr>
<td>Input 2</td>
<td>BNC Type x 5 (VIDEO/Y/G, B/Pb/Cb, R/Pr/Cr, H/HV and V), S-Video</td>
</tr>
<tr>
<td>Other Jacks</td>
<td>Serial port in (D-sub 9), Serial port out (D-sub 9), USB port, and Wired Remote Jack</td>
</tr>
</tbody>
</table>

### Power

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voltage and Power Consumption</td>
<td>AC 100–120 V (11.2A Max. Ampere), 50/60 Hz (The U.S.A and Canada)</td>
</tr>
<tr>
<td></td>
<td>AC 200-240 V (5.1A Max. Ampere), 50/60 Hz (Continental Europe and The U.K.)</td>
</tr>
</tbody>
</table>

### Operating Environment

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Temperature</td>
<td>41˚F–104˚F (5˚C–40˚C)</td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>14˚F–140˚F (-10˚C–60˚C)</td>
</tr>
</tbody>
</table>

### Remote Control

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Battery</td>
<td>AA or LR6 Type x 2</td>
</tr>
<tr>
<td>Operating Range</td>
<td>16.4’ (5 m±30’)</td>
</tr>
<tr>
<td>Dimensions</td>
<td>1.79” (W) x 1.03” (H) x 6.24” (D) (45.5 mm x 26.2 mm x 158.5 mm)</td>
</tr>
<tr>
<td>Net Weight</td>
<td>4.1 oz (117 g) (including batteries)</td>
</tr>
</tbody>
</table>

### Accessories

- Owner’s Manual (CD-ROM)
- Quick Reference Guide
- AC Power Cord
- Remote Control and Batteries
- VGA Cable
- Remote Control cable
- PIN Code Label
- Lens Attachments (1 type) (For option lens)
- Light Block Plates (3 types) (For option lens)
- Spacer (For option lens)
- Real Color Manager Pro (CD-ROM)
- Mounting Clamp
Appendix

- The specifications are subject to change without notice.
- LCD panels are manufactured to the highest possible standards. Even though 99.99% of the pixels are effective, a tiny fraction of the pixels (0.01% or less) may be ineffective by the characteristics of the LCD panels.
- Each projector has its own characteristics.
  When projecting with several projectors on the same screen or side by side, you may recognize different white balance and color uniformity on each projector.

**Optional Parts**

The parts listed below are optionally available. When ordering those parts, specify the item name and Model No. to the sales dealer.

<table>
<thead>
<tr>
<th>Optional Interface Board</th>
<th>Model No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>(DVI)</td>
<td>AH-72003</td>
</tr>
<tr>
<td>(5-BNC)</td>
<td>AH-72015</td>
</tr>
<tr>
<td>(D-sub 15)</td>
<td>AH-72031</td>
</tr>
<tr>
<td>(Dual-SDI)</td>
<td>AH-72162</td>
</tr>
<tr>
<td>(Network board)</td>
<td>AH-72142</td>
</tr>
</tbody>
</table>
# Configurations of Terminals

## ANALOG (Mini D-sub 15 pin)

<table>
<thead>
<tr>
<th>Pin</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Red Input</td>
</tr>
<tr>
<td>2</td>
<td>Green Input</td>
</tr>
<tr>
<td>3</td>
<td>Blue Input</td>
</tr>
<tr>
<td>4</td>
<td>No Connect</td>
</tr>
<tr>
<td>5</td>
<td>Ground (Horiz.sync.)</td>
</tr>
<tr>
<td>6</td>
<td>Ground (Red)</td>
</tr>
<tr>
<td>7</td>
<td>Ground (Green)</td>
</tr>
<tr>
<td>8</td>
<td>Ground (Blue)</td>
</tr>
<tr>
<td>9</td>
<td>+5V Power</td>
</tr>
<tr>
<td>10</td>
<td>Ground (Vert. sync.)</td>
</tr>
<tr>
<td>11</td>
<td>Ground</td>
</tr>
<tr>
<td>12</td>
<td>DDC Data</td>
</tr>
<tr>
<td>13</td>
<td>Horiz. sync.</td>
</tr>
<tr>
<td>14</td>
<td>Vert. sync.</td>
</tr>
<tr>
<td>15</td>
<td>DDC Clock</td>
</tr>
</tbody>
</table>

