NEC

LCD Projector

NP3200/NP2200/NP1200

User's Manual

The NP3200 is not distributed in North America.

Important Information

Safety Cautions

Precautions

Please read this manual carefully before using your NEC NP3200/NP2200/NP1200 projector and keep the manual handy for future reference.

CAUTION

To turn off main power, be sure to remove the plug from power outlet.
The power outlet socket should be installed as near to the equipment as possible, and should be easily accessible.

CAUTION

TO PREVENT SHOCK, DO NOT OPEN THE CABINET.
THERE ARE HIGH-VOLTAGE COMPONENTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

This symbol warns the user that uninsulated voltage within the unit may be sufficient to cause electrical shock. Therefore, it is dangerous to make any kind of contact with any part inside of the unit.

This symbol alerts the user that important information concerning the operation and maintenance of this unit has been provided.
The information should be read carefully to avoid problems.

WARNING: TO PREVENT FIRE OR SHOCK, DO NOT EXPOSE THIS UNIT TO RAIN OR MOISTURE.
DO NOT USE THIS UNIT'S PLUG WITH AN EXTENSION CORD OR IN AN OUTLET UNLESS ALL THE PRONGS CAN BE FULLY INSERTED.

DOC Compliance Notice (for Canada only)

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Acoustic Noise Information Ordinance-3. GSGV (for Germany only):

The sound pressure level is less than 70 dB (A) according to ISO 3744 or ISO 7779.

CAUTION

Avoid displaying stationary images for a prolonged period of time.
Doing so can result in these images being temporarily sustained on the surface of the LCD panel.
If this should happen, continue to use your projector. The static background from previous images will disappear.

WARNING TO CALIFORNIA RESIDENTS:

Handling the cables supplied with this product will expose you to lead, a chemical known to the State of California to cause birth defects or other reproductive harm. *WASH HANDS AFTER HANDLING.*

Disposing of your used product

EU-wide legislation as implemented in each Member State requires that used electrical and electronic products carrying the mark (left) must be disposed of separately from normal household waste. This includes projectors and their electrical accessories or lamps. When you dispose of such products, please follow the guidance of your local authority and/or ask the shop where you purchased the product.

After collecting the used products, they are reused and recycled in a proper way. This effort will help us reduce the wastes as well as the negative impact such as mercury contained in a lamp to the human health and the environment at the minimum level.

The mark on the electrical and electronic products only applies to the current European Union Member States.

RF Interference (for USA only)

WARNING

The Federal Communications Commission does not allow any modifications or changes to the unit EXCEPT those specified by NEC Display Solutions of America, Inc. in this manual. Failure to comply with this government regulation could void your right to operate this equipment. This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

• Reorient or relocate the receiving antenna.

• Increase the separation between the equipment and receiver.

• Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

• Consult the dealer or an experienced radio / TV technician for help.

For UK only: In UK, a BS approved power cable with molded plug has a Black (five Amps) fuse installed for use with this equipment. If a power cable is not supplied with this equipment please contact your supplier.

Turkish RoHS information relevant for Turkish market

EEE Yönetmeliğine Uygundur.

Important Safeguards

These safety instructions are to ensure the long life of your projector and to prevent fire and shock. Please read them carefully and heed all warnings.

⚠ Installation

• Do not place the projector in the following conditions:

- on an unstable cart, stand, or table.
- near water, baths or damp rooms.
- in direct sunlight, near heaters or heat radiating appliances.
- in a dusty, smoky or steamy environment.
- on a sheet of paper or cloth, rugs or carpets.

• If you wish to have the projector installed on the ceiling:

- Do not attempt to install the projector yourself.
- The projector must be installed by qualified technicians in order to ensure proper operation and reduce the risk of bodily injury.
- In addition, the ceiling must be strong enough to support the projector and the installation must be in accordance with any local building codes.
- Please consult your dealer for more information.

WARNING

• Do not cover the lens with the lens cap or equivalent while the projector is on. Doing so can lead to melting of the cap due to the heat emitted from the light output.

• Do not place any objects, which are easily affected by heat, in front of the projector lens. Doing so could lead to the object melting from the heat that is emitted from the light output.

No!

Place the projector in a horizontal position

The tilt angle of the projector should not exceed 10 degrees, nor should the projector be installed in any way other than the desktop and ceiling mount, otherwise lamp life could decrease dramatically.
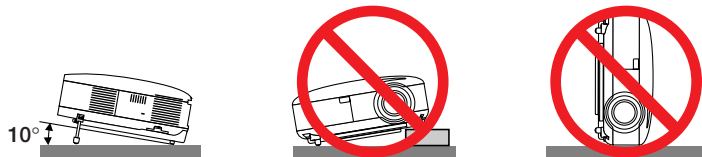
⚠ Fire and Shock Precautions ⚠

- Ensure that there is sufficient ventilation and that vents are unobstructed to prevent the build-up of heat inside your projector. Allow at least 4 inches (10 cm) of space between your projector and a wall.
- Do not try to touch the ventilation outlet on the left front (when seen from the front) as it can become heated while the projector is turned on.

HOT

- Prevent foreign objects such as paper clips and bits of paper from falling into your projector. Do not attempt to retrieve any objects that might fall into your projector. Do not insert any metal objects such as a wire or screwdriver into your projector. If something should fall into your projector, disconnect it immediately and have the object removed by a qualified service personnel.
- Do not place any objects on top of the projector.
- Do not touch the power plug during a thunderstorm. Doing so can cause electrical shock or fire.
- The projector is designed to operate on a power supply of 100-240V AC 50/60 Hz. Ensure that your power supply fits this requirement before attempting to use your projector.
- Do not look into the lens while the projector is on. Serious damage to your eyes could result.

- Do not place any objects, which are easily affected by heat, in front of a projector exhaust vent.
  Doing so could lead to the object melting or getting your hands burned from the heat that is emitted from the exhaust.
- Handle the power cable carefully. A damaged or frayed power cable can cause electric shock or fire.
  - Do not use any power cables than the supplied one.
  - Do not bend or tug the power cable excessively.
  - Do not place the power cable under the projector, or any heavy object.
  - Do not cover the power cable with other soft materials such as rugs.
  - Do not heat the power cable.
  - Do not handle the power plug with wet hands.
- Turn off the projector, unplug the power cable and have the projector serviced by a qualified service personnel under the following conditions:
  - When the power cable or plug is damaged or frayed.
  - If liquid has been spilled into the projector, or if it has been exposed to rain or water.
  - If the projector does not operate normally when you follow the instructions described in this user's manual.
  - If the projector has been dropped or the cabinet has been damaged.
  - If the projector exhibits a distinct change in performance, indicating a need for service.
- Disconnect the power cable and any other cables before carrying the projector
- Turn off the projector and unplug the power cable before cleaning the cabinet or replacing the lamp.
- Turn off the projector and unplug the power cable if the projector is not to be used for an extended period of time.
- When using a LAN cable:
  For safety, do not connect to the connector for peripheral device wiring that might have excessive voltage.

CAUTION
- Always carry your projector by the carrying handle. Before doing so, be sure to lock the carrying handle in place. To lock the carrying handle, see "To lock the carrying handle" on page 6.
- Do not use the tilt-foot for purposes other than originally intended. Misuses such as using the tilt foot to carry or hang (from the wall or ceiling) the projector can cause damage to the projector.
- Do not send the projector in a soft case by parcel delivery service or cargo shipment. The projector inside the soft case could be damaged.
- Select [HIGH] in Fan mode if you continue to use the projector for consecutive days. (From the menu, select [SETUP] → [OPTIONS(1)] → [FAN MODE] → [HIGH].)
- Before using Direct Power Off, be sure to allow at least 20 minutes immediately after turning on the projector and starting to display an image.
- Do not unplug the power cable from the wall outlet or projector when the projector is powered on. Doing so can cause damage to the AC IN connector of the projector and (or) the prong plug of the power cable.
  To turn off the AC power supply when the projector is powered on, use a power strip equipped with a switch and a breaker.
- Do not try to touch the ventilation outlet on the left front (when seen from the front) as it can become heated while the projector is turned on and immediately after the projector is turned off.
- Do not turn off the AC power for 60 seconds after the lamp is turned on and while the POWER indicator is blinking green. Doing so could cause premature lamp failure.

Caution on Handling the Optional Lens

When shipping the projector with the optional lens, remove the optional lens before shipping the projector. The lens and the lens shift mechanism may encounter damage caused by improper handling during transportation.
Do not hold the lens part when carrying the projector.
Doing so could cause the focus ring to rotate, resulting in accidental dropping of the projector.

⚠ Remote Control Precautions

- Handle the remote control carefully.
- If the remote control gets wet, wipe it dry immediately.
- Avoid excessive heat and humidity.
- Do not heat, take apart, or throw batteries into fire.
- If you will not be using the remote control for a long time, remove the batteries.
- Ensure that you have the batteries' polarity (+/–) aligned correctly.
- Do not use new and old batteries together, or use different types of batteries together.
- Dispose of used batteries according to your local regulations.

Note for US Residents
The lamp in this product contains mercury. Please dispose according to Local, State or Federal Laws.

Lamp Replacement

- To replace the lamp, follow all instructions provided on page 79.
- Be sure to replace the lamp when the message **[THE LAMP HAS REACHED THE END OF ITS USABLE LIFE. PLEASE REPLACE THE LAMP.]** appears. If you continue to use the lamp after the lamp has reached the end of its usable life, the lamp bulb may shatter, and pieces of glass may be scattered in the lamp case. Do not touch them as the pieces of glass may cause injury.

  If this happens, contact your dealer for lamp replacement.

A Lamp Characteristic

The projector has a high-pressure mercury lamp as a light source.
A lamp has a characteristic that its brightness gradually decreases with age. Also repeatedly turning the lamp on and off will increase the possibility of its lower brightness.

⚠ CAUTION:

When removing the lamp from a ceiling-mounted projector, make sure that no one is under the projector. Glass fragments could fall if the lamp has been burned out.

About High Altitude mode

- Set [FAN MODE] to [HIGH ALTITUDE] when using the projector at altitudes approximately 5500 feet/1600 meters or higher.

  Using the projector at altitudes approximately 5500 feet/1600 meters or higher without setting to [HIGH ALTITUDE] can cause the projector to overheat and the protector could shut down. If this happens, wait a couple minutes and turn on the projector.

- Using the projector at altitudes less than approximately 5500 feet/1600 meters and setting to [HIGH ALTITUDE] can cause the lamp to overcool, causing the image to flicker. Switch [FAN MODE] to [AUTO].

- Using the projector at altitudes approximately 5500 feet/1600 meters or higher can shorten the life of optical components such as the lamp.

About Copyright of original projected pictures:

Please note that using this projector for the purpose of commercial gain or the attraction of public attention in a venue such as a coffee shop or hotel and employing compression or expansion of the screen image with the following functions may raise concern about the infringement of copyrights which are protected by copyright law.
[ASPECT RATIO], [KEYSTONE], Magnifying feature and other similar features.

Table of Contents

1. Introduction

❶ What's in the Box?

Make sure your box contains everything listed. If any pieces are missing, contact your dealer.
Please save the original box and packing materials if you ever need to ship your Projector.

Projector
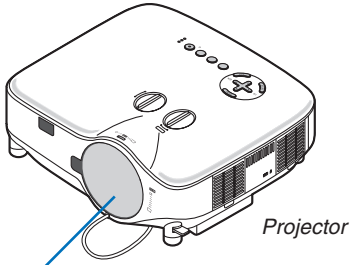
*Lens cap
(24FT9741)*
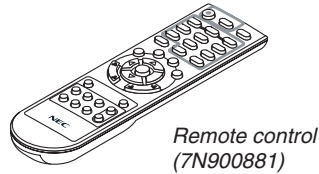
*Remote control
(7N900881)*
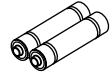
Batteries (AAA × 2)
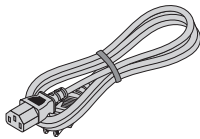
*Power cable
(For North America: 7N080236)
(For Europe and other countries: 7N080022)*
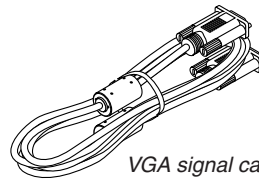
*VGA signal cable
(7N520073)*
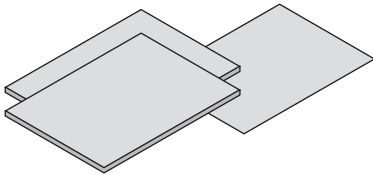
- *Important Information (For North America:
  7N8P9891) (For Other countries than North
  America: 7N8P9891 and 7N8P9901)*
- *Quick Setup Guide (7N8P9881)*

For North America only
Registration card
Limited warranty

For customers in Europe:
You will find our current valid Guarantee
Policy on our Web Site:
www.nec-display-solutions.com
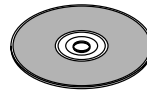
*NEC Projector CD-ROM
User's Manual (7N951381)*

- *Security sticker
  (24L67991)*

- *Anti-theft screw for lens × 1
  (24V00841)*

1

❷ Introduction to the Projector

This section introduces you to the NP3200/NP2200/NP1200 projector and describes key features and controls.

Congratulations on Your Purchase of the Projector

The NP3200/NP2200/NP1200 is a sophisticated XGA projector that produces an enhanced display. With the NP3200/NP2200/NP1200 you will be able to project images up to 500" (measured diagonally). Enjoy crisp and sharp large screen display from your PC or Macintosh computer, DVD player, VCR, satellite hookup, HDTV source. The NP3200/NP2200/NP1200 provides for enhanced security options to help deter projector theft and provides for projector control through the PC control port (D-Sub 9 Pin) and LAN support. With input and output flexibility, long lamp life and a full function remote, the NP3200/NP2200/NP1200 lets you enjoy larger than life viewing from a compact and easy to setup and use projector.

Features you'll enjoy :

- **LCD projector with high resolution and high brightness**

  High resolution display - up to UXGA compatible, XGA native resolution.

- **Extensive optional lens**

  One standard lens and five types of optional lenses are available

- **Lens shift mechanism offers installation flexibility**

  Manual lens shift that can be adjusted by turning dials on the top of the projector

- **Quick start & Quick Power Off**

  Five seconds* after turning on the power, the projector is ready to display PC or video images.

  * The quick start time is only when [STANDBY MODE] is set to [NORMAL] in the on-screen message. The projector can be put away immediately after the projector is powered down.

- **Direct Power Off**

  The projector has a feature called "Direct Power Off". This feature allows the projector to be turned off (even when projecting an image) by using the Main Power Switch or disconnecting the AC power supply.

  To turn off the AC power supply when the projector is powered on, use a power strip equipped with a switch and a breaker.

  NOTE: Before using Direct Power Off, be sure to allow at least 20 minutes immediately after turning on the projector and starting to display an image.

- **Auto Power On, and Auto Power Off functions**

  The AUTO POWER ON(AC), AUTO POWER ON(COMP1/2), AUTO POWER OFF, and OFF TIMER features eliminate the need to always use the POWER button on the remote control or projector cabinet.

- **Less than 1W in standby condition with energy saving technology**

  Selecting [POWER-SAVING] for [STANDBY MODE] from the menu can put the projector in power-saving mode that consumes only 0.4W (100-130V AC)/0.5W (200-240V AC).

- **Carbon Meter**

  This feature will show energy-saving effect in terms of CO_2 emission reduction (kg) when the projector's [ECO MODE] is set to [ON].

  The amount of CO_2 emission reduction will be displayed in the confirmation message at the time of power-off and in the INFO of the on-screen menu.

- **Integrated RJ-45 connector for wired networking capability**

  An RJ-45 connector is equipped as standard feature.

- **The projector can be controlled from a computer over a LAN**

  Connecting the projector to a network allows the Alert Mail setting and the projector control from a computer via the network.

  To do so, you must have an exclusive application "PC Control Utility Pro4" installed on your computer from the supplied NEC Projector CD-ROM.

- **A variety of input ports and a comprehensive array of system control interfaces**

  This projector supports input signals on the following ports: BNC, DVI-D, 15pin D-Sub, composite and S-video.

- **Wall Color Correction**

  Built-in Wall Color Correction presets provide for adaptive color correction when projecting onto non-white screen material (or a wall).

- **Six picture preset modes for user adjustable picture and color settings**

  Each picture preset mode can be customized and memorized according to your preference.

- **Preventing unauthorized use of the projector**

  Enhanced smart security settings for keyword protection, cabinet control panel lock to help prevent unauthorized access, adjustments and theft deterrence.

- **The supplied remote control allows you to assign a CONTROL ID to the projector**

  Multiple projectors can be operated separately and independently with the same single remote control by assigning an ID number to each projector.

About this user's manual

The fastest way to get started is to take your time and do everything right the first time. Take a few minutes now to review the user's manual. This may save you time later on. At the beginning of each section of the manual you'll find an overview. If the section doesn't apply, you can skip it.

❸ Part Names of the Projector

Front/Top

Lens Shift Dial (Right / Left, Up / Down)
(→ page 25)

Focus Ring
(→ page 26)

Remote Sensor
(→ page 10)

LENS RELEASE Button
(→ page 84)

Lens

Zoom Lever
(→ page 26)

Lens Cap

Controls
(→ page 7)

Ventilation (inlet) / Filter
(→ page 77)

Built-in Security Slot (🔒)*

Ventilation (inlet) / Filter
(→ page 77)

Adjustable Tilt Foot Lever
(→ page 27)

Adjustable Tilt Foot
(→ page 27)
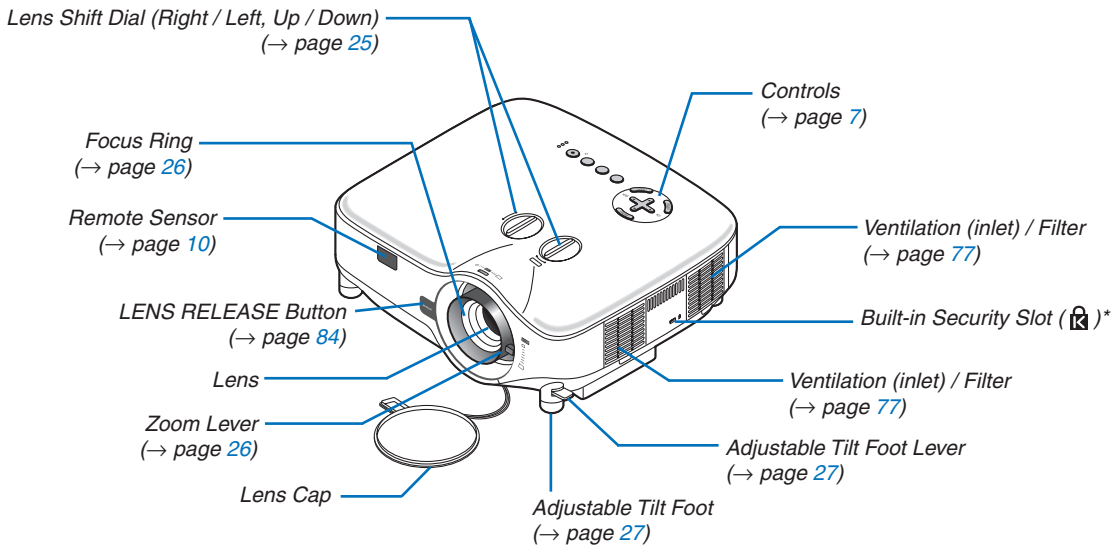
* This security slot supports the MicroSaver® Security System. MicroSaver® is a registered trademark of Kensington Microware Inc. The logo is trademarked and owned by Kensington Microware Inc.

Rear

Stereo Speaker (5W × 2)

Terminal Panel
(→ page 8)

Main Power Switch
When you plug the supplied power cable into an active wall outlet and turn on the Main Power switch, the POWER indicator turns orange and the projector is in standby mode.
(→ page 21)

Ventilation (outlet)
Heated air is exhausted from here.

Lamp Cover
(→ page 79)

Remote Sensor
(→ page 10)

AC Input
Connect the supplied power cable's three-pin plug here, and plug the other end into an active wall outlet.
(→ page 20)

Bottom

Anti-theft Screw for Lens
(→ page *84*)

Carrying Handle

Carrying the Projector

Always carry your projector by the handle.
Ensure that the power cable and any other cables connecting to video sources are disconnected before moving the projector.
When moving the projector or when it is not in use, cover the lens with the lens cap.

NOTE: To stand the projector on its end, do so by holding the cabinet, not by holding the carrying handle.
Doing so can cause damage to the carrying handle.
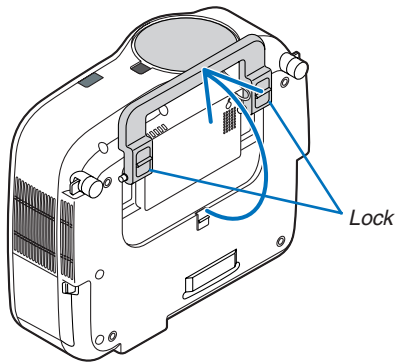
Lock

To lock the carrying handle

1. Carefully place the projector on its end.
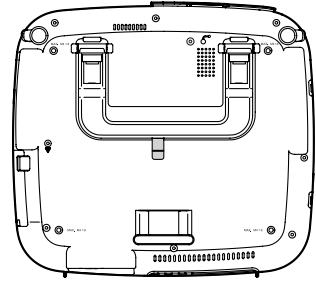
2. Pull up the carrying handle with the catch pressed down.
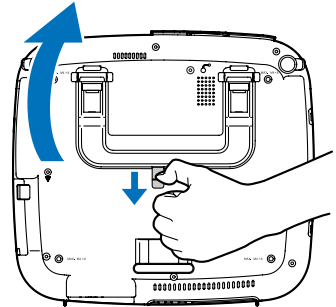
3. Press down the left and right locks to set the carrying handle in place.

• To place back the carrying handle, press up the left and right locks and pull down the carrying handle.

6
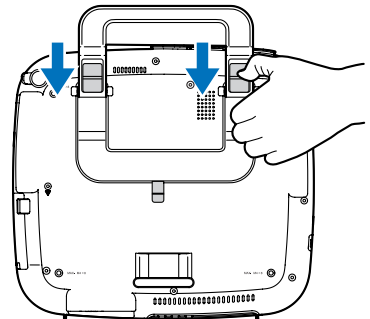
Top Features
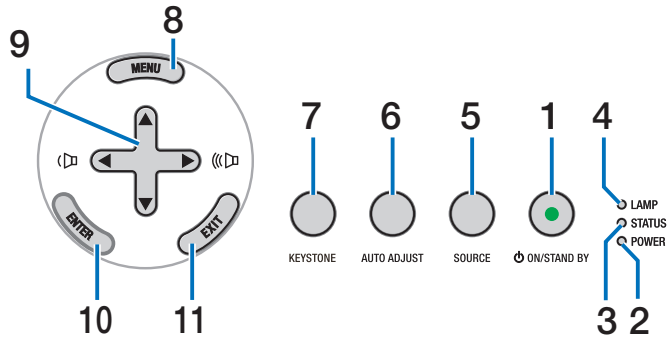
1. **POWER Button (⏻) (ON / STAND BY) (→ page 21, 31)**

   NOTE: To turn on the projector, press and hold this button for a minimum of 1 second. To turn off the projector, press this button twice.

2. **POWER Indicator (→ page 21, 31, 86)**

3. **STATUS Indicator (→ page 21, 31, 86)**

4. **LAMP Indicator (→ page 79, 86)**

5. **SOURCE Button (→ page 23)**

6. **AUTO ADJUST Button (→ page 30)**

7. **KEYSTONE Button (→ page 28)**

8. **MENU Button (→ page 50)**

9. **▲▼◀▶ / ◀▶ Volume Buttons (◁ ◁◁) (→ page 30)**

10. **ENTER Button (→ page 50)**

11. **EXIT Button (→ page 50)**

Terminal Panel Features
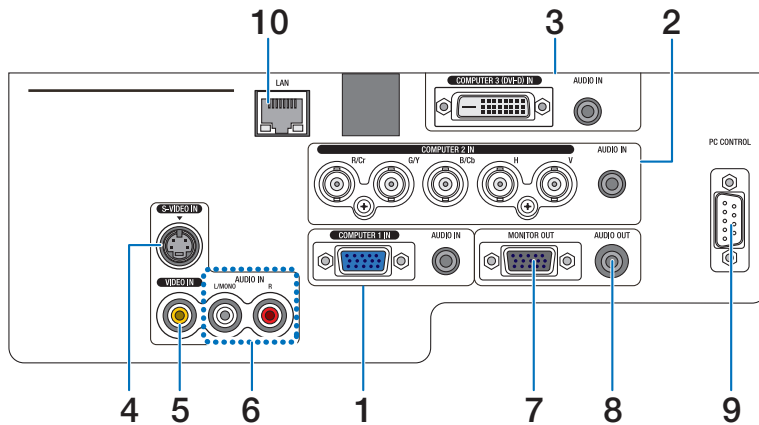
The actual appearance of the terminal panel may differ slightly from that shown in the drawing, but this does not affect the projector's performance.

1. **COMPUTER 1 IN/Component Connector (Mini D-Sub 15 Pin) (→ page 13, 16, 17)**
   AUDIO IN (Stereo Mini Jack) (→ page 13, 16, 17)

2. **COMPUTER 2 IN/Component (R/Cr, G/Y, B/Cb, H, V) Connectors (BNC × 5) (→ page 13, 18)**
   AUDIO IN (Stereo Mini Jack) (→ page 13)

3. **COMPUTER 3 (DVI-D) IN Connector (24 Pin) (HDCP compatible) (→ page 15)**
   AUDIO IN (Stereo Mini Jack) (→ page 15)

4. **S-VIDEO IN Connector (Mini DIN 4 Pin) (→ page 18)**

5. **VIDEO IN Connector (RCA) (→ page 18)**

6. **VIDEO/S-VIDEO AUDIO L/MONO, R (RCA) (→ page 18)**

7. **MONITOR OUT Connector (Mini D-Sub 15 Pin) (→ page 16)**

8. **AUDIO OUT (Stereo Mini Jack) (→ page 16)**

9. **PC CONTROL Port (D-Sub 9 Pin) (→ page 96, 97)**
   Use this port to connect your PC or control system to control your projector via a serial cable. This enables you to control the projector using serial communication protocol. A commercially available RS232C cross cable is required to use this port. You can also control the projector by using PC Control Utility Pro 4 contained on the supplied NEC Projector CD-ROM. To do so you must first have PC Control Utility Pro 4 installed on your PC (→ page 48). If you are writing your own program, typical PC control codes are on page 96.

10. **LAN Port (RJ-45) (→ page 19)**

❹ Part Names of the Remote Control
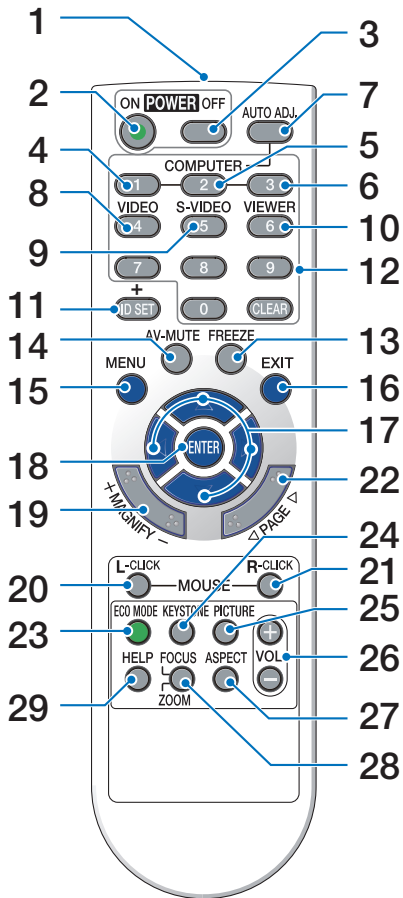
11. ID SET Button
(→ page 68)

12. Numeric Keypad Button/CLEAR Button
(→ page 68)

13. FREEZE Button
(→ page 32)

14. AV-MUTE Button
(→ page 32)

15. MENU Button
(→ page 50)

16. EXIT Button (→ page 50)

17. ▲▼◄► Button (→ page 50)

18. ENTER Button (→ page 50)

19. MAGNIFY (+)(–) Button
(→ page 32)

20. MOUSE L-CLICK Button*
(→ page 38, 39)

21. MOUSE R-CLICK Button*
(→ page 38, 39)

22. PAGE ◄/► Button*
(→ page 38, 39)

23. ECO MODE Button (→ page 33)

24. KEYSTONE Button
(→ page 28)

25. PICTURE Button
(→ page 55, 56)

26. VOL. (+)(–) Button
(→ page 30)

27. ASPECT Button
(→ page 60)

28. FOCUS/ZOOM Button
(not available on this series of projectors)

29. HELP Button
(→ page 74)

1. Infrared Transmitter
(→ page 10)

2. POWER ON Button
(→ page 21)

3. POWER OFF Button
(→ page 31)

4, 5, 6. COMPUTER 1/2/3 Button
(→ page 23)

7. AUTO ADJ. Button
(→ page 30)

8. VIDEO Button
(→ page 23)

9. S-VIDEO Button
(→ page 23)

10. VIEWER Button
(not available on this series of projectors)

* The PAGE ◄/►, MOUSE L-CLICK and MOUSE R-CLICK buttons work only when the optional remote mouse receiver (NP01MR) is connected with your computer.

Battery Installation

1 Press firmly and slide the battery cover off.

2 Install new batteries (AAA). Ensure that you have the batteries' polarity (+/−) aligned correctly.

3 Slip the cover back over the batteries until it snaps into place. Do not mix different types of batteries or new and old batteries.
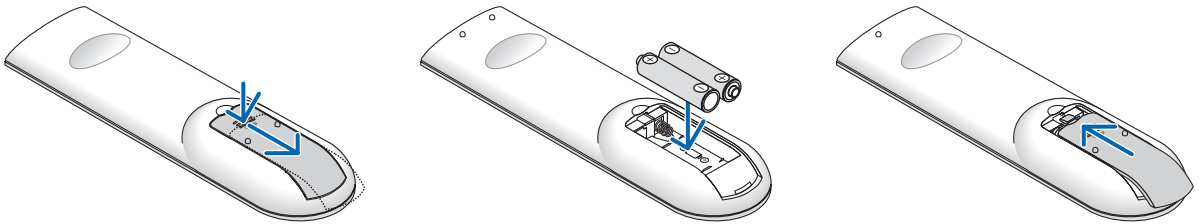
Operating Range for Wireless Remote Control

7 m/22 feet   7 m/22 feet

30°
30°

30°
30°

Remote control

Remote sensor on projector cabinet

30°
30°

30°
30°

Remote control

7 m/22 feet   7 m/22 feet
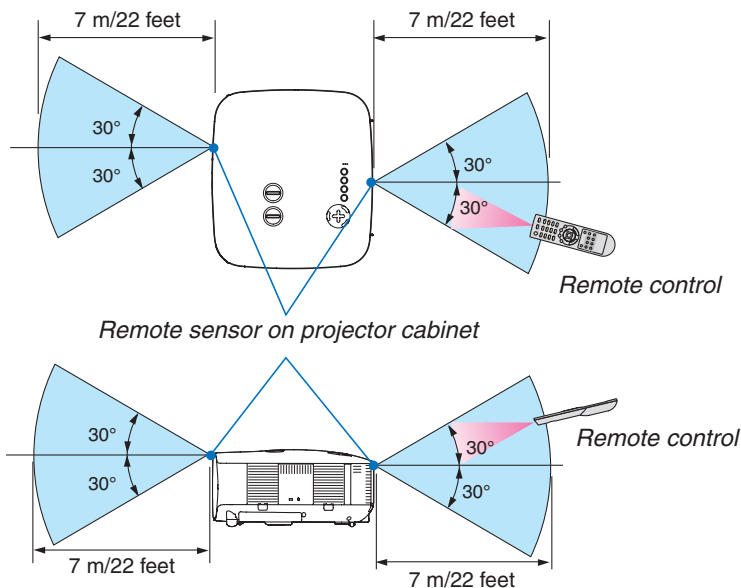
NOTE: Actual operating range may differ slightly from that shown in the drawing.

TIP: *You can determine which remote sensor on the projector is enabled in wireless mode. The options are: [FRONT/BACK], [FRONT], or [BACK]. (→ page 68)*

- The infrared signal operates by line-of-sight up to a distance of about 22 feet/7 m and within a 60-degree angle of the remote sensor on the projector cabinet.
- The projector will not respond if there are objects between the remote control and the sensor, or if strong light falls on the sensor.
  Weak batteries will also prevent the remote control from properly operating the projector.

10

Remote Control Precautions

- Handle the remote control carefully.
- If the remote control gets wet, wipe it dry immediately.
- Avoid excessive heat and humidity.
- Do not heat, take apart, or throw batteries into fire.
- If you will not be using the remote control for a long time, remove the batteries.
- Ensure that you have the batteries' polarity (+/−) aligned correctly.
- Do not use new and old batteries together, or use different types of batteries together.
- Dispose of used batteries according to your local regulations.

2. Installation and Connections

This section describes how to set up your projector and how to connect PCs, video and audio sources.
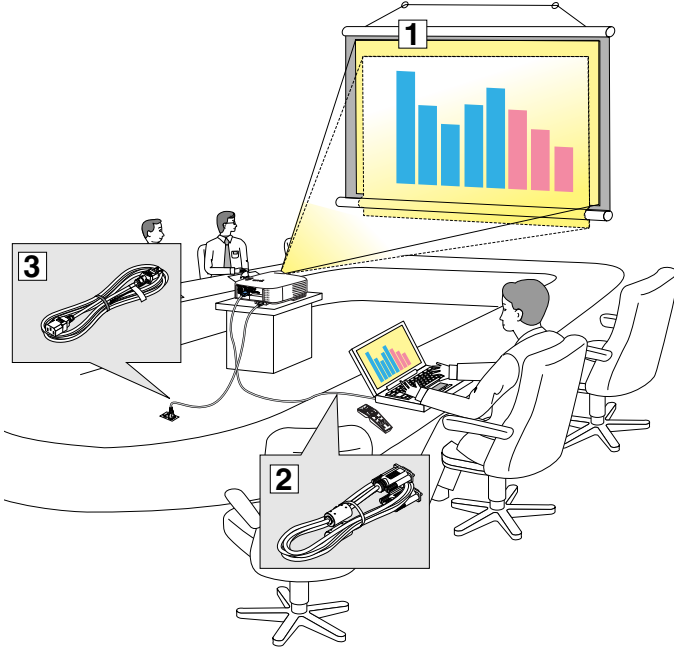
Your projector is simple to set up and use. But before you get started, you must first:

① Set up a screen and the projector.

② Connect your computer or video equipment to the projector. See pages 13, 15, 16, 17, 18, 19.

③ Connect the supplied power cable. See page 20.

NOTE: Ensure that the power cable and any other cables are disconnected before moving the projector. When moving the projector or when it is not in use, cover the lens with the lens cap.

❶ Setting Up the Screen and the Projector

Selecting a Location [NP3200/NP2200/NP1200]

The further your projector is from the screen or wall, the larger the image. The minimum size the image can be is approximately 30 inches (0.76 m) measured diagonally when the projector is roughly 41 inches (1.0 m) from the wall or screen. The largest the image can be is 500 inches (12.7 m) when the projector is about 718 inches (18.2 m) from the wall or screen. Use the drawing below as a guide.
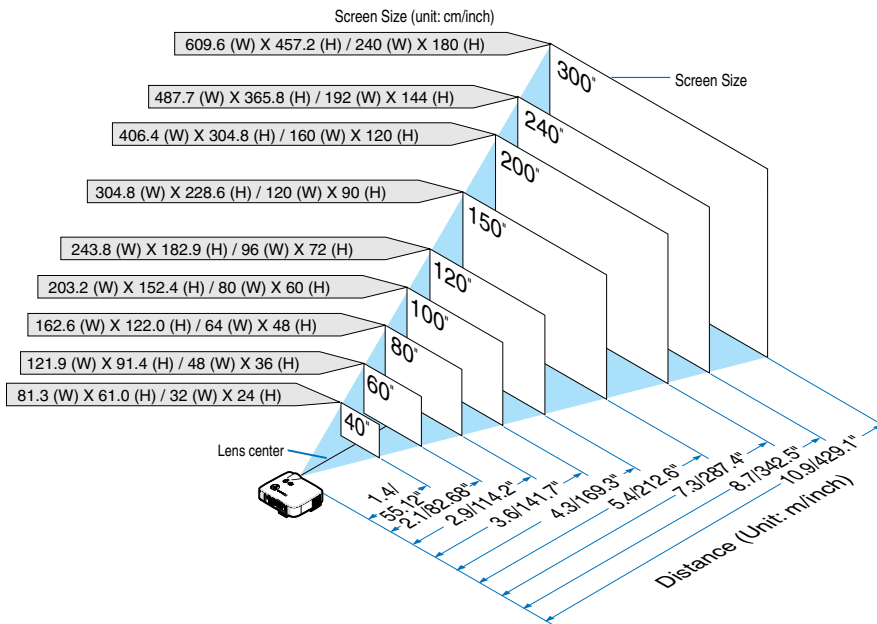
TIP: The screen sizes above are intermediate values between tele (minimum display area) and wide (maximum display area) when the standard lens is used. Image size can be adjusted with the zoom adjustment up to a maximum of 15%.
For optional lenses, see page 82.

❷ Making Connections

Connecting Your PC or Macintosh Computer

NOTE: When using with a notebook PC, be sure to connect the projector and notebook PC while the projector is in standby mode and before turning on the power to the notebook PC.
In most cases the output signal from the notebook PC is not turned on unless connected to the projector before being powered up.
* If the screen goes blank while using your remote control, it may be the result of the computer's screen-saver or power management software.

Enabling the computer's external display

Displaying an image on the notebook PC's screen does not necessarily mean it outputs a signal to the projector.
When using a PC compatible laptop, a combination of function keys will enable/disable the external display.
Usually, the combination of the "Fn" key along with one of the 12 function keys gets the external display to come on or off. For example, NEC laptops use Fn + F3, while Dell laptops use Fn + F8 key combinations to toggle through external display selections.

NOTE: Both COMPUTER 1 IN and COMPUTER 3 (DVI-D) IN connectors support Plug & Play (DDC2B).

COMPUTER 2 IN

COMPUTER 1 IN

BNC × 5 cable (not supplied)

Stereo mini-plug audio cable (not supplied)

VGA signal cable (supplied)
To mini D-Sub 15-pin connector on the projector.
It is recommended that you use a commercially available distribution amplifier if connecting a signal cable longer than the one supplied.

Stereo mini-plug audio cable (not supplied)

PHONE

IBM VGA or Compatibles (Notebook type) or Macintosh (Notebook type)

NOTE: For older Macintosh, use a commercially available pin adapter (not supplied) to connect to your Mac's video port.

- First turn off the computer and the projector before making connections.
- Turn down the volume on the computer before connecting an audio cable to the headphone jack of the computer. After connecting the computer to the projector, you can adjust the sound level on the computer and the projector to your preference.
- You are recommended to connect an audio cable to an audio out connector (mini jack type) if any.

NOTE: The NP3200/NP2200/NP1200 is not compatible with video decoded outputs of either the NEC ISS-6020 and ISS-6010 switchers.

NOTE: An image may not be displayed correctly when a Video or S-Video source is played back via a commercially available scan converter. This is because the projector will process a video signal as a computer signal at the default setting. In that case, do the following.
* When an image is displayed with the lower and upper black portion of the screen or a dark image is not displayed correctly: Project an image to fill the screen and then press the AUTO ADJ button on the remote control or the AUTO ADJUST button on the projector cabinet.

• Select the source name for its appropriate input connector after turning on the projector.

Input connector	SOURCE button on the projector cabinet	Button on the remote control
COMPUTER 1 IN	🖳 COMPUTER 1	(COMPUTER 1)
COMPUTER 2 IN	⊚×5 COMPUTER 2	(COMPUTER 2)
COMPUTER 3 (DVI-D) IN	▦ COMPUTER 3	(COMPUTER 3)

When Viewing a DVI Digital Signal

To project a DVI digital signal, be sure to connect the PC and the projector using a DVI-D signal cable (not supplied) before turning on your PC or projector. Turn on the projector first and select COMPUTER 3 from the source menu before turning on your PC.

Failure to do so may not activate the digital output of the graphics card resulting in no picture being displayed. Should this happen, restart your PC.

Do not disconnect the DVI-D signal cable while the projector is running. If the signal cable has been disconnected and then re-connected, an image may not be correctly displayed. Should this happen, restart your PC.

NOTE:
- *Use a DVI-D cable compliant with the DDWG (Digital Display Working Group) DVI (Digital Visual Interface) revision 1.0 standard. The DVI-D cable should be within 5 m (197″) long.*
- *The DVI (DIGITAL) connector (COMPUTER 3 (DVI-D) IN) accepts VGA (640 × 480), SVGA (800 × 600), 1152 × 864, XGA (1024 × 768), WXGA (1280 × 768, 1280 × 800), SXGA (1280 × 1024 @ up to 60Hz) and SXGA+ (1400 × 1050 @ up to 60Hz).*
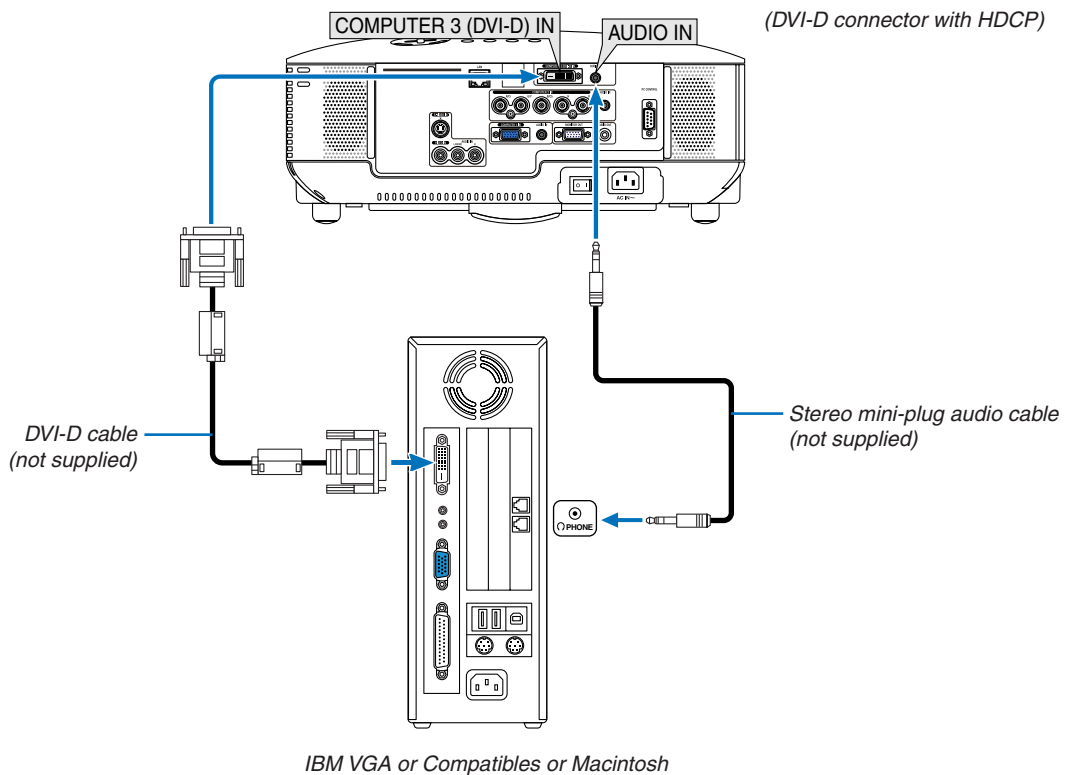
IBM VGA or Compatibles or Macintosh

- Select the source name for its appropriate input connector after turning on the projector.