## DIGITAL DVI-D (DVI 24 PIN)

<table>
<thead>
<tr>
<th>Pin</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>T.M.D.S. Data2–</td>
</tr>
<tr>
<td>2</td>
<td>T.M.D.S. Data2+</td>
</tr>
<tr>
<td>3</td>
<td>T.M.D.S. Data2 Shield</td>
</tr>
<tr>
<td>4</td>
<td>No Connect</td>
</tr>
<tr>
<td>5</td>
<td>No Connect</td>
</tr>
<tr>
<td>6</td>
<td>DDC Clock</td>
</tr>
<tr>
<td>7</td>
<td>DDC Data</td>
</tr>
<tr>
<td>8</td>
<td>No Connect</td>
</tr>
<tr>
<td>9</td>
<td>T.M.D.S. Data1–</td>
</tr>
<tr>
<td>10</td>
<td>T.M.D.S. Data1+</td>
</tr>
<tr>
<td>11</td>
<td>T.M.D.S. Data1 Shield</td>
</tr>
<tr>
<td>12</td>
<td>No Connect</td>
</tr>
<tr>
<td>13</td>
<td>No Connect</td>
</tr>
<tr>
<td>14</td>
<td>+5V Power</td>
</tr>
<tr>
<td>15</td>
<td>Ground (for +5V)</td>
</tr>
<tr>
<td>16</td>
<td>Hot Plug Detect</td>
</tr>
<tr>
<td>17</td>
<td>T.M.D.S. Data0–</td>
</tr>
<tr>
<td>18</td>
<td>T.M.D.S. Data0+</td>
</tr>
<tr>
<td>19</td>
<td>T.M.D.S. Data0 Shield</td>
</tr>
<tr>
<td>20</td>
<td>No Connect</td>
</tr>
<tr>
<td>21</td>
<td>No Connect</td>
</tr>
<tr>
<td>22</td>
<td>T.M.D.S. Clock Shield</td>
</tr>
<tr>
<td>23</td>
<td>T.M.D.S. Clock+</td>
</tr>
<tr>
<td>24</td>
<td>T.M.D.S. Clock–</td>
</tr>
</tbody>
</table>

## USB CONNECTOR (Series B)

<table>
<thead>
<tr>
<th>Pin</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Vcc</td>
</tr>
<tr>
<td>2</td>
<td>- Data</td>
</tr>
<tr>
<td>3</td>
<td>+ Data</td>
</tr>
<tr>
<td>4</td>
<td>Ground</td>
</tr>
</tbody>
</table>

## CONTROL PORT CONNECTOR (D-sub 9 pin)

<table>
<thead>
<tr>
<th>Pin</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Serial</td>
</tr>
<tr>
<td>2</td>
<td>RXD</td>
</tr>
<tr>
<td>3</td>
<td>TXD</td>
</tr>
<tr>
<td>4</td>
<td>Serial</td>
</tr>
<tr>
<td>5</td>
<td>SG</td>
</tr>
<tr>
<td>6</td>
<td>Serial</td>
</tr>
<tr>
<td>7</td>
<td>RTS</td>
</tr>
<tr>
<td>8</td>
<td>CTS</td>
</tr>
<tr>
<td>9</td>
<td>Serial</td>
</tr>
</tbody>
</table>
PIN Code Number Memo

Write down the PIN code number in the column below and keep it with this manual securely. If you forgot or lost the number and unable to operate the projector, contact the service station.

<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Factory default set No: 1 2 3 4*</td>
<td>Factory default set No: 4 3 2 1*</td>
</tr>
</tbody>
</table>

*Should the four-digit number be changed, the factory set number will be invalid.

While the projector is locked with the PIN code...

Put the label below (supplied) on in a prominent place of the projector’s body while it is locked with a PIN code.
Dimensions

Unit: inch (mm)

Screw Holes for Ceiling Mount
Screw: M8
Depth: 0.393 (10.0)
**Serial Control Interface**

This projector provides a function to control and monitor the projector’s operations by using the RS-232C serial port.

**Operation**

1. Connect a RS-232C serial cross cable to SERIAL PORT IN on the projector and serial port on the PC. (See p.11)

2. Launch a communication software provided with PC and setup the communication condition as follows:

<table>
<thead>
<tr>
<th>Operation</th>
<th>Baud rate</th>
<th>Parity check</th>
<th>Stop bit</th>
<th>Flow control</th>
<th>Data bit</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>9600 / 19200 bps</td>
<td>none</td>
<td>1</td>
<td>none</td>
<td>8</td>
</tr>
</tbody>
</table>

3. Type the command for controlling the projector and then enter the “Enter” key.

**Example**

When you want to change the input to INPUT 2, type ‘C’ ‘0’ ‘6’ ‘Enter’.

**Note:**
- The default of the baud rate is set to 19200 bps. If an error occurs in the communication, change the serial port and the communication speed (baud rate).
- Enter with ASCII 64-byte capital characters and one-byte characters.