Input connector	SOURCE button on the projector cabinet	Button on the remote control
COMPUTER 3 (DVI-D) IN	▦ COMPUTER 3	(COMPUTER 3)

What is HDCP/HDCP technology?

HDCP is an acronym for High-bandwidth Digital Content Protection. High bandwidth Digital Content Protection (HDCP) is a system for preventing illegal copying of video data sent over a Digital Visual Interface (DVI).

If you are unable to view material via the DVI input, this does not necessarily mean the projector is not functioning properly. With the implementation of HDCP, there may be cases in which certain content is protected with HDCP and might not be displayed due to the decision/intention of the HDCP community (Digital Content Protection, LLC).

Connecting an External Monitor

COMPUTER 1 IN (or COMPUTER 2 IN / COMPONENT IN)

AUDIO OUT

MONITOR OUT

Stereo mini-plug audio cable (not supplied)

Stereo mini-plug audio cable (not supplied)

VGA signal cable (supplied)

VGA signal cable (not supplied)

AUDIO IN

PHONE
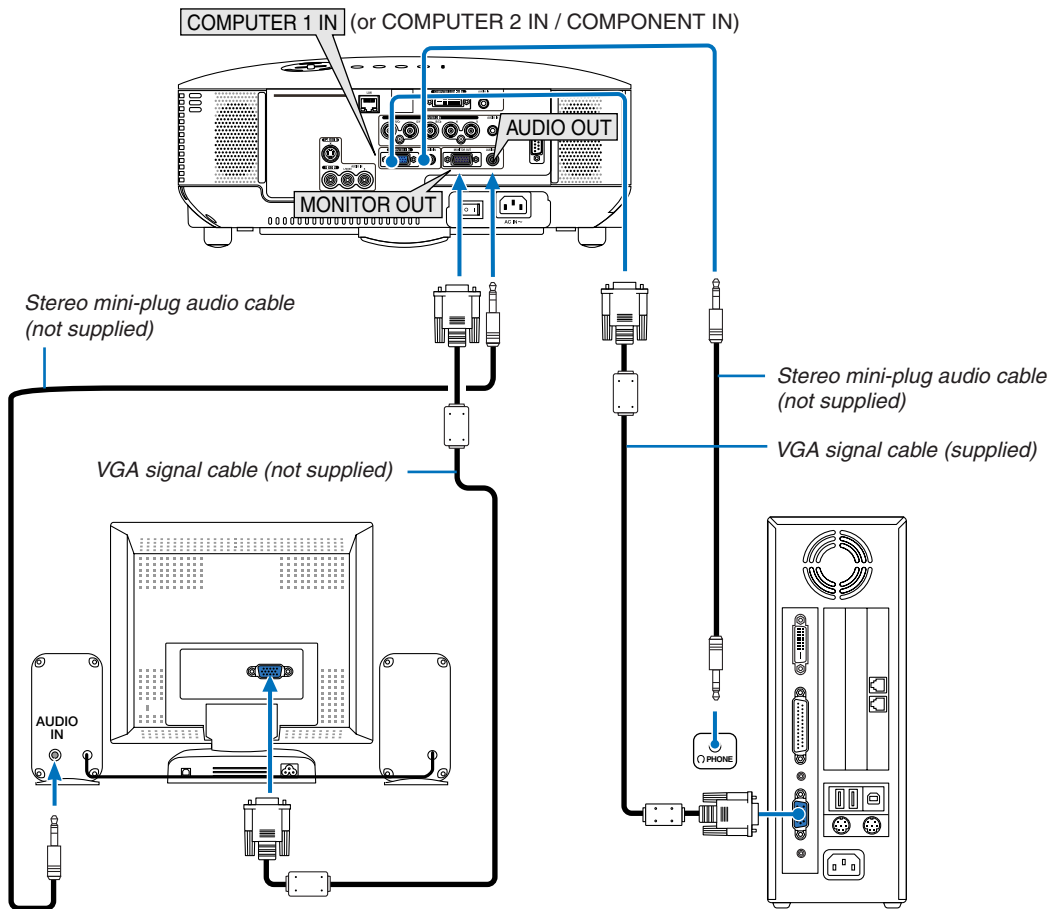
You can connect a separate, external monitor to your projector to simultaneously view on a monitor the RGB analog or component image you're projecting.

NOTE:
- *Daisy chain connection is not possible.*
- *The MONITOR OUT connector will output no video signal (Digital signal) from the COMPUTER 3 (DVI-D) IN connector.*
- *When audio equipment is connected, the projector speaker is disabled.*
- *When the projector is in standby condition, the MONITOR OUT connector outputs the video signal and the AUDIO OUT jack outputs the audio signal according to the setting of [OUT TERMINAL] in the menu.*
  Choices are [LAST], [COMPUTER1], and [COMPUTER2].
  (→ page 73)

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Connecting Your DVD Player with Component Output

15-pin - to - RCA (female) × 3 cable adapter (ADP-CV1E)

Audio Equipment

Component video RCA × 3 cable (not supplied)

DVD player

Stereo mini plug - to - RCA audio cable (not supplied)
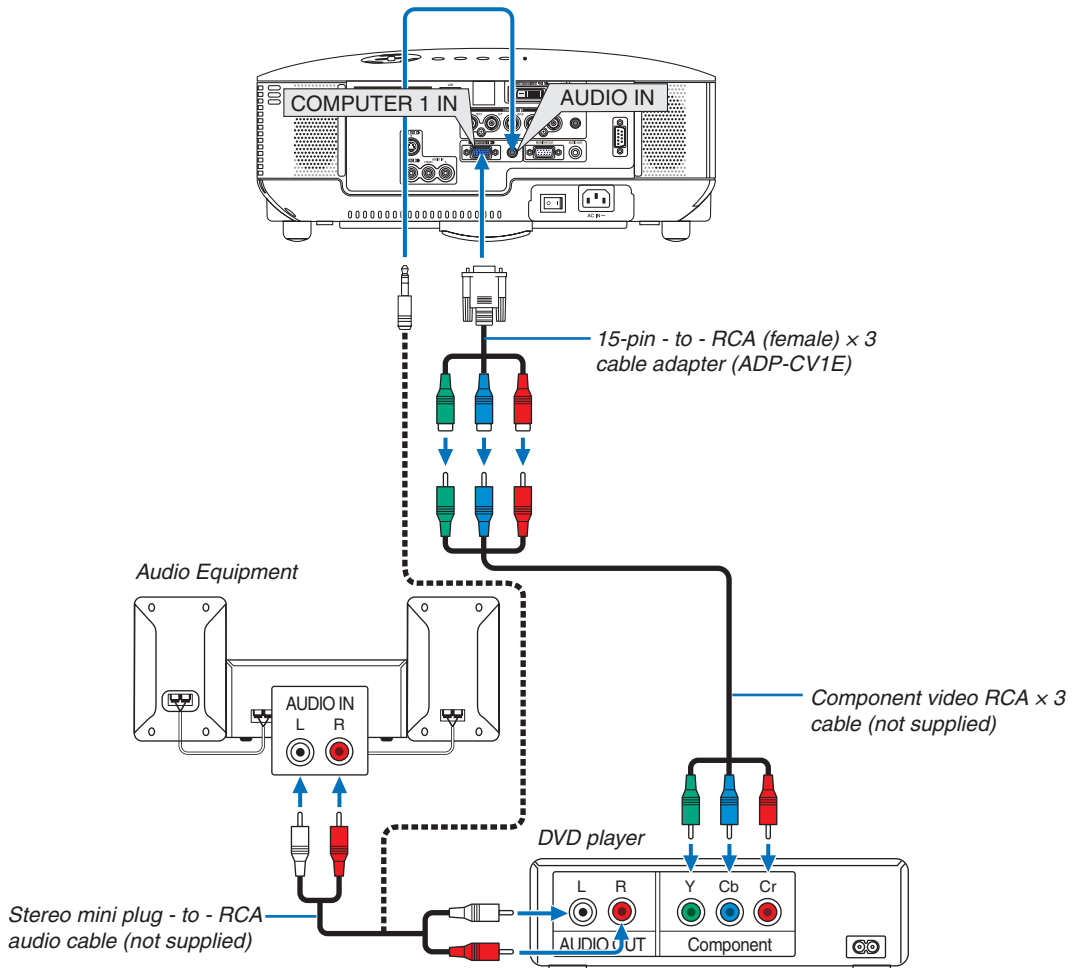
TIP: A component signal will be automatically displayed. If not, from the menu, select [SETUP] → [OPTIONS(1)] → [SIGNAL SE-LECT] → [COMPUTER 1 (or 2)] → [COMPONENT]. (→ page 71)

• When connecting to the COMPUTER 2 IN, use a commercially available RCA (female)-to-BNC(male) adapter.

NOTE: Refer to your DVD player's owner's manual for more information about your DVD player's video output requirements.

• Select the source name for its appropriate input connector after turning on the projector.

Input connector	SOURCE button on the projector cabinet	Button on the remote control
COMPUTER 1 IN	COMPUTER 1	(COMPUTER 1)
COMPUTER 2 IN	×5 COMPUTER 2	(COMPUTER 2)

17

Connecting Your VCR

S-Video cable (not supplied)

Video cable (not supplied)

Audio equipment

VCR

Audio cable (not supplied)
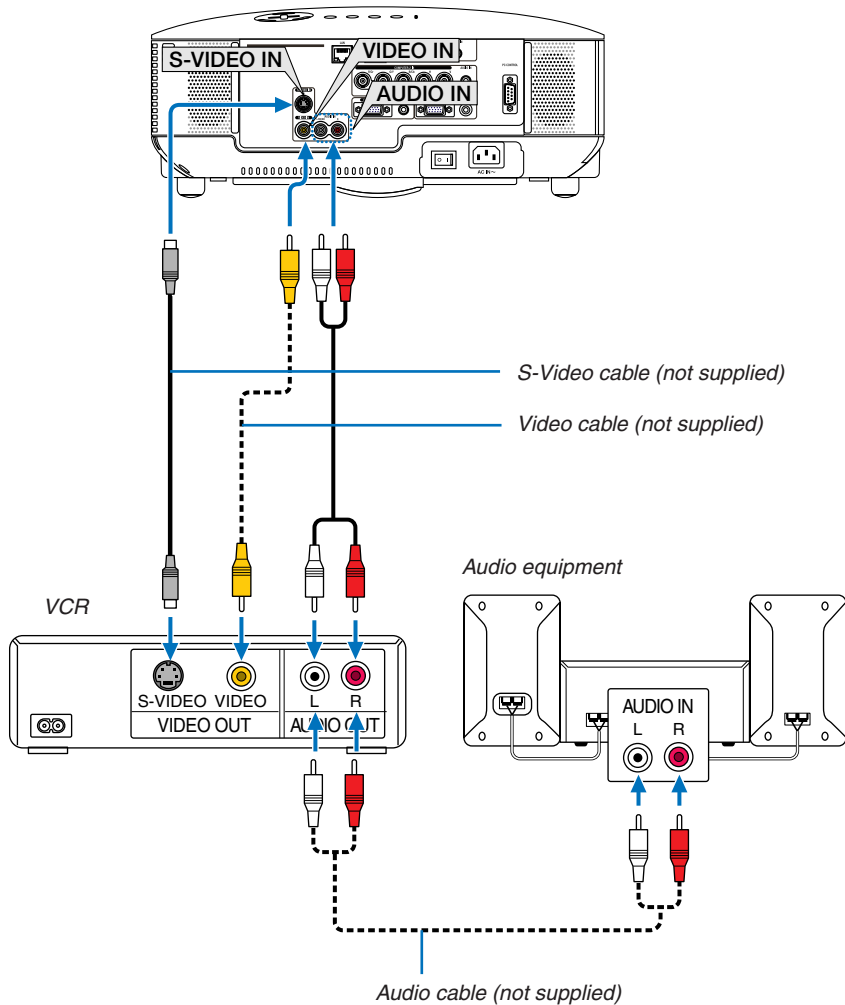
TIP: You can connect a video cable to the "G/Y" connector of the COMPUTER 2 IN (BNC) connectors to display a VCR source. To do so, from the menu, select [SETUP] → [OPTIONS(1)] → [SIGNAL SELECT] → [COMPUTER 2] → [VIDEO]. (→ page 71)

• Select the source name for its appropriate input connector after turning on the projector.

Input connector	SOURCE button on the projector cabinet	Button on the remote control
VIDEO IN	◉ VIDEO	(VIDEO)
S-VIDEO IN	◉ S-VIDEO	(S-VIDEO)

NOTE: The AUDIO IN L and R jacks (RCA) are shared between the Video and S-Video inputs.

NOTE: Refer to your VCR owner's manual for more information about your equipment's video output requirements.

NOTE: An image may not be displayed correctly when a Video or S-Video source is played back in fast-forward or fast-rewind via a scan converter.

Connecting to a Network

Example of LAN connection

Example of wired LAN connection

Server

Hub

LAN cable (not supplied)

NOTE: Use a Category 5 or higher LAN cable.

LAN
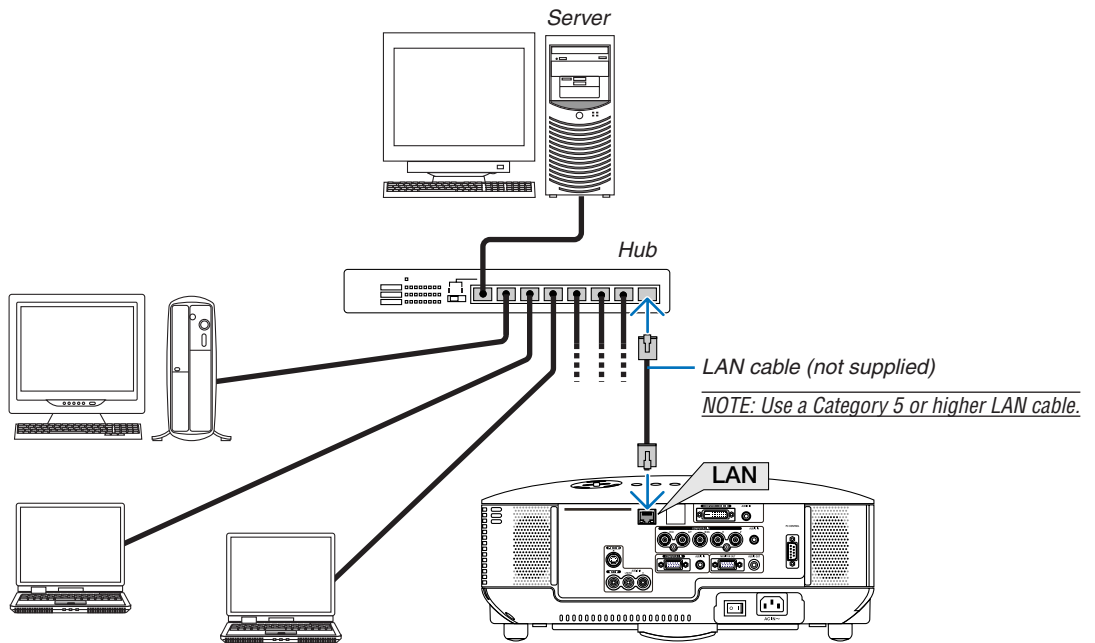
Connecting the Supplied Power Cable

Connect the supplied power cable to the projector.
First connect the supplied power cable's three-pin plug to the AC IN of the projector, and then connect the other plug of the supplied power cable in the wall outlet.
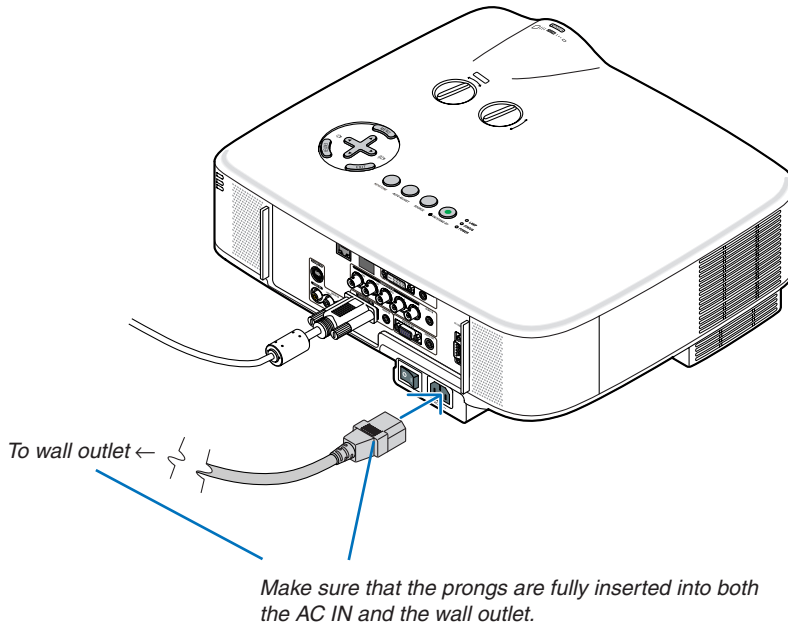
To wall outlet ←

Make sure that the prongs are fully inserted into both the AC IN and the wall outlet.

About Direct Power Off
The projector has a feature called "Direct Power Off". This feature allows the projector to be turned off (even when projecting an image) using the Main Power Switch or disconnecting the AC power supply.

NOTE: Before using Direct Power Off, be sure to allow at least 20 minutes immediately after turning on the projector and starting to display an image.

⚠ **CAUTION:**

Do not try to touch the ventilation outlet on the left front (when seen from the front) as it can become heated while the projector is turned on and immediately after the projector is turned off.

⚠ **CAUTION:**

Do not unplug the power cable from the wall outlet or projector when the projector is powered on. Doing so can cause damage to the AC IN connector of the projector and (or) the prong plug of the power cable.

NOTE: To turn off the AC power supply when the projector is powered on, use the Main Power Switch or a power strip equipped with a switch and a breaker.

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3. Projecting an Image (Basic Operation)

This section describes how to turn on the projector and to project a picture onto the screen.

❶ Turning on the Projector

NOTE:
- *The projector has two power switches: a main power switch and a POWER (ON/STAND BY) button (POWER ON and OFF on the remote control).*
- *When plugging in or unplugging the supplied power cable, make sure that the main power switch is pushed to the off (○) position. Failure to do so may cause damage to the projector.*
- *The projector has a feature to prevent itself from being used by unauthorized individuals. To use this feature, register a keyword. (→ page 35)*

1. Remove the lens cap.

- Do not try to remove the lens cap by pulling on the string. Doing so can cause damage.

2. To turn on the main power to the projector, press the Main Power switch to the on position (I).

The projector will go into standby mode. When in standby mode, the POWER indicator will light orange and the STATUS indicator will light green when [NORMAL] is selected for [STANDBY MODE].

See the POWER Indicator section.(→ page 86)

3. Press the ON/STAND BY button on the projector cabinet or the POWER ON button on the remote control for 1 second.

The POWER indicator will turn to green and the projector will become ready to use.

NOTE: When the projector is turned on, it may take some time before the lamp light becomes bright.

TIP:
- *When the STATUS indicator lights orange, it means that the [CONTROL PANEL LOCK] is turned on. (→ page 67)*
- *When the message "Projector is locked! Enter your password." is displayed, it means that the [SECURITY] is turned on. (→ page 36)*

After you turn on your projector, ensure that the computer or video source is turned on and that your lens cap is removed.

NOTE: When no signal is available, the NEC logo, blue (default), or black screen will be displayed. When the projector displays the NEC logo, a blue or black screen, the projector will automatically switch to [ECO MODE].
The projector will return ECO MODE to its previous setting once an active signal is connected.

Standby	Blinking	Power On
Steady green / orange light	Blinking green light	Steady green light

Press this button for a minimum of 1 second.

(→ page 86)

21
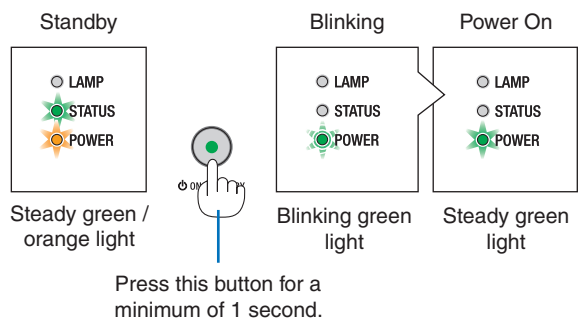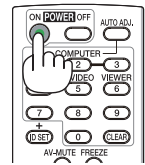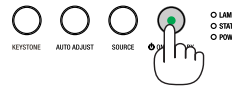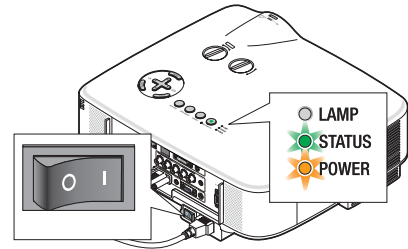
Note on Startup screen (Menu Language Select screen)

When you first turn on the projector, you will get the Startup menu. This menu gives you the opportunity to select one of the 21 menu languages.

To select a menu language, follow these steps:

1. Use the ▲, ▼, ◀ or ▶ button to select one of the 21 languages from the menu.

```
PLEASE SELECT A MENU LANGUAGE.

 ○  ENGLISH        ○  DANSK        ○  NORSK
 ○  DEUTSCH        ○  PORTUGUÊS    ○  TÜRKÇE
 ○  FRANÇAIS       ○  ČEŠTINA      ○  РУССКИЙ
 ○  ITALIANO       ○  MAGYAR       ○  عربي
 ○  ESPAÑOL        ○  POLSKI       ○  ΕΛΛΗΝΙΚΑ
 ○  SVENSKA        ○  NEDERLANDS   ○  中文
 ○  日本語          ○  SUOMI        ○  한국어

 ENTER:EXIT    EXIT:EXIT    ⬍:SELECT    ⬌:SELECT
```
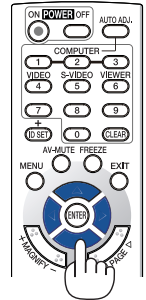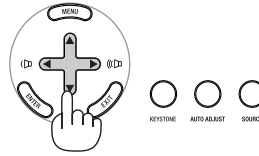
2. Press the ENTER button to execute the selection.

After this has been done, you can proceed to the menu operation.
If you want, you can select the menu language later. (→ [LANGUAGE] on page 52, 65)
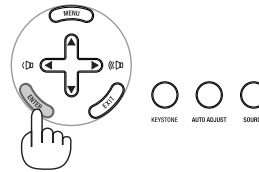
NOTE:
- *The projector cannot be turned off for 60 seconds after the lamp is turned on and while the POWER indicator is blinking green.*
- *If you turn on the projector immediately after the lamp is turned off, the fans run without displaying an image for some time and then the projector will display the image.*
- *Immediately after turning on the projector, screen flicker may occur. This is normal. Wait 3 to 5 minutes until the lamp lighting is stabilized.*

- When the [ECO MODE] is set to [ON], the LAMP indicator will light green.

- If one of the following things happens, the projector will not turn on.

  - If the internal temperature of the projector is too high, the projector detects abnormal high temperature. In this condition the projector will not turn on to protect the internal system. If this happens, wait for the projector's internal components to cool down.

  - When the lamp reaches its end of usable life, the projector will not turn on. If this happens, replace the lamp. (→ page 79)

  - If the lamp fails to light, and if the STATUS indicator flashes on and off in a cycle of six times, wait a full minute and then turn on the power.

NOTE: Turning the Main Power Switch Off then Back On
Allow a minimum of one second between turning off the main power switch and turning it back on again.
The same will be applied when a power strip equipped with a switch and a breaker is used.
Failing to do so could result in no power to the projector. (There will be no stand-by LED)
Should this happen, unplug the power cable and plug it in again. Turn on the main power switch.

❷ Selecting a Source

Selecting the computer or video source

NOTE: Turn on the computer or video source equipment connected to the projector.

Selecting from Source List

Press and quickly release the SOURCE button on the projector cabinet to display the Source list. Each time the SOURCE button is pressed, the input source will change as follows: "COMPUTER1", "COMPUTER2", "COMPUTER3", "VIDEO", "S-VIDEO". To display the selected source, allow 1 second to elapse.

Detecting the Signal Automatically

Press and hold the SOURCE button for a minimum of 2 seconds, the projector will search for the next available input source. Each time you press and hold the SOURCE button for a minimum of 2 seconds, the input source will change as follows:

COMPUTER1 → COMPUTER2 → COMPUTER3→ VIDEO → S-VIDEO → COMPUTER1 → ...

TIP: If no input signal is present, the input will be skipped.

Using the Remote Control

Press any one of the COMPUTER 1/2/3, VIDEO, and S-VIDEO buttons.

Selecting Default Source

You can set a source as the default source so that it will be displayed each time the projector is turned on.

1. Press the MENU button.

The menu will be displayed.

2. Press the ▶ button twice to select [SETUP] and press the ▼ button or the ENTER button to select [GENERAL].

3. Press the ▶ button four times to select [OPTIONS(2)].

4. Press the ▼ button six times to select [DEFAULT SOURCE SELECT] and press the ENTER button.

The [DEFAULT SOURCE SELECT] screen will be displayed.

(→ page 73)

5. Select a source as the default source, and press the ENTER button.

6. Press the EXIT button a few times to close the menu.

7. Restart the projector.

The source you selected in step 5 will be projected.
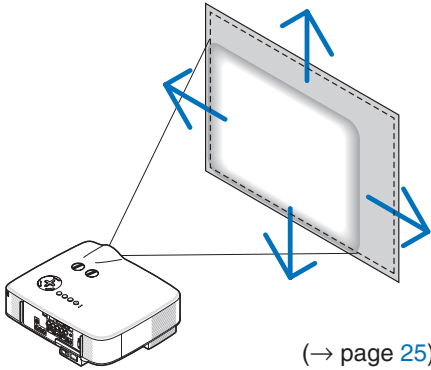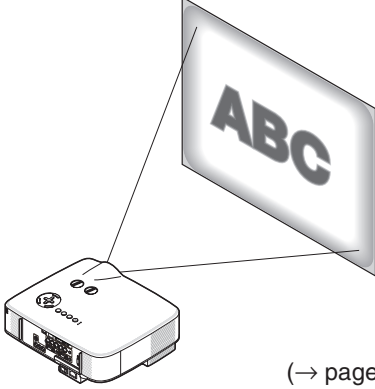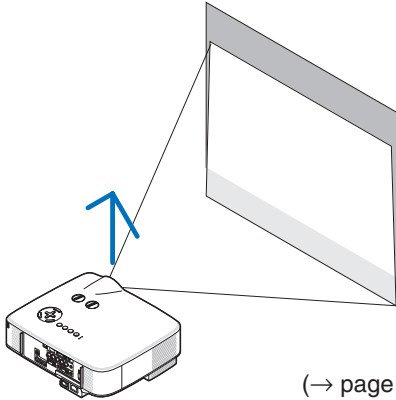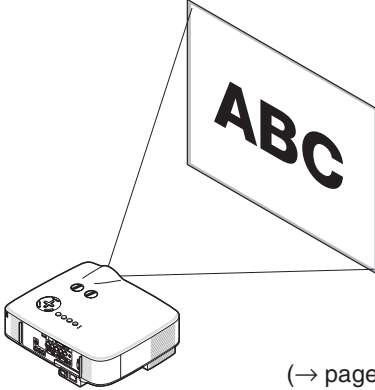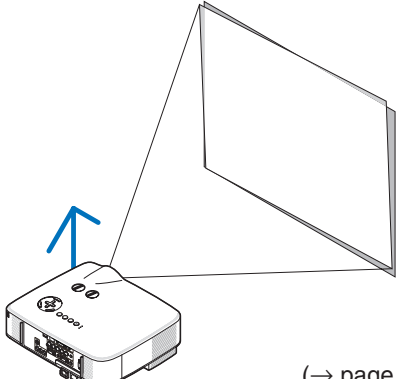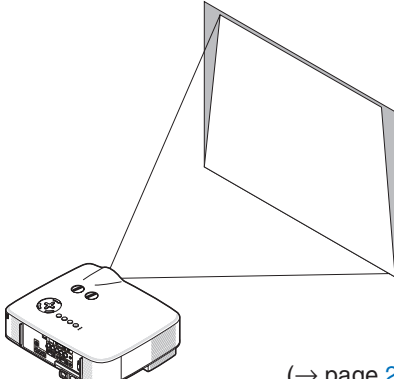
TIP: When the projector is in Standby mode, applying a computer signal from a computer connected to the COMPUTER 1 IN or COMPUTER 2 IN input will power on the projector and simultaneously project the computer's image.
([AUTO POWER ON(COMP1/2)] → page 73)
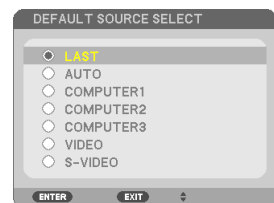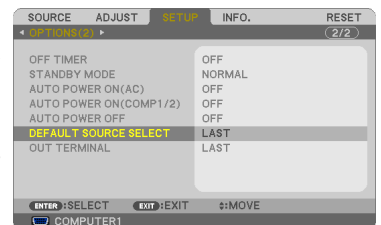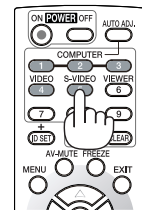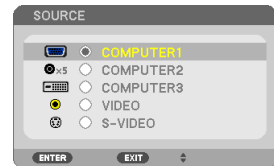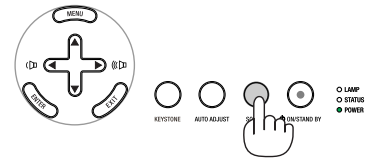
❸ Adjusting the Picture Size and Position

Use the lens shift dials, the adjustable tilt foot levers, the zoom lever or the focus ring to adjust the picture size and position.

Adjusting the position of a projected image [Lens shift] (→ page 25)	Adjusting the focus [Focus ring] (→ page 26)
Adjusting the throw angle (the height of an image) [Tilt foot] * (→ page 27)	Finely adjusting the size of an image [Zoom lever] (→ page 26)
Adjusting the left and right tilt of an image [Tilt foot] (→ page 27)	Adjusting the keystone correction [Keystone] (→ page 28)

In the above drawings, cables are omitted for clarity.

NOTE*: Adjust the throw angle (the height of an image) when the image position is higher than the lens shift adjustable range.

24

Adjusting the position of a projected image

- *Rotate the lens shift dial.*
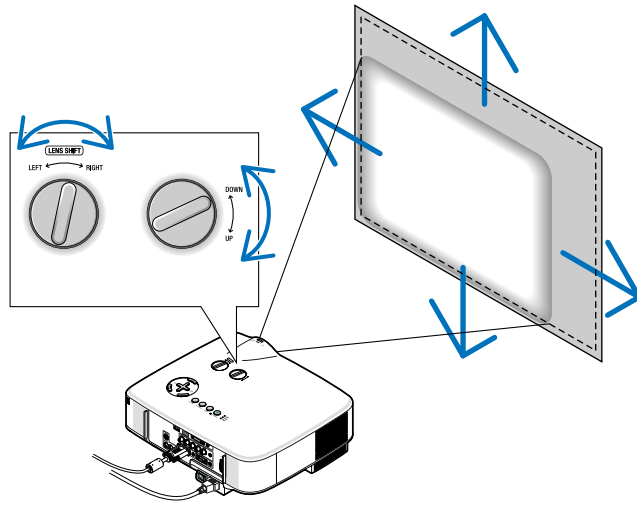
NOTE: The lens shift dial for LEFT-RIGHT cannot be rotated one-half turn or more.
Do not over rotate it or it may break.

NOTE: Shifting the lens to the maximum in two directions combined will cause the edges of the image to become dark or will cause some shadows.

TIP: The lens shift dial for UP-DOWN can be rotated one turn or more, but not beyond the adjustable range defined below.

NOTE: Lens shift is not available with the NP01FL optional lens. The NP01FL should be used only for "zero degree" applications.

Desktop front projection

1V

Normal projection Position

Vertical shift

Max. 0.5V   0.5V

0.1H   1H   0.1H

Width of projected image

Ceiling front projection

Vertical shift

Max. 0.5V

1V

Shift to left

Shift to right

25
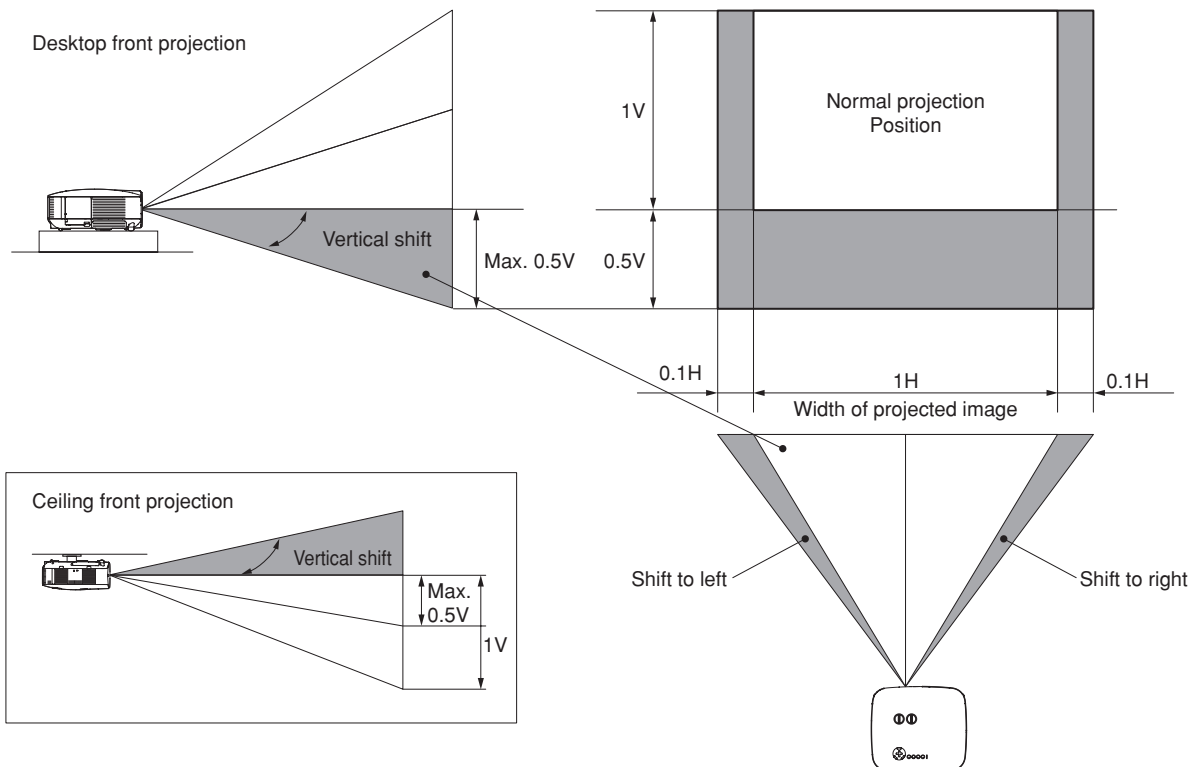
Adjusting the focus (Focus ring)

• *Rotate the focus ring to make focus adjustment.*

Focus ring
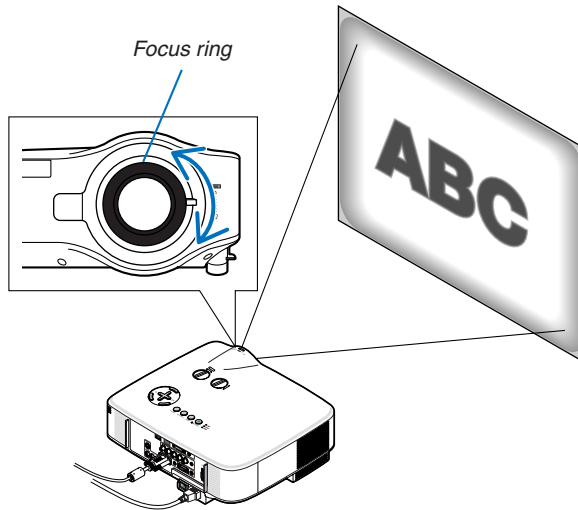
Finely adjusting the size of an image (Zoom lever)

• *Rotate the zoom lever to adjust the image size on the screen.*

Zoom lever

26
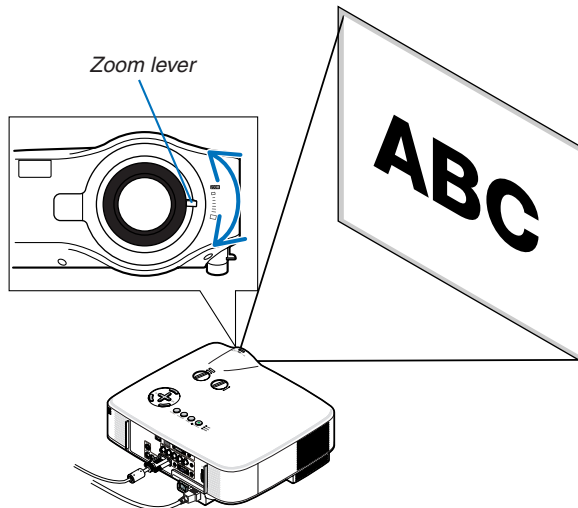
Adjusting the Tilt Foot

1. Lift the front edge of the projector.

> ⚠ **CAUTION:**
> Do not try to touch the ventilation outlet during Tilt Foot adjustment as it can become heated while the projector is turned on and after it is turned off.

2. Push up the Adjustable Tilt Foot Levers on the right and left sides of the projector to extend the adjustable tilt feet (maximum height).

3. Lower the front of the projector to the desired height.

4. Release the Adjustable Tilt Foot lever to lock the Adjustable tilt foot.

There is approximately 10 degrees (up) of adjustment for the front of the projector.

TIP: For operating the [KEYSTONE] screen, see "❹ Correcting Keystone Distortion" on page 28.

NOTE: Your "Keystone" correction data can be reset by pressing and holding the KEYSTONE button for a minimum of 2 seconds.

> ⚠ **CAUTION:**
> Do not use the tilt-foot for purposes other than originally intended. Misuses such as using the tilt foot to carry or hang (from the wall or ceiling) the projector can cause damage to the projector.

Adjustable Tilt Foot Lever

Adjustable Tilt Foot

Adjustable Tilt Foot Lever

27
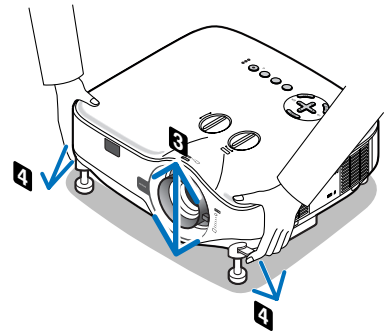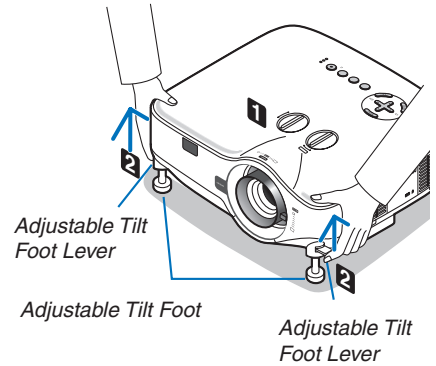
❹ Correcting Keystone Distortion

Correcting Keystone Distortion

If the screen is tilted vertically, keystone distortion becomes large. Proceed with the following steps to correct keystone distortion
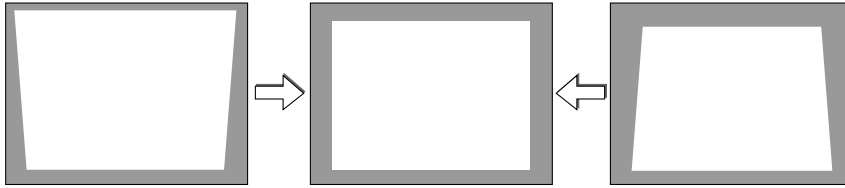
NOTE:

- *The Keystone correction can cause an image to be slightly blurred because the correction is made electronically.*
- *The Keystone correction range can be made narrower, depending on a signal or its aspect ratio selection.*

Adjusting with the remote control

1. Press the KEYSTONE button.

The Keystone bar will be displayed.

KEYSTONE		
VERTICAL	◄━━━━━━━━►	0
PRESS KEYSTONE FOR 2 SECS TO RESET.		
ENTER :EXIT **EXIT** :EXIT		◄►:ADJUST
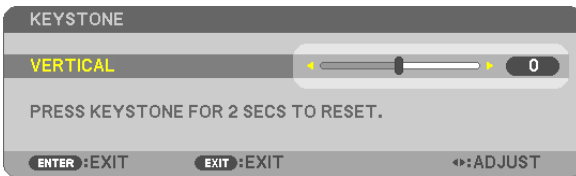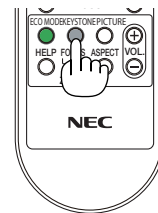
2. Use the ◄ or ▶ button to correct the keystone distortion.