### Functional Execution Command

**Format**

The command is sent from PC to the projector with the format below;
- ‘C’ [Command] ‘CR’
  - Command: two characters (refer to the command table below).
- The projector decodes the command and returns the ‘ACK’ with the format below;
  - ‘ACK’ ‘CR’
- When the projector cannot decode the command, it returns with format below.
  - ‘?’ ‘CR’

<table>
<thead>
<tr>
<th>Command</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>C00</td>
<td>Turn the projector ON</td>
</tr>
<tr>
<td>C01</td>
<td>Turn the projector OFF (immediately OFF)</td>
</tr>
<tr>
<td>C05</td>
<td>Select Input 1</td>
</tr>
<tr>
<td>C06</td>
<td>Select Input 2</td>
</tr>
<tr>
<td>C07</td>
<td>Select Input 3</td>
</tr>
<tr>
<td>C08</td>
<td>Select Input 4</td>
</tr>
<tr>
<td>C0D</td>
<td>Video mute ON</td>
</tr>
<tr>
<td>C0E</td>
<td>Video mute OFF</td>
</tr>
<tr>
<td>C0F</td>
<td>Aspect 4:3</td>
</tr>
<tr>
<td>C10</td>
<td>Aspect 16:9</td>
</tr>
<tr>
<td>C1C</td>
<td>Menu ON</td>
</tr>
<tr>
<td>C1D</td>
<td>Menu OFF</td>
</tr>
<tr>
<td>C3A</td>
<td>Pointer RIGHT</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Command</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>C3B</td>
<td>Pointer LEFT</td>
</tr>
<tr>
<td>C3C</td>
<td>Pointer UP</td>
</tr>
<tr>
<td>C3D</td>
<td>Pointer DOWN</td>
</tr>
<tr>
<td>C3F</td>
<td>Enter</td>
</tr>
<tr>
<td>C46</td>
<td>Zoom DOWN</td>
</tr>
<tr>
<td>C47</td>
<td>Zoom UP</td>
</tr>
<tr>
<td>C4A</td>
<td>Focus DOWN</td>
</tr>
<tr>
<td>C4B</td>
<td>Focus UP</td>
</tr>
<tr>
<td>C5D</td>
<td>Lens shift UP</td>
</tr>
<tr>
<td>C5E</td>
<td>Lens shift DOWN</td>
</tr>
<tr>
<td>C5F</td>
<td>Lens shift LEFT</td>
</tr>
<tr>
<td>C60</td>
<td>Lens shift RIGHT</td>
</tr>
<tr>
<td>C89</td>
<td>Auto PC Adj.</td>
</tr>
<tr>
<td>C8E</td>
<td>Keystone UP</td>
</tr>
<tr>
<td>C8F</td>
<td>Keystone DOWN</td>
</tr>
<tr>
<td>C90</td>
<td>Keystone RIGHT</td>
</tr>
<tr>
<td>C91</td>
<td>Keystone LEFT</td>
</tr>
</tbody>
</table>
Status Read Command

Format

The command is sent from PC to the projector with the format below;

'CR' [Command] 'CR'

Command: one character (refer to the command table below.

The projector decodes the command and returns the 'Character string' with the format below;

<table>
<thead>
<tr>
<th>Command</th>
<th>Function</th>
<th>Projector Return</th>
<th>Projector status</th>
</tr>
</thead>
<tbody>
<tr>
<td>CR0</td>
<td>Status Read</td>
<td>00</td>
<td>Power On</td>
</tr>
<tr>
<td></td>
<td></td>
<td>80</td>
<td>Stand-by mode</td>
</tr>
<tr>
<td></td>
<td></td>
<td>40</td>
<td>Countdown</td>
</tr>
<tr>
<td></td>
<td></td>
<td>20</td>
<td>Cooling down</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10</td>
<td>Power Malfunction</td>
</tr>
<tr>
<td></td>
<td></td>
<td>28</td>
<td>Cooling down at the temperature anomaly</td>
</tr>
<tr>
<td></td>
<td></td>
<td>02</td>
<td>Unable to receive the RC232C command.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>24</td>
<td>Cooling down at Power Management mode</td>
</tr>
<tr>
<td></td>
<td></td>
<td>04</td>
<td>Power Management mode after Cooling down</td>
</tr>
<tr>
<td></td>
<td></td>
<td>21</td>
<td>Cooling down after the projector is turned off when the lamps are out.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>81</td>
<td>Stand-by mode after Cooling down when the lamps are out.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>88</td>
<td>Stand-by mode after Cooling down at the temperature anomaly.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2C</td>
<td>Cooling down when the projector is turned off by the shutter management function.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>8C</td>
<td>Stand-by mode after Cooling down by the shutter management function.</td>
</tr>
<tr>
<td>CR6</td>
<td>Temperature Read</td>
<td>S1 S2 S3</td>
<td>S1 = Temperature at Sensor 1 (°C)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>S2 = Temperature at Sensor 2 (°C)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>S3 = Temperature at Sensor 3 (°C)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(ex.) S1 = 12.3°C, S2 = 23.4°C, S3 = 34.5°C</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>--&gt; The projector displays “12.3 23.4 34.5”</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(For each sensor, two digit and the tenth place numbers are displayed with a space between each temperature.)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>?</td>
<td>Communication failure</td>
</tr>
</tbody>
</table>

The tables on page 82 and 83 show the typical command lists for controlling the projector. Please consult your local dealer for further information of other commands.
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