Adjust so that the right and left sides are parallel.
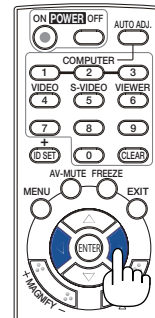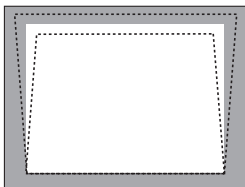
3. Press the ENTER button.
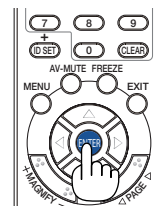
NOTE:

- *The Keystone correction can cause an image to be slightly blurred because the correction is made electronically.*
- *The maximum range of vertical keystone correction is +/–30 degrees. This maximum range can be changed depending on the signal or aspect ratio setting.*
- *To reset the KEYSTONE correction setting values, press and hold the KEYSTONE button for a minimum of 2 seconds.*
- *The range of keystone correction is not the maximum tilt angle of projector.*
- *The left and right (horizontal) keystone correction is not available.*

TIP: The changes can be saved with [KEYSTONE SAVE]. (→ page 63)

28

Adjusting from the menu

1. Press the MENU button.

The menu will be displayed.

2. Press the ▶ button to select [SETUP] and press the ENTER button.

SOURCE	ADJUST	SETUP	INFO.	RESET
◀ GENERAL • MENU • INSTALLATION • OPTIONS(1) ▶ (1/2)				

KEYSTONE	◀ ━━━━━━ ▶ 0
KEYSTONE SAVE	OFF
WALL COLOR	OFF
ECO MODE	OFF
CLOSED CAPTION	OFF
LANGUAGE	ENGLISH

ENTER:SELECT   EXIT:EXIT   ⬍:MOVE   ⬌:MOVE

COMPUTER1

The [GENERAL] screen will be displayed.

3. Press the ▼ button to select [KEYSTONE].

SOURCE	ADJUST	SETUP	INFO.	RESET
◀ GENERAL • MENU • INSTALLATION • OPTIONS(1) ▶ (1/2)				

KEYSTONE	◀ ━━━━━ ▶ 0
KEYSTONE SAVE	OFF
WALL COLOR	OFF
ECO MODE	OFF
CLOSED CAPTION	OFF
LANGUAGE	ENGLISH

ENTER:SELECT   EXIT:EXIT   ⬍:MOVE   ⬌:ADJUST

COMPUTER1
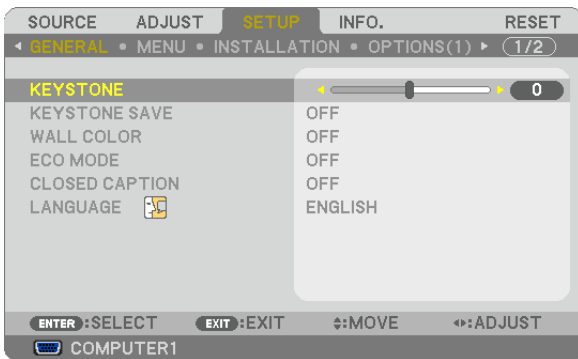
4. Press the ◀ or ▶ button.

Adjust so that the image is rectangular.
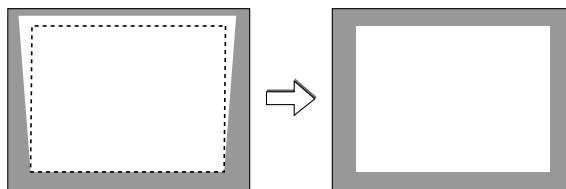
5. After completing adjustment, press the EXIT button three times.

The menu will be closed.

NOTE: The Keystone correction can cause an image to be slightly blurred because the correction is made electronically.

TIP: The changes can be saved with [KEYSTONE SAVE]. (→ page 63)

❺ Optimizing an RGB Image Automatically

Adjusting the Image Using Auto Adjust

Optimizing an RGB image automatically.
Press the AUTO ADJUST (AUTO ADJ.) button to optimize an RGB image automatically.
This adjustment may be necessary when you connect your computer for the first time.

[Poor picture]
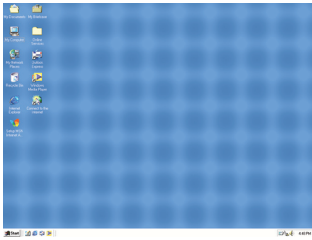
[Normal picture]
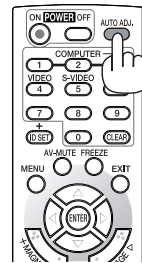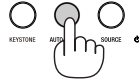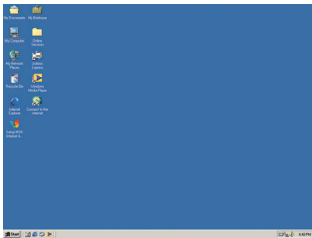
NOTE:
- *Some signals may take time to display or may not be displayed correctly.*
- *The Auto Adjust function does not work for component, video, S-video, and DVI digital signals.*
- *If the Auto Adjust operation cannot optimize the computer signal, try to adjust [HORIZONTAL], [VERTICAL], [CLOCK], and [PHASE] manually. (→ page 58, 59)*

❻ Adjusting Volume Up & Down

Sound level from the speaker and the AUDIO OUT jack (Stereo mini) on the projector can be adjusted.

Another way to adjust volume is to use the menu.
Select [ADJUST] → [AUDIO] → [VOLUME] from the menu.

NOTE:
- *Volume control is not available with the ◀ or ▶ button when an image is enlarged by using the MAGNIFY (+) button or when the menu is displayed.*

VOLUME

10

ENTER :EXIT   EXIT :EXIT   ◀▶:ADJUST
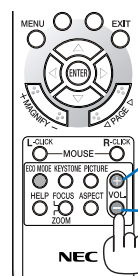
Increase volume

Decrease volume

30

❼ Turning off the Projector

To turn off the projector:

1. Press the POWER (ON/STAND BY) button on the projector cabinet or the POWER OFF button on the remote control.

The [POWER OFF / ARE YOU SURE? / CARBON SAVINGS- SESSION 0.000[g-CO2]] message will appear.

POWER OFF
ARE YOU SURE ?

CARBON SAVINGS–SESSION
0.000[g–CO2]

YES   NO
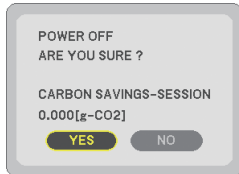
2. Press the ENTER button or press the POWER(ON/STAND BY) or the POWER OFF button again.

The lamp will turn off and the projector will go into standby mode. When in standby mode, the POWER indicator will light orange and the STATUS indicator will light green when [NORMAL] is selected for [STANDBY MODE]. Immediately after turning on the projector and displaying an image, you cannot turn off the projector for 60 seconds.

3. Turn off the Main Power Switch.

The power indicator will go out.

About Direct Power Off

The projector has a feature called "Direct Power Off". This feature allows the projector to be turned off (even when projecting an image) using the Main Power Switch or disconnecting the AC power supply.

NOTE: Before using Direct Power Off, be sure to allow at least 20 minutes immediately after turning on the projector and starting to display an image.
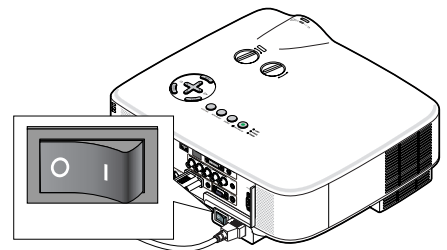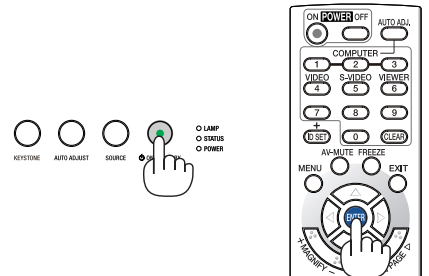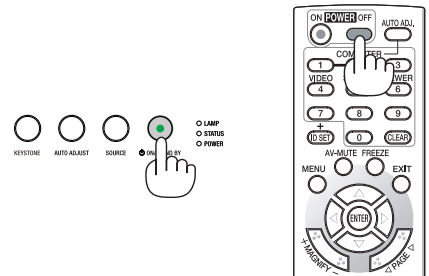
CAUTION

- Do not unplug the power cable from the wall outlet or projector when the projector is powered on. Doing so can cause damage to the AC IN connector of the projector and (or) the prong plug of the power cable. To turn off the AC power supply when the projector is powered on, use the Main Power Switch.

- Do not turn off the AC power supply within 10 seconds of making adjustment or setting changes and closing the menu.
  Doing so can cause loss of adjustments and settings and return to default.

---

❽ After Use

Preparation: Make sure that the main power is turned off.

1. Unplug the power cable.

2. Disconnect any other cables.

3. Retract adjustable tilt feet if extended.

4. Cover the lens with the lens cap.

4. Convenient Features

❶ Turning off the Image and Sound

Press the AV-MUTE button to turn off the image and sound for a short period of time. Press again to restore the image and sound.

NOTE:
- *Even though the image is turned off, the menu still remains on the screen.*
- *Sound from the AUDIO OUT jack (Stereo mini) can be turned off.*
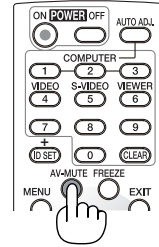
❷ Freezing a Picture

Press the FREEZE button to freeze a picture. Press again to resume motion.

NOTE: The image is frozen but the original video is still playing back.
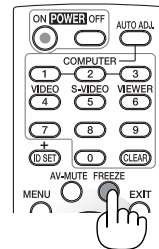
❸ Enlarging a Picture

You can enlarge the picture up to four times.

NOTE: The maximum magnification may be less than four times depending on the signal.

To do so:

1. Press the MAGNIFY (+) button to magnify the picture.

To move the magnified image, use the ▲,▼,◀ or ▶ button.
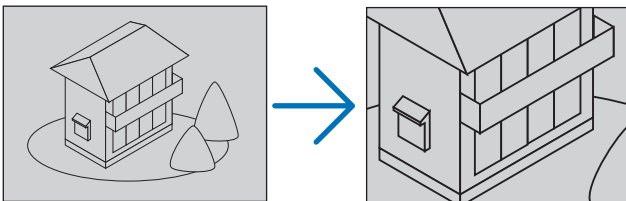
2. Press the ▲▼◀▶ button.

The area of the magnified image will be moved

3. Press the MAGNIFY (−) button.

Each time the MAGNIFY (−) button is pressed, the image is reduced.
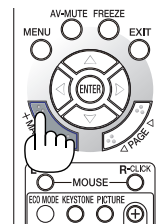
NOTE:
- *The image will be enlarged or reduced at the center of the screen.*
- *Displaying the menu will cancel the current magnification.*

❹ Changing Eco Mode

This feature enables you to select two brightness modes of the lamp:
OFF and ON modes. The lamp life can be extended by turning on the [ECO MODE].

[ECO MODE]	Description	Status of LAMP indicator	
[OFF]	This is the default setting (100% Brightness).	Off	○ LAMP ○ STATUS
[ON]	Select this mode to increase the lamp life (approx. 80% Brightness on NP3200 and approx. 88% Brightness on NP2200/NP1200).	Steady Green light	☀ LAMP ○ STATUS

To turn on the [ECO MODE], do the following:
1. **Press the ECO MODE button on the remote control to display [ECO MODE] screen.**

2. **Use the ▲ or ▼ button to select [ON].**

3. **Press the ENTER button.**

    To change from [ON] to [OFF], Go back to Step 2 and select [OFF]. Repeat Step 3.
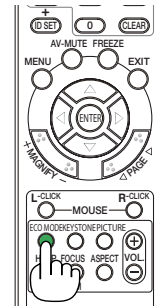
NOTE:
- *The [ECO MODE] can be changed by using the menu.*
  Select [SETUP] → [GENERAL] → [ECO MODE].
- *The lamp life remaining and lamp hours used can be checked in [USAGE TIME]. Select [INFO.] →[USAGE TIME].*
- *[ECO MODE] is always set to [OFF] for 1 minute immediately after the lamp is turned on. The lamp condition will not be affected even when [ECO MODE] is changed.*
- *After a lapse of 1 minute from when the projector displays a blue, black or logo screen, [ECO MODE] will automatically switch to [ON].*
- *If the projector is overheated in [OFF] mode, there may be a case where the [ECO MODE] automatically changes to [ON] mode to protect the projector. When the projector is in [ON] mode, the picture brightness decreases. When the projector comes back to normal temperature, the [ECO MODE] returns to [OFF] mode.*
  Thermometer symbol [🌡] indicates the [ECO MODE] is automatically set to [ON] mode because the internal temperature is too high.

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❺ Checking Energy-Saving Effect [CARBON METER]

This feature will show energy-saving effect in terms of CO_2 emission reduction (kg) when the projector's [ECO MODE] is set to [ON]. This feature is called as [CARBON METER]. (→ page 33)

There are two messages: [TOTAL CARBON SAVINGS] and [CARBON SAVINGS-SESSION]. The [TOTAL CARBON SAVINGS] message shows the total amount of CO_2 emission reduction from the time of shipment up to now. You can check the information on [USAGE TIME] from [INFO.] of the menu. (→ page 74)
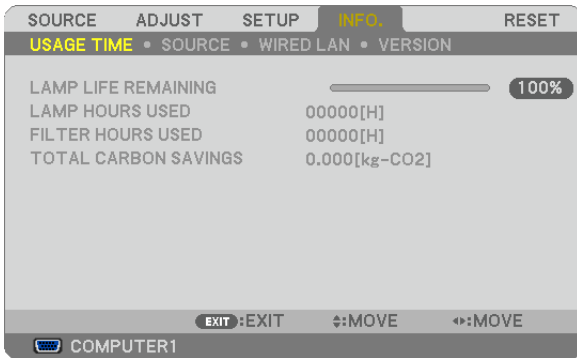
The [CARBON SAVINGS-SESSION] message shows the amount of CO_2 emission reduction between the time of changing to ECO MODE immediately after the time of power-on and the time of power-off. The [CARBON SAV-INGS-SESSION] message will be displayed in the [POWER OFF/ ARE YOU SURE?] message at the time of power-off.
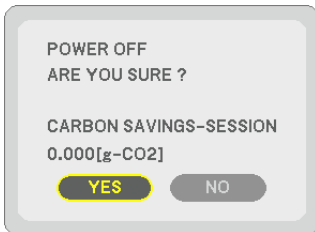
TIP:
- *The formula as shown below is used to calculate the amount of CO_2 emission reduction.*
  Amount of CO_2 emission reduction = Power consumption in OFF for ECO MODE – Power consumption in ON for ECO MODE x CO_2 conversion factor.*
  * Calculation for amount of CO_2 emission reduction is based on an OECD publication "CO2 Emissions from Fuel Combustion, 2008 Edition".
- *This formula will not apply to the power consumption which is not affected by whether [ECO MODE] is turned on or off.*

❻ Preventing the Unauthorized Use of the Projector [SECURITY]

A keyword can be set for your projector using the Menu to avoid operation by an unauthorized user. When a keyword is set, turning on the projector will display the Keyword input screen. Unless the correct keyword is entered, the projector cannot project an image.

• The [SECURITY] setting cannot be cancelled by using the [RESET] of the menu.

To enable the Security function:

1. Press the MENU button.

	The menu will be displayed.

2. Press the ▶ button twice to select [SETUP] and press the ▼ button or the ENTER button to select [GENERAL].

3. Press the ▶ button twice to select [INSTALLATION].

4. Press the ▼ button three times to select [SECURITY] and press the ENTER button.
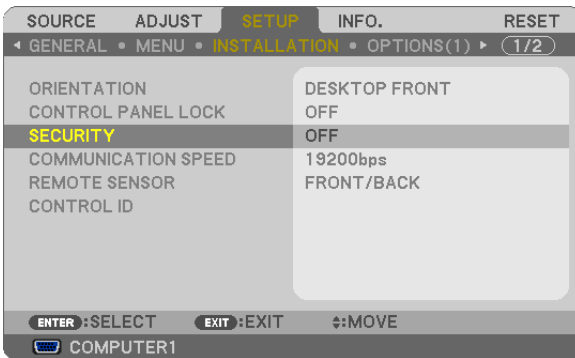
	The OFF/ON menu will be displayed.

5. Press the ▼ button to select [ON] and press the ENTER button.

	The [SECURITY KEYWORD] screen will be displayed.

6. Type in a combination of the four ▲▼◀▶ buttons and press the ENTER button.

	NOTE: A keyword must be 4 to 10 digits in length.

	The [CONFIRM KEYWORD] screen will be displayed.

7. Type in the same combination of ▲▼◀▶ buttons and press the ENTER button.

CONFIRM KEYWORD

****

ENTER : ENTER   EXIT : EXIT   ▲▼ : INPUT   ◀▶ : INPUT

The confirmation screen will be displayed.

8. Select [YES] and press the ENTER button.

⚠ SECURITY FUNCTION WILL BE ENABLED.
ARE YOU SURE ?
YES   NO
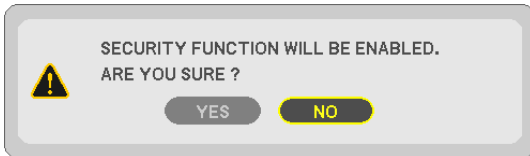
The SECURITY function has been enabled.

To turn on the projector when [SECURITY] is enabled:

1. Press and hold the POWER button for about 1 second.

The projector will be turned on and display a message to the effect that the projector is locked.

2. Press the MENU button.

SECURITY KEYWORD

K992-45L8-JNGJ-4XU9-1YAT-EEA2

ENTER : ENTER   EXIT : EXIT   ▲▼ : INPUT   ◀▶ : INPUT

3. Type in the correct keyword and press the ENTER button. The projector will display an image.

SECURITY KEYWORD

K992-45L8-JNGJ-4XU9-1YAT-EEA2
****

ENTER : ENTER   EXIT : EXIT   ▲▼ : INPUT   ◀▶ : INPUT

NOTE: The security disable mode is maintained until the main power is turned off or unplugging the power cable.

To disable the SECURITY function:

1. Press the MENU button.

The menu will be displayed.

2. Select [SETUP] → [INSTALLATION] → [SECURITY] and press the ENTER button.
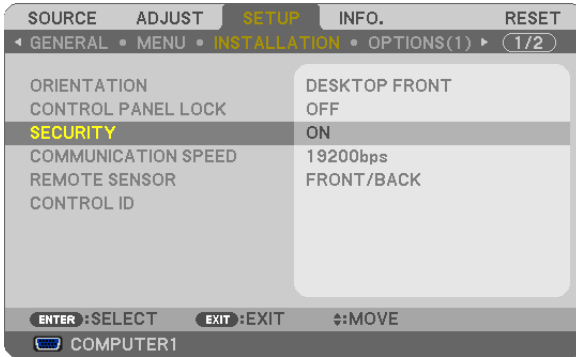
The OFF/ON menu will be displayed.

3. Select [OFF] and press the ENTER button.

The KEYWORD CONFIRMATION screen will be displayed.

4. Type in your keyword and press the ENTER button.

When the correct keyword is entered, the SECURITY function will be disabled.

NOTE: If you forget your keyword, contact your dealer. Your dealer will provide you with your keyword in exchange for your request code. Your request code is displayed in the Keyword Confirmation screen. In this example [K992-45L8-JNGJ-4XU9-1YAT-EEA2] is a request code.

❼ Using the Optional Remote Mouse Receiver (NP01MR)

The optional remote mouse receiver enables you to operate your computer's mouse functions from the remote control. It is a great convenience for clicking through your computer-generated presentations.

Connecting the remote mouse receiver to your computer

If you wish to use the remote mouse function, connect the mouse receiver and computer.
The mouse receiver can be connected directly to the computer's USB port (type A).

NOTE: Depending on the type of connection or OS installed on your computer, you may have to restart your computer or change your computer settings.

Computer

Remote mouse receiver

To USB port of PC or Macintosh
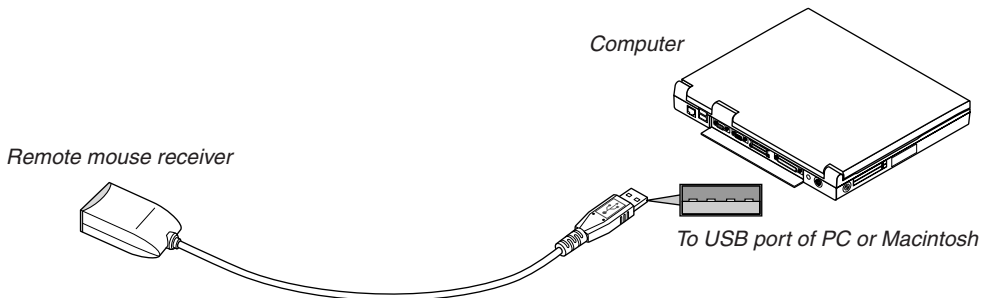
When operating a computer via the remote mouse receiver

7 m/22 feet

30°

30°

Remote sensor on the remote mouse receiver
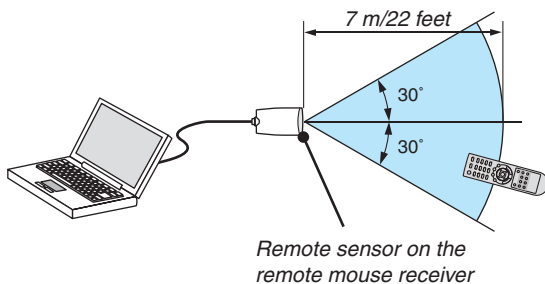
When connecting using the USB terminal

For PC, the mouse receiver can only be used with a Windows XP*, Windows 2000, Windows Vista, Windows 7, or Mac OS X 10.0.0 or later operating system.

* NOTE: In SP1 or older version of Windows XP, if the mouse cursor will not move correctly, do the following:
Clear the Enhance pointer precision check box underneath the mouse speed slider in the Mouse Properties dialog box [Pointer Options tab].

NOTE: The PAGE ◀ and ▶ buttons do not work with PowerPoint for Macintosh.

NOTE: Wait at least 5 seconds after disconnecting the mouse receiver before reconnecting it and vice versa. The computer may not identify the mouse receiver if it is repeatedly connected and disconnected in rapid intervals.

Operating your computer's mouse from the remote control

You can operate your computer's mouse from the remote control.

PAGE ◀/▶ Button: scrolls the viewing area of the window or to move to the previous or next slide in PowerPoint on your computer.
▲▼◀▶ Buttons: moves the mouse cursor on your computer.
MOUSE L-CLICK Button: works as the mouse left button.
MOUSE R-CLICK Button: works as the mouse right button.

NOTE:
* *When you operate the computer using the ▲▼◀ or ▶ button with the menu displayed, both the menu and the mouse pointer will be affected. Close the menu and perform the mouse operation.*
* *The PAGE ◀ and ▶ buttons do not work with PowerPoint for Macintosh.*

About Drag Mode:

By pressing the MOUSE L-CLICK or R-CLICK button for 2 or 3 seconds then releasing, the drag mode is set and the drag operation can be performed simply by pressing the ▲▼◀▶ button. To drop the item, press the MOUSE L-CLICK (or R-CLICK) button. To cancel it, press the MOUSE R-CLICK (or L-CLICK) button.

TIP: You can change the Pointer speed on the Mouse Properties dialog box on the Windows. For more information, see the user documentation or online help supplied with your computer.

❽ Network Setting by Using an HTTP Browser

Overview

Connecting the projector to a network allows the Alert Mail setting (→ page 42) and the projector control from a computer via the network.

To perform the projector control from a web browser, you must have an exclusive application "PC Control Utility Pro 4" installed on your computer from the supplied NEC Projector CD-ROM.

The IP address and subnet mask of the projector can be set on the Network Setting screen of the web browser by using an HTTP server function. Please be sure to use "Microsoft Internet Explorer 6.0" or a higher version for the web browser. (This device uses "JavaScript" and "Cookies" and the browser should be set to accept these functions. The setting method will vary depending on the version of browser. Please refer to the help files and the other information provided in your software.)

Access is gained to the HTTP server function by starting the Web browser on the computer via the network connected to the projector and enter the following URL.

* Network Setting

  http://<the projector's IP address>/index.html

* Alert Mail Setting

  http://<the projector's IP address>/lanconfig.html

TIP:
* *The default IP address is "192.168.0.10".*

NOTE:
* *If the PROJECTOR NETWORK SETTINGS screen does not appear in the web browser, press the Ctrl+F5 keys to refresh your web browser (or clear the cache).*
* *The display's or button's response can be slowed down or operation may not be accepted depending the settings of your network. Should this happen, consult your network administrator.*
  The projector may not respond if its buttons are repeatedly pressed in rapid intervals. Should this happen, wait a moment and repeat. If you still can't get any response, turn off and back on the projector.

Preparation Before Use

Connect the projector to a commercially available LAN cable before engaging in browser operations. (→ page 19)
Operation with a browser that uses a proxy server may not be possible depending on the type of proxy server and the setting method. Although the type of proxy server will be a factor, it is possible that items that have actually been set will not be displayed depending on the effectiveness of the cache, and the contents set from the browser may not be reflected in operation. It is recommended that a proxy server not be used unless it is unavoidable.

Handling of the Address for Operation via a Browser

Regarding the actual address that is entered for the address or entered to the URL column when operation of the projector is via a browser, the host name can be used as it is when the host name corresponding to the IP address of the projector has been registered to the domain name server by a network administrator, or the host name corresponding to the IP address of the projector has been set in the "HOSTS" file of the computer being used.

Example 1: When the host name of the projector has been set to "pj.nec.co.jp", access is gained to the network setting by specifying
http://pj.nec.co.jp/index.html
for the address or the entry column of the URL.

Example 2: When the IP address of the projector is "192.168.73.1", access is gained to the mail alert settings by specifying
http://192.168.73.1/index.html
for the address or the entry column of the URL.

Network Settings

http://<the projector's IP address> /index.html

DHCP .... Enabling this option automatically assigns an IP address to the projector from your DHCP server. Disabling this option allows you to register the IP address or subnet mask number obtained from your network administrator.

> *TIP: You can check the IP address in the menu when [ENABLE] is selected for [DHCP]. To do so, from the menu, select [INFO.] → [WIRED LAN].*

IP ADDRESS .... Set your IP address of the network connected to the projector when [DISABLE] is selected for [DHCP].

> *TIP: You can check your specified IP address in the menu. To do so, from the menu, select [INFO.] → [WIRED LAN].*

SUBNET MASK .... Set your subnet mask number of the network connected to the projector when [DISABLE] is selected for [DHCP].

DEFAULT GATEWAY ...... Set your default gateway of the network connected to the projector when [DISABLE] is selected for [DHCP].

DNS (PRIMARY) .... Set your primary DNS settings of the network connected to the projector.

DNS (SECONDARY) ...... Set your secondary DNS settings of the network connected to the projector.

UPDATE .... Reflect your settings.

> *NOTE: Close the browser after clicking [UPDATE]. The projector will automatically update your settings.*

TIP: Selecting [NETWORK SETTINGS] for [RESET] from the projector's menu allows you to return the following items to the factory default.
[DHCP]: DISABLE
[IP ADDRESS]: 192.168.0.10
[SUBNET MASK]: 255.255.255.0
[DEFAULT GATEWAY]: 192.168.0.1
* [DNS(PRIMARY)] and [DNS(SECONDARY)] will remain unchanged.

Alert Mail Setting

http://<the projector's IP address>/lanconfig.html

```
              PROJECTOR NETWORK SETTINGS
```

ITEM	VALUE
DOMAIN	
HOST NAME	
DOMAIN NAME	
MAIL	
ALERT MAIL	○ ENABLE ⊙ DISABLE
SENDER'S ADDRESS	
SMTP SERVER NAME	
RECIPIENT'S ADDRESS 1	
RECIPIENT'S ADDRESS 2	
RECIPIENT'S ADDRESS 3	
APPLY	

TEST MAIL	
	STATUS
EXECUTE	

This option notifies your computer of an error message via e-mail when using wired LAN. An error message notification will be sent when the projector lamp has reached the end of its usable life or an error occurs in the projector.

HOST NAME ....Type in the hostname of the network connected to the projector. Up to 60 alphanumeric characters can be used. If the host name is unknown, type in a string of characters representing the projector. Example: Projector 1

DOMAIN NAME ....Type in the domain name of the network connected to the projector. Up to 60 alphanumeric characters can be used. If the domain name is unknown, type in the right side of @ in the sender's address. Example: nec. com

ALERT MAIL ....Checking [ENABLE] will turn on the Alert Mail feature.
Checking [DISABLE] will turn off the Alert Mail feature.

SENDER'S ADDRESS......................Type in the senders address. Up to 60 alphanumeric and symbols characters can be used.

SMTP SERVER NAME.....................Type in the SMTP server name to be connected to the projector. Up to 60 alphanumeric characters can be used.

RECIPIENT'S ADDRESS 1 to 3 ....Type in your recipient's address. Up to 60 alphanumeric and symbols characters can be used.

APPLY...Click this button to reflect the above settings

EXECUTE ....Click this button to send a test mail to check if your settings are correct.

STATUS..A reply to a test mail will be displayed.

NOTE:
- *If you execute a test, you may not receive an Alert mail. Should this happen, check if the network settings are correct.*
- *If you entered an incorrect address in a test, you may not receive an Alert mail. Should this happen, check if the Recipient's Address is correct*

TIP: The Alert Mail settings will not be affected even when [RESET] is done from the menu.

❾ Using the VGA Signal Cable to Operate the Projector (Virtual Remote)

Using the utility software "Virtual Remote Tool" included on the companion NEC Projector CD-ROM, Virtual Remote screen (or toolbar) can be displayed on your computer screen.

This will help you perform operations such as projector's power on or off and signal selection via the VGA signal cable.

Virtual Remote screen

Toolbar

This section provides an outline of preparation for use of Virtual Remote Tool.
For information on how to use Virtual Remote Tool, see Help of Virtual Remote Tool. (→ page 47)

Step 1: Install Virtual Remote Tool on the computer.
Step 2: Connect the projector to the computer. (→ page 45)
Step 3: Start Virtual Remote Tool. (→ page 46)

NOTE:
- *When [COMPUTER 1] is selected from your source selection, the Virtual Remote screen or the toolbar will be displayed as well as your computer screen.*
- *Use the supplied VGA signal cable to connect the COMPUTER 1 IN connector directly with the monitor output connector of the computer to use Virtual Remote Tool.*
  Using a switcher or other cables than the supplied VGA signal cable may cause failure in signal communication.
  VGA cable connector:
  Pin Nos. 12 and 15 are required for DDC/CI.
- *Virtual Remote Tool may not work depending on your computer's specifications and version of graphic adapters or drivers.*

TIP:
- *The projector's COMPUTER 1 IN connector supports DDC/CI (Display Data Channel Command Interface). DDC/CI is a standard interface for bidirectional communication between display/projector and computer.*
- *For update information on Virtual Remote Tool, visit our website: http://www.nec-display.com/dl/en/index.html*

Step 1: Install Virtual Remote Tool on the computer

Supported OS

Virtual Remote Tool will run on the following operating systems.

Windows 7 Home Basic [1], Windows 7 Home Premium [1], Windows 7 Professional [1], Windows 7 Enterprise [1], Windows 7 Ultimate [1]
Windows Vista Home Basic [1], Windows Vista Home Premium [1], Windows Vista Business [1], Windows Vista Enterprise [1], Windows Vista Ultimate [1]
Windows XP Home Edition [2], Windows XP Professional [2], Windows 2000 Professional [2]

[1]: Supports 32-bit version.

[2]: To run Virtual Remote Tool, "Microsoft .NET Framework Version 2.0 or later" is required. The Microsoft .NET Framework Version 2.0 or later is available from Microsoft's web page. Install the Microsoft .NET Framework Version 2.0 or later on your computer. Windows 2000 Professional supports Microsoft .NET Framework Version 2.0 only.

Install Virtual Remote Tool

Preparation:
Exit all running programs before installing Virtual Remote Tool. If another program is running, the installation may not be completed. To install Virtual Remote Tool, the Windows user account must have [Administrator] privilege (Windows 7, Windows Vista and Windows 2000) or [Computer Administrator] privilege (Windows XP).

1 Insert the accompanying NEC Projector CD-ROM into your CD-ROM drive.

The folders in NEC Projector CD-ROM will be displayed. If the folders are not displayed, right-click the CD/DVD drive icon in Windows' "Computer" (or "My Computer") and select "Open".

2 Double-click "Software" and then "Virtual Remote Tool".

The "setup.exe" icon will be displayed.

3 Double-click the "setup.exe" icon.

The Installer will start and the Wizard screen will appear.
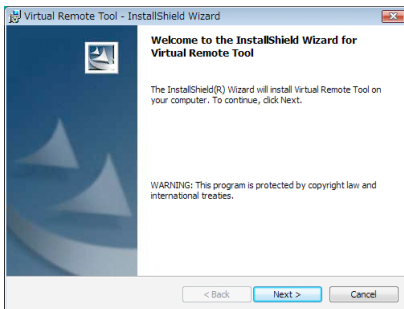
4 Click "Next".

"END USER LICENSE AGREEMENT" screen will be displayed.
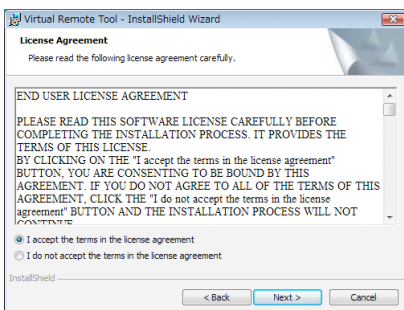
Read "END USER LICENSE AGREEMENT" carefully.

5 If you agree, click "I accept the terms in the license agreement" and then click "Next".

Follow the instructions on the installer screens to complete the installation.
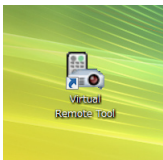
After the installation is completed, the shortcut icon for Virtual Remote Tool will be placed on the desktop.

TIP:

Uninstalling Virtual Remote Tool

Preparation:
Exit Virtual Remote Tool before uninstalling. To uninstall Virtual Remote Tool, the Windows user account must have "Administrator" privilege (Windows 7, Windows Vista and Windows 2000) or "Computer Administrator" privilege (Windows XP).

• For Windows 7/Windows Vista

1 Click "Start" and then "Control Panel".

   The Control Panel window will be displayed.

2 Click "Uninstall a program" under "Programs"

   The "Programs and Features" window will be displayed.

3 Select Virtual Remote Tool and click it.

4 Click "Uninstall/Change" or "Uninstall".

   • When the "User Account Control" windows is displayed, click "Continue".

   Follow the instructions on the screens to complete the uninstallation.

• For Windows XP/2000

1 Click "Start" and then "Control Panel".

   The Control Panel window will be displayed.

2 Double-click "Add / Remove Programs".

   The Add / Remove Programs window will be displayed.

   • On Windows 2000, double-click "Uninstall a program".

3 Click Virtual Remote Tool from the list and then click "Remove".

   Follow the instructions on the screens to complete the uninstallation.

Step 2: Connect the projector to the computer

1 Use the supplied VGA signal cable to connect the COMPUTER 1 IN connector of the projector directly with the monitor output connector of the computer.

2 Connect the supplied power cable to the AC IN of the projector and the wall outlet, and then press the Main Power switch to turn on the main power.

   The projector is in the standby condition.

VGA signal cable (supplied)

COMPUTER 1 IN

Main Power Switch   AC Input   → *To wall outlet*

Power cable (supplied)
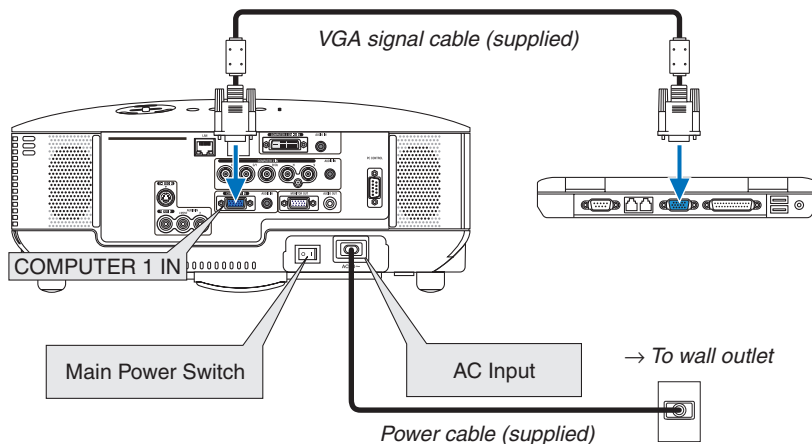
TIP:
• When Virtual Remote Tool starts for the first time, "Easy Setup" window will be displayed to navigate your connections.

Step 3: Start Virtual Remote Tool

1 Double-click the shortcut icon 📠 on the Windows Desktop.
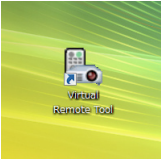
When Virtual Remote Tool starts for the first time, "Easy Setup" window will be displayed.
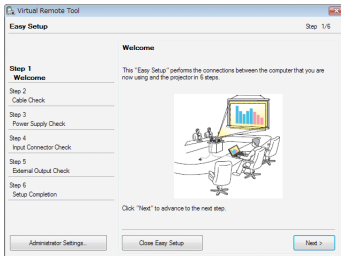
Follow the instructions on the screens

When "Easy Setup" is completed, the Virtual Remote Tool screen will be displayed.

TIP:
- *The Virtual Remote Tool screen (or Toolbar) can be displayed without displaying "Easy Setup" window.*
  To do so, click to place a check mark for "☐ Do not use Easy Setup next time" on the screen at Step 6 in "Easy Setup".

Exiting Virtual Remote Tool

*1	Click the Virtual Remote Tool icon 🖼 on the Taskbar.*

The pop-up menu will be displayed.
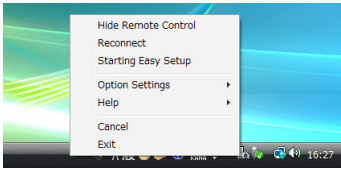
*2	Click "Exit".*

The Virtual Remote Tool will be closed.

Viewing the help file of Virtual Remote Tool

• Displaying the help file using the taskbar

*1	Click the Virtual Remote Tool icon 🖼 on the taskbar when Virtual Remote Tool is running.*

The pop-up menu will be displayed.
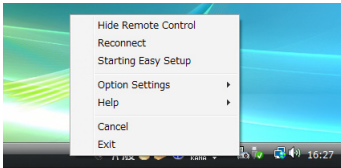
*2.	Click "Help".*

The Help screen will be displayed.
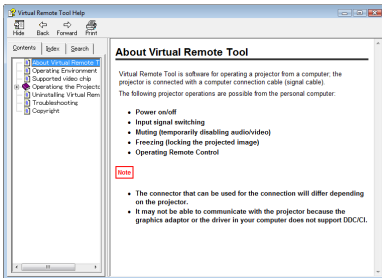
• Displaying the help file using the Start Menu.

*1.	Click "Start". "All programs" or "Programs". "NEC Projector User Supportware". "Virtual Remote Tool". and then "Virtual Remote Tool Help" in this order.*

The Help screen will be displayed.

❿ Controlling the Projector over a LAN (PC Control Utility Pro 4)

Using the utility software "PC Control Utility Pro 4" included on the companion NEC Projector CD-ROM, the projector can be controlled from a computer over a LAN.

Control Functions

Power On/Off, signal selection, picture freeze, picture mute, audio mute, adjusting, error message notification, event schedule.
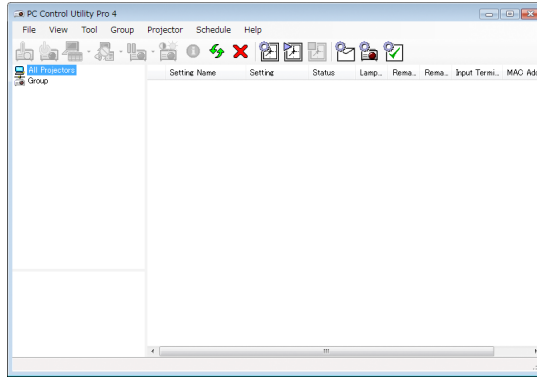
Screen of PC Control Utility Pro 4

This section provides an outline of preparation for use of PC Control Utility Pro 4. For information on how to use PC Control Utility Pro 4, see Help of PC Control Utility Pro 4. (→ next page)

    Step 1: Connect the projector to a LAN.
    Step 2: Install PC Control Utility Pro 4 on the computer.
    Step 3: Start PC Control Utility Pro 4. (→ next page)

TIP:
- *PC Control Utility Pro 4 can be used with a serial connection.*
- *For update information on PC Control Utility Pro 4, visit our website:*
  http://www.nec-display.com/dl/en/index.html

Step 1: Connect the projector to a LAN

Connect the projector to the LAN by following the instructions in "Connecting to a Network" (→ page 19) and "Network Setting by Using an HTTP Browser" (→ page 40)

Step 2: Install PC Control Utility Pro 4 on the computer

Supported OS

PC Control Utility Pro 4 will run on the following operating systems.

Windows 7 Home Basic *1, Windows 7 Home Premium *1, Windows 7 Professional *1, Windows 7 Enterprise *1, Windows 7 Ultimate *1
Windows Vista Home Basic *1, Windows Vista Home Premium *1, Windows Vista Business *1, Windows Vista Enterprise *1, Windows Vista Ultimate *1
Windows XP Home Edition *2, Windows XP Professional *2, Windows 2000 Professional *2

*1: Supports 32-bit version.
*2: To run PC Control Utility Pro 4, "Microsoft .NET Framework Version 2.0 or later" is required. The Microsoft .NET Framework Version 2.0 or later is available from Microsoft's web page. Install the Microsoft .NET Framework Version 2.0 or later on your computer. Windows 2000 Professional supports Microsoft .NET Framework Version 2.0 only.

Install PC Control Utility Pro 4

Preparation:

Exit all running programs before installing PC Control Utility Pro 4. If another program is running, the installation may not be completed. To install PC Control Utility Pro 4, the Windows user account must have [Administrator] privilege (Windows 7, Windows Vista and Windows 2000) or [Computer Administrator] privilege (Windows XP).

1 Insert the accompanying NEC Projector CD-ROM into your CD-ROM drive.

The folders in NEC Projector CD-ROM will be displayed.

• If the folders are not displayed, right-click the CD/DVD drive icon in Windows' "Computer" (or "My Computer") and select "Open".

2 Double-click "Software" and then "PC Control Utility Pro 4".

The "setup.exe" icon will be displayed.

3 Double-click the "setup.exe" icon.

The Installer will start and the Wizard screen will appear.

4 Click "Next".

"END USER LICENSE AGREEMENT" screen will be displayed.

Read "END USER LICENSE AGREEMENT" carefully.

5 If you agree, click "I accept the terms in the license agreement" and then click "Next".

Follow the instructions on the installer screens to complete the installation.

TIP:

Uninstalling PC Control Utility Pro 4

To uninstall PC Control Utility Pro 4, do the same procedures stated as in "Uninstalling Virtual Remote Tool". Read "Virtual Remote Tool" as "PC Control Utility Pro 4" (→ page 45)

Step 3: Start PC Control Utility Pro 4

Click "Start" → "All programs" or "Programs" → "NEC Projector User Supportware" → "PC Control Utility Pro 4" → "PC Control Utility Pro 4".

TIP:

Viewing the Help of PC Control Utility Pro 4

• Displaying the Help file of PC Control Utility Pro 4 while it is running.

Click "Help (H)" → "Help (H) …" of window of PC Control Utility Pro 4 in this order.

The pop-up menu will be displayed.

• Displaying the help file using the Start Menu.

Click "Start" → "All programs" or "Programs" → "NEC Projector User Supportware" → "PC Control Utility Pro 4" → "PC Control Utility Pro 4 Help".

The Help screen will be displayed.

5. Using On-Screen Menu

❶ Using the Menus

1. Press the MENU button on the remote control or the projector cabinet to display the menu.

SOURCE	ADJUST	SETUP	INFO.	RESET

PICTURE • IMAGE OPTIONS • AUDIO

PRESET	2:PRESENTATION	◀ ▶
DETAIL SETTINGS		
CONTRAST	◀ ━━━━━▮━━━ ▶	63
BRIGHTNESS	◀ ━━━━▮━━━━ ▶	63
SHARPNESS	◀ ━━━▮━━━━━ ▶	7
COLOR	◀ ━━━━━━━━━ ▶	
HUE	◀ ━━━━━━━━━ ▶	
RESET		

ENTER:SELECT   **EXIT**:EXIT   ✦:MOVE   ◀▶:MOVE

⌨ COMPUTER1
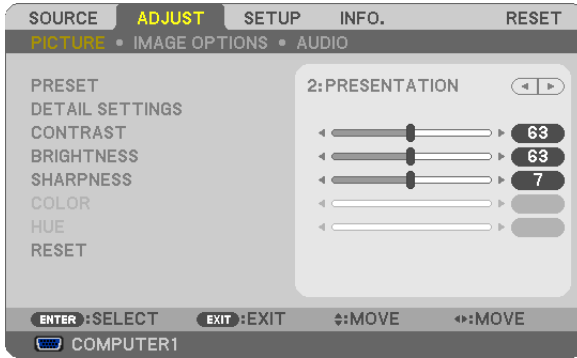
NOTE: The commands such as ENTER, EXIT, ▲▼, ◀▶ in the bottom show available buttons for your operation.

2. Press the ◀▶ buttons on the remote control or the projector cabinet to display the submenu.

3. Press the ENTER button on the remote control or the projector cabinet to highlight the top item or the first tab.

4. Use the ▲▼ buttons on the remote control or the projector cabinet to select the item you want to adjust or set.

   You can use the ◀▶ buttons on the remote control or the projector cabinet to select the tab you want.

5. Press the ENTER button on the remote control or the projector cabinet to display the submenu window.

6. Adjust the level or turn the selected item on or off by using the ▲▼◀▶ buttons on the remote control or the projector cabinet.

   Changes are stored until adjusted again.

7. Repeat steps 2 -6 to adjust an additional item, or press the EXIT button on the remote control or the projector cabinet to quit the menu display.

NOTE: When a menu or message is displayed, several lines of information may be lost, depending on the signal or settings.

8. Press the MENU button to close the menu.

   To return to the previous menu, press the EXIT button.

❷ Menu Elements

Tab   *Slide bar*

Solid triangle

Available buttons

Source

Highlight

Radio button

High Altitude symbol

Thermometer symbol

Off Timer remaining time

Key Lock symbol
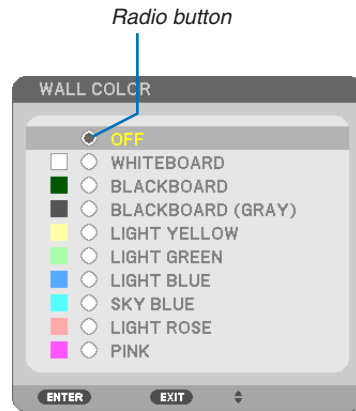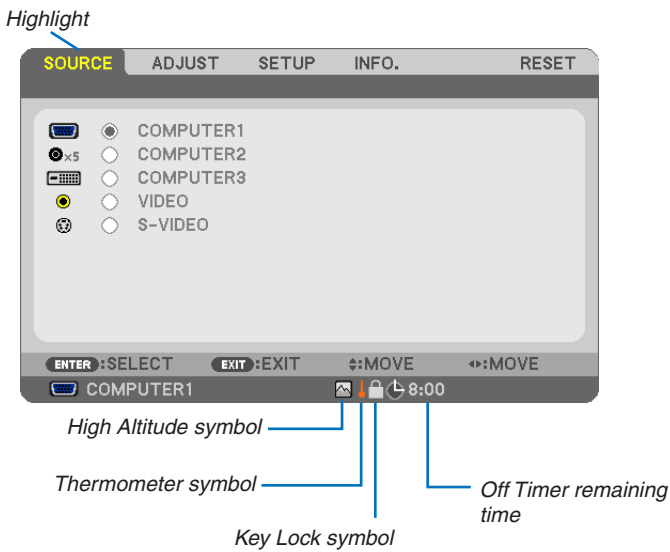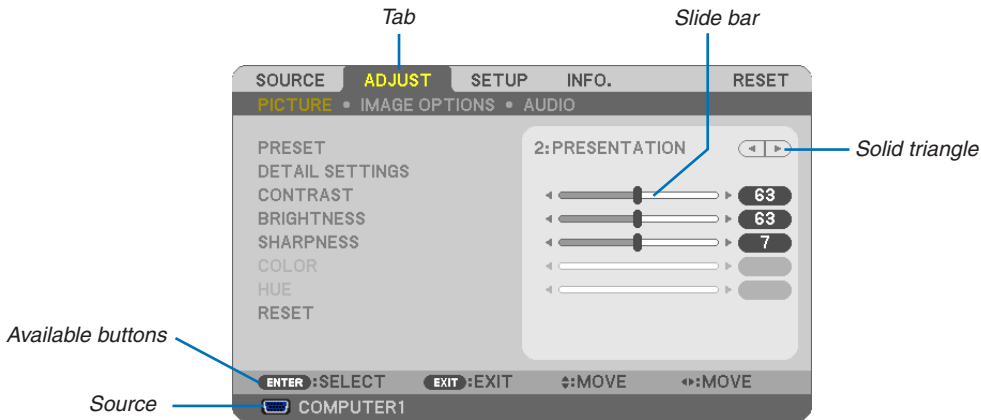
Menu windows or dialog boxes typically have the following elements:

Highlight .... Indicates the selected menu or item.

Solid triangle .... Indicates further choices are available. A highlighted triangle indicates the item is active.

Tab .... Indicates a group of features in a dialog box. Selecting on any tab brings its page to the front.

Radio button .... Use this round button to select an option in a dialog box.

Source .... Indicates the currently selected source.

Off Timer remaining time .... Indicates the remaining countdown time when the [OFF TIMER] is preset.

Slide bar .... Indicates settings or the direction of adjustment.

Key Lock symbol .... Indicates the [CONTROL PANEL LOCK] is enabled.

Thermometer symbol .... Indicates the [ECO MODE] is forcibly set to [ON] mode because the internal temperature is too high.

High Altitude symbol .... Indicates the [FAN MODE] is set to [HIGH ALTITUDE] mode.

❸ List of Menu Items

Some menu items are not available depending on the input source.

Menu Item				Default	Options
SOURCE	COMPUTER1			*	
	COMPUTER2			*	
	COMPUTER3			*	
	VIDEO			*	
	S-VIDEO			*	
ADJUST	PICTURE	PRESET		*	1–6
		DETAIL SETTINGS	GENERAL		
			REFERENCE	*	HIGH-BRIGHT, PRESENTATION, VIDEO, MOVIE, GRAPHIC, sRGB
			GAMMA CORRECTION		DYNAMIC, NATURAL, BLACK DETAIL
			COLOR TEMPERATURE	*	5000, 6500, 7800, 8500, 9300, 10500
			WHITE BALANCE		
			CONTRAST R	0	
			CONTRAST G	0	
			CONTRAST B	0	
			BRIGHTNESS R	0	
			BRIGHTNESS G	0	
			BRIGHTNESS B	0	
		CONTRAST			
		BRIGHTNESS			
		SHARPNESS			
		COLOR			
		HUE			
		RESET			
	IMAGE OPTIONS	CLOCK		*	
		PHASE		*	
		HORIZONTAL		*	
		VERTICAL		*	
		OVERSCAN		*	0[%], 5[%], 10[%]
		ASPECT RATIO		*	AUTO, 4:3, 16:9, 15:9, 16:10, WIDE ZOOM, NATIVE
		POSITION		0	
	AUDIO	VOLUME			
		BASS			
		TREBLE			
		BALANCE			
		3D SURROUND		OFF	OFF, ON
SETUP	GENERAL	KEYSTONE		0	
		KEYSTONE SAVE		OFF	OFF, ON
		WALL COLOR		OFF	OFF, WHITEBOARD, BLACKBOARD, BLACKBOARD (GRAY), LIGHT YELLOW, LIGHT GREEN, LIGHT BLUE, SKY BLUE, LIGHT ROSE, PINK
		ECO MODE		OFF	OFF, ON
		CLOSED CAPTION		OFF	OFF, CAPTION1, CAPTION2, CAPTION3, CAPTION4, TEXT1, TEXT2, TEXT3, TEXT4
		LANGUAGE		ENGLISH	ENGLISH, DEUTSCH, FRANÇAIS, ITALIANO, ESPAÑOL, SVENSKA, 日本語
					DANSK, PORTUGUÊS, ČESTINA, MAGYAR, POLSKI, NEDERLANDS, SUOMI
					NORSK, TÜRKÇE, РУССКИЙ, عربي, Ελληνικά, 中文, 한국어
	MENU	COLOR SELECT		COLOR	COLOR, MONOCHROME
		SOURCE DISPLAY		ON	OFF, ON
		MESSAGE DISPLAY		ON	OFF, ON
		ID DISPLAY		ON	OFF, ON
		ECO MESSAGE		OFF	OFF, ON
		MENU DISPLAY TIME		AUTO 45 SEC	MANUAL, AUTO 5 SEC, AUTO 15 SEC, AUTO 45 SEC
		BACKGROUND		BLUE	BLUE, BLACK, LOGO
		FILTER MESSAGE		500[H]	OFF, 100[H], 200[H], 500[H], 1000[H]

* The asterisk (*) indicates that the default setting varies depending on the signal.

SETUP	INSTALLATION	ORIENTATION		DESKTOP FRONT	DESKTOP FRONT, CEILING REAR, DESKTOP REAR, CEILING FRONT
		CONTROL PANEL LOCK		OFF	OFF, ON
		SECURITY		OFF	OFF, ON
		COMMUNICATION SPEED		19200bps	4800bps, 9600bps, 19200bps
		REMOTE SENSOR		FRONT/BACK	FRONT/BACK, FRONT, BACK
		CONTROL ID	CONTROL ID NUMBER	1	1–254
			CONTROL ID	OFF	OFF, ON
	OPTIONS(1)	AUTO ADJUST		NORMAL	OFF, NORMAL, FINE
		FAN MODE		AUTO	AUTO, HIGH, HIGH ALTITUDE
		SIGNAL SELECT	COMPUTER1	RGB/ COMPONENT	RGB/COMPONENT, RGB, COMPONENT
			COMPUTER2	RGB/ COMPONENT	RGB/COMPONENT, RGB, COMPONENT, VIDEO
		COLOR SYSTEM	COMPUTER2 (VIDEO)	AUTO	AUTO, NTSC3.58, NTSC4.43, PAL, PAL-M, PAL-N, PAL60, SECAM
			VIDEO	AUTO	AUTO, NTSC3.58, NTSC4.43, PAL, PAL-M, PAL-N, PAL60, SECAM
			S-VIDEO	AUTO	AUTO, NTSC3.58, NTSC4.43, PAL, PAL-M, PAL-N, PAL60, SECAM
		WXGA MODE		OFF	OFF, ON
		DEINTERLACE		ON	OFF, ON
	OPTIONS(2)	OFF TIMER		OFF	OFF, 0:30, 1:00, 2:00, 4:00, 8:00, 12:00, 16:00
		STANDBY MODE		NORMAL	NORMAL, POWER-SAVING
		AUTO POWER ON(AC)		OFF	OFF, ON
		AUTO POWER ON(COMP1/2)		OFF	OFF, ON
		AUTO POWER OFF		OFF	OFF, 0:05, 0:10, 0:20, 0:30
		DEFAULT SOURCE SELECT		LAST	LAST, AUTO, COMPUTER1, COMPUTER2, COMPUTER3, VIDEO, S-VIDEO
		OUT TERMINAL		LAST	LAST, COMPUTER1, COMPUTER2
INFO.	USAGE TIME	LAMP LIFE REMAINING			
		LAMP HOURS USED			
		FILTER HOURS USED			
		TOTAL CARBON SAVINGS			
	SOURCE	SOURCE NAME			
		SOURCE INDEX			
		HORIZONTAL FREQUENCY			
		VERTICAL FREQUENCY			
		SIGNAL TYPE			
		VIDEO TYPE			
		SYNC TYPE			
		SYNC POLARITY			
		SCAN TYPE			
	WIRED LAN	PROJECTOR NAME			
		IP ADDRESS			
		SUBNET MASK			
		GATEWAY			
		MAC ADDRESS			
	VERSION	PRODUCT			
		SERIAL NUMBER			
		FIRMWARE			
		DATA			
		CONTROL ID (when [CONTROL ID] is set)			
RESET		CURRENT SIGNAL			
		ALL DATA			
		NETWORK SETTINGS			
		CLEAR LAMP HOURS			
		CLEAR FILTER HOURS			

*	The asterisk (*) indicates that the default setting varies depending on the signal.

❹ Menu Descriptions & Functions [SOURCE]

COMPUTER1

Selects the computer connected to your COMPUTER 1 IN input connector.

NOTE:
- *When the component input signal is connected to the COMPUTER 1 IN connector, select [COMPUTER1].*
- *The projector will determine if the input signal is RGB or component signal.*

COMPUTER2

Selects the computer connected to your COMPUTER 2 IN connectors (BNC × 5).

NOTE:
- *When the component input signal is connected to the COMPUTER 2 IN connector, select [COMPUTER2].*
- *The projector will determine if the input signal is RGB or component signal.*

COMPUTER3

Selects the computer connected to your COMPUTER 3 (DVI-D) IN connector.

VIDEO

Selects what is connected to your VIDEO input-VCR, DVD player or document camera.

S-VIDEO

Selects what is connected to your S-VIDEO input-VCR or DVD player.

NOTE: A frame may freeze for a brief period of time when a video is played back in fast-forward or fast-rewind with a Video or S-Video source.

❺ Menu Descriptions & Functions [ADJUST]

[PICTURE]
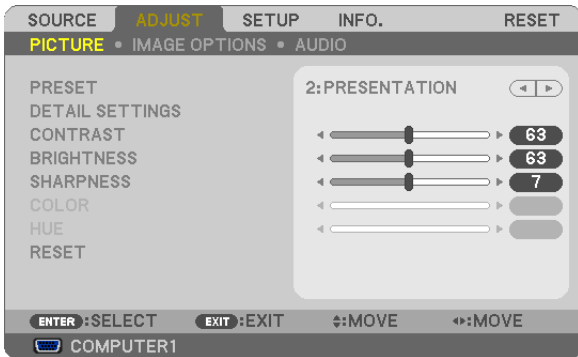
[PRESET]

This function allows you to select optimized settings for your projected image.

You can adjust neutral tint for yellow, cyan or magenta.

There are six factory presets optimized for various types of images. You can also use [DETAIL SETTINGS] to set user adjustable settings to customize each gamma or color.

Your settings can be stored in [PRESET 1] to [PRESET 6].

HIGH-BRIGHT........ Recommended for use in a brightly lit room.

PRESENTATION ..... Recommended for making a presentation using a PowerPoint file.

VIDEO .... Recommended for typical TV program viewing.

MOVIE .... Recommended for movies.

GRAPHIC .... Recommended for graphics.

sRGB .... Standard color values

[DETAIL SETTINGS]
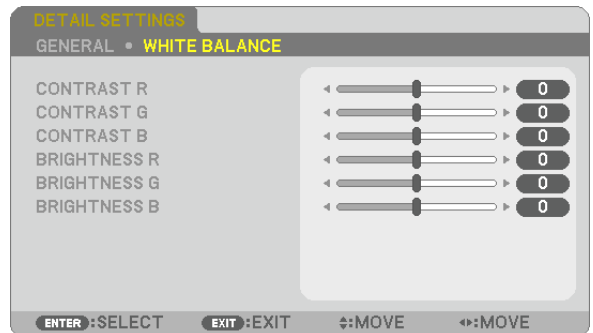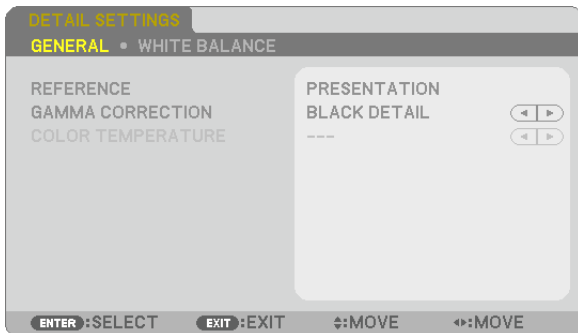
[GENERAL]

Storing Your Customized Settings [REFERENCE]

This function allows you to store your customized settings in [PRESET 1] to [PRESET 6].
First, select a base preset mode from [REFERENCE], then set [GAMMA CORRECTION] and [COLOR TEMPERA-TURE].

HIGH-BRIGHT........ Recommended for use in a brightly lit room.

PRESENTATION ..... Recommended for making a presentation using a PowerPoint file.

VIDEO .... Recommended for typical TV program viewing.

MOVIE .... Recommended for movies.

GRAPHIC .... Recommended for graphics.

sRGB .... Standard color values.

Selecting Gamma Correction Mode [GAMMA CORRECTION]

Each mode is recommended for:

DYNAMIC .... Creates a high-contrast picture.

NATURAL.............. Natural reproduction of the picture.

BLACK DETAIL....... Emphasizes detail in dark areas of the picture.

Adjusting Color Temperature [COLOR TEMPERATURE]

This option allows you to select the color temperature of your choice.

NOTE: When [PRESENTATION] or [HIGH-BRIGHT] is selected in [REFERENCE], this function is not available.

Adjusting White Balance [WHITE BALANCE]

This allows you to adjust the white balance. Contrast for each color (RGB) to adjust the white level of the screen; Brightness for each color (RGB) is used to adjust the black level of the screen.

[CONTRAST]

Adjusts the intensity of the image according to the incoming signal.

[BRIGHTNESS]

Adjusts the brightness level or the back raster intensity.

[SHARPNESS]

Controls the detail of the image.

[COLOR]

Increases or decreases the color saturation level.

[HUE]

Varies the color level from +/– green to +/– blue. The red level is used as reference.

Input signal	CONTRAST	BRIGHTNESS	SHARPNESS	COLOR	HUE
Computer (RGB DIGITAL)	Yes	Yes	Yes	No	No
Computer (RGB ANALOG)	Yes	Yes	Yes	No	No
Component	Yes	Yes	Yes	Yes	Yes
Video, S-Video	Yes	Yes	Yes	Yes	Yes

Yes = Adjustable, No = Not adjustable

[RESET]

The settings and adjustments for [CONTRAST], [BRIGHTNESS], [SHARPNESS], [COLOR], [HUE], and [REFER-ENCE] within [PRESET] will be returned to the factory settings.
The settings and adjustments under [DETAIL SETTINGS] within the [PRESET] screen that are not currently select-ed will not be reset.

[IMAGE OPTIONS]
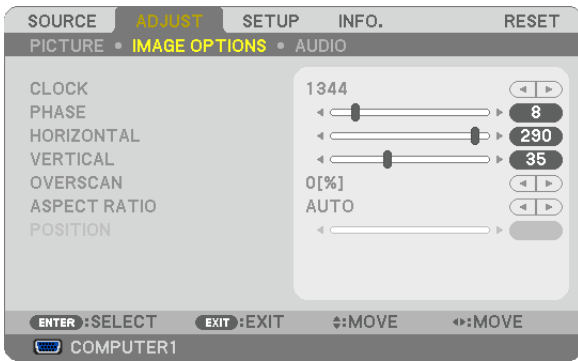
Adjusting Clock and Phase [CLOCK/PHASE]

This allows you to manually adjust CLOCK and PHASE.
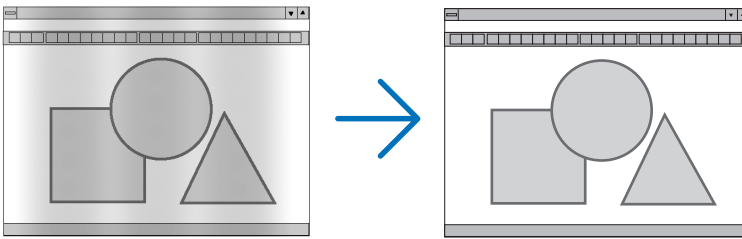
CLOCK .... Use this item to fine tune the computer image or to remove any vertical banding that might appear. This function adjusts the clock frequencies that eliminate the horizontal banding in the image.
This adjustment may be necessary when you connect your computer for the first time.
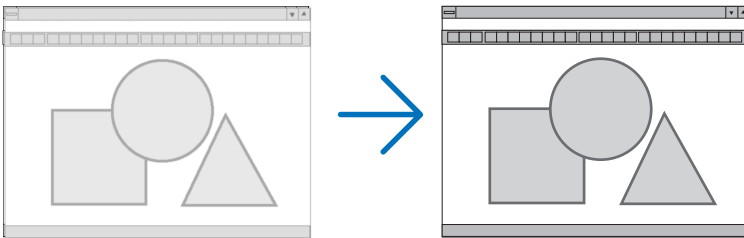
PHASE .... Use this item to adjust the clock phase or to reduce video noise, dot interference or cross talk. (This is evident when part of your image appears to be shimmering.)
Use [PHASE] only after the [CLOCK] is complete.

Adjusting Horizontal/Vertical Position [HORIZONTAL/VERTICAL]

Adjusts the image location horizontally and vertically.
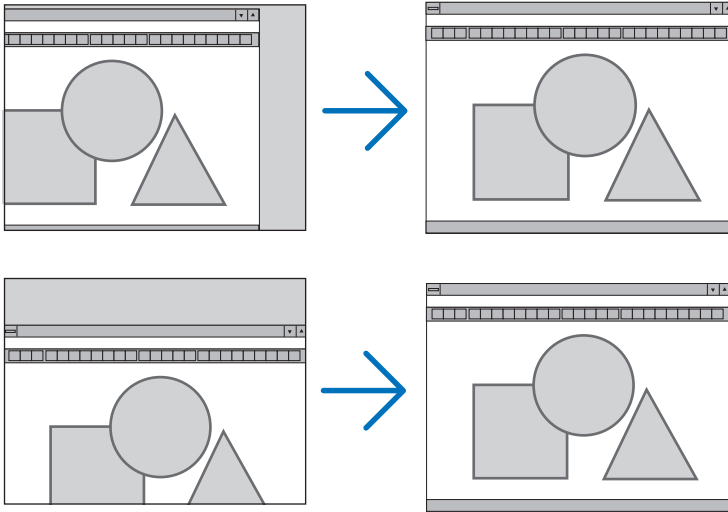
- An image can be distorted during the adjustment of [CLOCK] and [PHASE]. This is not malfunction.
- The adjustments for [CLOCK], [PHASE], [HORIZONTAL], and [VERTICAL] will be stored in memory for the current signal. The next time you project the signal with the same resolution, horizontal and vertical frequency, its adjustments will be called up and applied.

  To delete adjustments stored in memory, from the menu, you select [RESET] → [CURRENT SIGNAL] or [ALL DATA] and reset the adjustments.

Selecting Overscan Percentage [OVERSCAN]

Select overscan percentage (0%, 5% and 10%) for signal.

Projected image

Overscaned by 10%
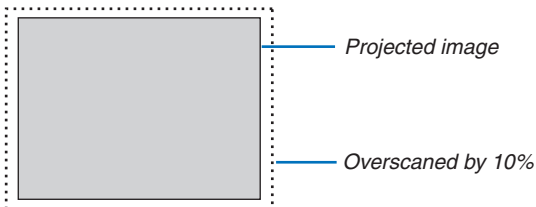
NOTE:
- *The [0[%]] cannot be selected when VIDEO and S-VIDEO signals are used.*
- *[OVERSCAN] is not available when [NATIVE] is selected for [ASPECT RATIO].*

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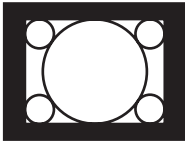
Selecting Aspect Ratio [ASPECT RATIO]

The term "aspect ratio" refers to the ratio of width to height of a projected image.
The projector automatically determines the incoming signal and displays it in its appropriate aspect ratio.
• This table shows typical resolutions and aspect ratios that most computers support.
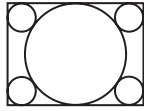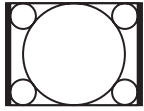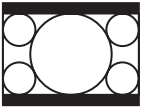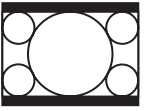
Resolution		Aspect Ratio
VGA	640 x 480	4:3
SVGA	800 x 600	4:3
XGA	1024 x 768	4:3
WXGA	1280 x 768	15:9
WXGA	1280 x 800	16:10
WXGA+	1440 x 900	16:10
SXGA	1280 x 1024	5:4
SXGA+	1400 x 1050	4:3
UXGA	1600 x 1200	4:3
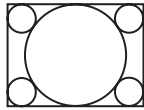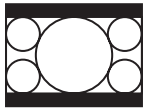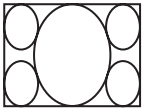
Options	Function
AUTO	The projector will automatically determine the incoming signal and display it in its aspect ratio. (→ next page) The projector may erroneously determine the aspect ratio depending on its signal. If this occurs, select the appropriate aspect ratio from the following.
4:3	The image is displayed in 4:3 aspect ratio.
16:9	The image is displayed in 16:9 aspect ratio.
15:9	The image is displayed in 15:9 aspect ratio.
16:10	The image is displayed in 16:10 aspect ratio.
WIDE ZOOM	The image is stretched left and right. Parts of the displayed image are cropped at the left and right edges and therefore not visible.
NATIVE	The projector displays the current image in its true resolution when the incoming computer signal has a lower resolution than the projector's native resolution. **[Example]** When the incoming signal with the resolution of 800 x 600 is displayed: *NOTE:* • *When a non-computer signal is displayed, the [NATIVE] is not available.* • *When a signal with a higher resolution than the projector's native resolution is displayed, [NATIVE] is not available.*

Sample image when the appropriate aspect ratio is automatically determined

[Computer signal]

Aspect ratio of incoming signal	4:3	5:4	16:9	15:9	16:10
Sample image when the appropriate aspect ratio is automatically determined					

[Video signal]

Aspect ratio of incoming signal	4:3	Letterbox	Squeeze
Sample image when the aspect ratio is automatically determined			*NOTE: To display a squeezed signal properly, select [16:9] or [WIDE ZOOM].*

TIP:
- *Image position can be adjusted vertically using [POSITION] when the [16:9], [15:9], or [16:10] aspect ratios are selected.*
- *The term "letterbox" refers to a more landscape-oriented image when compared to a 4:3 image, which is the standard aspect ratio for a video source.*
  The letterbox signal has aspect ratios with the vista size "1.85:1" or cinema scope size "2.35:1" for movie film.
- *The term "squeeze" refers to the compressed image of which aspect ratio is converted from 16:9 to 4:3.*

Adjusting the Vertical Position of Image [POSITION]

(only when [16:9], [15:9], or [16:10] is selected for [ASPECT RATIO])

When [16:9], [15:9], or [16:10] is selected in [ASPECT RATIO], the image is displayed with black borders on the top and bottom.
You can adjust the vertical position from the top to the bottom of the black area.

[AUDIO]

```
SOURCE    ADJUST    SETUP    INFO.          RESET
PICTURE • IMAGE OPTIONS • AUDIO

VOLUME                      ◀━●━━━━━▶  11
BASS                        ◀━━━●━━━▶  0
TREBLE                      ◀━━━●━━━▶  0
BALANCE                     ◀━━━●━━━▶  0
3D SURROUND          OFF               ◀ ▶




ENTER :SELECT    EXIT :EXIT    ⬍:MOVE    ⬌:MOVE
    COMPUTER1
```
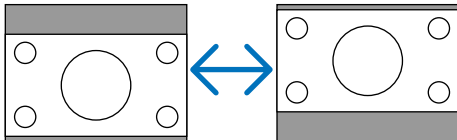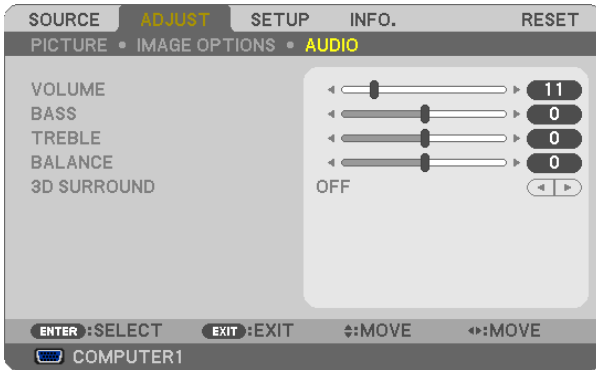
Controlling Sound [VOLUME/BASS/TREBLE/BALANCE]

Adjusts the volume, bass and treble level, left and right balance of the projector speaker and AUDIO OUT (Stereo Mini Jack).

TIP:
[VOLUME]
• When no menus appear, the ◀ and ▶ buttons on the projector cabinet and the VOL. +/– buttons work as a volume control. (→ page 30)
[BALANCE]
• When the left/monaural of the video/component audio input is connected, the right and left channel sound from the AUDIO OUT (Stereo Mini Jack) is the same.

Enabling 3D Surround [3D SURROUND]

Turn on or off the 3D surround effect.

NOTE: When the AUDIO OUT (Stereo Mini Jack) of the projector is connected to an external equipment, audio control on the external equipment may cause distorted or scratchy sound depending on the adjustments of BASS, TREBLE, BALANCE and 3D SURROUND. If this happens, return the adjustments of the projector to the factory preset ("0" for [BASS], "0" for [TREBLE], and "OFF" for [3D SURROUND]).

❻ Menu Descriptions & Functions [SETUP]

[GENERAL]

```
  SOURCE     ADJUST    SETUP     INFO.          RESET
◀ GENERAL ● MENU ● INSTALLATION ● OPTIONS(1) ▶  1/2

  KEYSTONE                  ◀━━━━━━━━▶   0
  KEYSTONE SAVE      OFF
  WALL COLOR         OFF
  ECO MODE           OFF
  CLOSED CAPTION     OFF
  LANGUAGE  🌐       ENGLISH




  ENTER :SELECT   EXIT :EXIT   ↕:MOVE   ◀▶:MOVE
  💻 COMPUTER1
```

Correcting Vertical Keystone Distortion Manually [KEYSTONE]

You can correct vertical distortion manually. (→ page 28)

TIP: When this option is highlighted, pressing the ENTER button will display its slide bar for adjustment.

Saving Vertical Keystone Correction [KEYSTONE SAVE]

This option enables you to save your current keystone settings.

OFF .... Does not save current keystone correction settings. It will return your keystone correction settings to "zero".

ON .... Saves current keystone correction settings

Saving your change once affects all sources. The changes are saved when the projector is turned off.

Using the Wall Color Correction [WALL COLOR]

```
WALL COLOR

   ○  OFF
□  ○  WHITEBOARD
■  ○  BLACKBOARD
■  ○  BLACKBOARD (GRAY)
   ○  LIGHT YELLOW
   ○  LIGHT GREEN
   ○  LIGHT BLUE
   ○  SKY BLUE
   ○  LIGHT ROSE
   ○  PINK

ENTER    EXIT      ↕
```
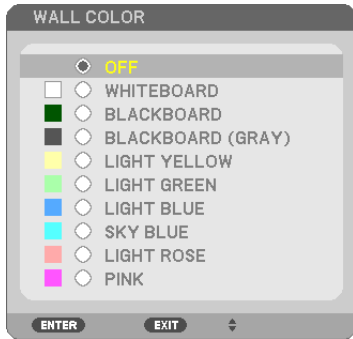
This function allows for quick adaptive color correction in applications where the screen material is not white.

NOTE: Selecting [WHITEBOARD] reduces lamp brightness.

Setting Eco Mode [ECO MODE]

This feature turns on or off the ECO mode. The lamp life can be extended by selecting [ON]. Selecting [ON] also decreases fan noise when compared to [OFF] mode. (→ page 33)

ECO MODE	Description	Status of LAMP indicator
OFF	This is the Default setting (100% Brightness).	Off
ON	Select this mode to increase the lamp life (approx. 80% Brightness on NP3200 and approx. 88% Brightness on NP2200/NP1200).	Steady Green light

NOTE:
- *The [LAMP LIFE REMAINING] and [LAMP HOURS USED] can be checked in [USAGE TIME]. Select [INFO.] → [USAGE TIME]. (→ page 74)*
- *[ECO MODE] is always set to [OFF] for 1 minute immediately after the lamp is turned on. The lamp condition will not be affected even when [ECO MODE] is changed.*
- *After a lapse of 1 minute from when the projector displays a blue, black or logo screen, [ECO MODE] will automatically switch to [ON]. The projector will return to the [OFF] mode once a signal is accepted if the [OFF] is selected.*
- *If the projector becomes overheated in [OFF] mode because of use in a high-temperature room, there may be a case where the [ECO MODE] automatically changes to [ON] mode to protect the projector. This mode is called "forced ECO mode". When the projector is in [ON] mode, the picture brightness decreases. The LAMP indicator's steady light indicates the projector is in [ON] mode. When the projector comes back to normal temperature, the [ECO MODE] returns to [OFF] mode.*
  Thermometer symbol [🌡] indicates the [ECO MODE] is automatically set to [ON] mode because the internal temperature is too high.

Setting Closed Caption [CLOSED CAPTION]

This option sets several closed caption modes that allow text to be superimposed on the projected image of Video or S-Video.

OFF .... This exits the closed caption mode.

CAPTION 1-4 .... Text is superimposed.

TEXT 1-4................ Text is displayed.

NOTE:
- *The closed caption is not available under the following conditions:*
  - *when messages or menus are displayed.*
  - *when an image is magnified, frozen, or muted.*

Selecting Menu Language [LANGUAGE]

You can choose one of 21 languages for on-screen instructions.

NOTE: Your setting will not be affected even when [RESET] is done from the menu.

[MENU]

```
 SOURCE    ADJUST    SETUP    INFO.         RESET
◄ GENERAL • MENU • INSTALLATION • OPTIONS(1) ►  1/2

  COLOR SELECT            COLOR
  SOURCE DISPLAY          ON
  MESSAGE DISPLAY         ON
  ID DISPLAY              ON
  ECO MESSAGE             OFF
  MENU DISPLAY TIME       AUTO 45 SEC
  BACKGROUND              BLUE
  FILTER MESSAGE          500[H]


  ENTER :SELECT    EXIT :EXIT    ↕:MOVE    ◄►:MOVE
  ⌨ COMPUTER1
```

Selecting Menu Color [COLOR SELECT]

You can choose between two options for menu color: COLOR and MONOCHROME.

Turning On / Off Source Display [SOURCE DISPLAY]

This option turns on or off input name display such as COMPUTER 1, COMPUTER2, COMPUTER3, VIDEO, S-VIDEO and No Input to be displayed on the top right of the screen.

Turning On/Off Message Display [MESSAGE DISPLAY]

MESSAGE DISPLAY ....This option turns on or off messages. Even though selecting [OFF], the following message will appear.
- "Projector is locked". When the projector security is unlocked, the message will disappear.

Turning ON/OFF Control ID [ID DISPLAY]

ID DISPLAY .... This option turns on or off the ID number which is displayed when the ID SET button on the remote control is pressed. (→ page 68)

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Turning On / Off Eco Message [ECO MESSAGE]

This option turns on or off the following messages when the projector is turned on.

The Eco Message prompts the user to save energy. When [OFF] is selected for [ECO MODE], you will get a message to prompt you to select [ON] for [ECO MODE].

When [ON] is selected for [ECO MODE]

```
CARBON METER

ECO MODE                     ON

THANK YOU FOR SAVING THE ENVIRONMENT.
 ENTER :EXIT      EXIT :EXIT
```

To close the message, press any one of the buttons. The message will disappear if no button operation is done for 30 seconds.

When [OFF] is selected for [ECO MODE]

```
CARBON METER

ECO MODE                     OFF

USING ECO MODE REDUCES CARBON FOOTPRINT AND
LENGTHENS LAMP LIFE.
 ENTER :ENTER      EXIT :EXIT
```
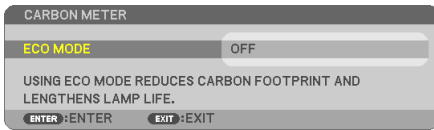
Pressing the ENTER button will display the [ECO MODE] screen.
To close the message, press the EXIT button.
(→ page 33, 64)

Selecting Menu Display Time [MENU DISPLAY TIME]

This option allows you to select how long the projector waits after the last touch of a button to turn off the menu. The preset choices are [MANUAL], [AUTO 5 SEC], [AUTO 15 SEC], and [AUTO 45 SEC]. The [AUTO 45 SEC] is the factory preset.

Selecting a Color or Logo for Background [BACKGROUND]

Use this feature to display a blue/black screen or logo when no signal is available. The default background is [BLUE].

NOTE: Your setting will not be affected even when [RESET] is done from the menu.

Selecting Interval Time for Filter Message [FILTER MESSAGE]

This option allows you to select the time preference between displaying the message for cleaning the filters. Clean the filter when you get the message "PLEASE CLEAN FILTER." (→ page 77)
Five options are available: OFF, 100[H], 200[H], 500[H], 1000[H]
The default setting is 500[H].

NOTE: Your setting will not be affected even when [RESET] is done from the menu.

[INSTALLATION]

```
SOURCE    ADJUST    SETUP    INFO.         RESET
◄ GENERAL • MENU • INSTALLATION • OPTIONS(1) ►  (1/2)

ORIENTATION              DESKTOP FRONT
CONTROL PANEL LOCK       OFF
SECURITY                 OFF
COMMUNICATION SPEED      19200bps
REMOTE SENSOR            FRONT/BACK
CONTROL ID



ENTER:SELECT    EXIT:EXIT    ↕:MOVE    ◄►:MOVE
🖵 COMPUTER1
```

Selecting Projector Orientation [ORIENTATION]

This reorients your image for your type of projection. The options are: desktop front projection, ceiling rear projection, desktop rear projection, and ceiling front projection.
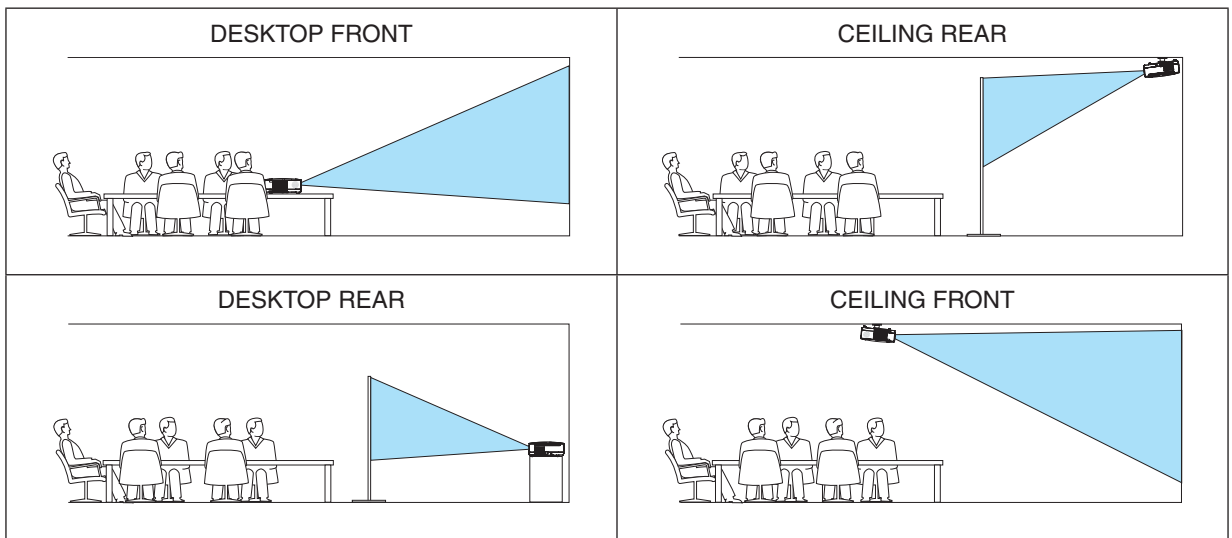
Disabling the Cabinet Buttons [CONTROL PANEL LOCK]

This option turns on or off the CONTROL PANEL LOCK function.

NOTE:
- *This CONTROL PANEL LOCK does not affect the remote control functions.*
- *When the control panel is locked, pressing and holding the EXIT button on the projector cabinet for about 10 seconds will change the setting to [OFF].*

TIP: When the [CONTROL PANEL LOCK] is turned on, a key lock icon [🔒] will be displayed at the bottom right of the menu.

Enabling Security [SECURITY]

This feature turns on or off the SECURITY function.
Unless the correct keyword is entered, the projector cannot project an image. (→ page 35)

NOTE: Your setting will not be affected even when [RESET] is done from the menu.

Selecting Communication Speed [COMMUNICATION SPEED]

This feature sets the baud rate of the PC Control port (D-Sub 9P). It supports data rates from 4800 to 19200 bps. The default is 19200 bps. Select the appropriate baud rate for your equipment to be connected (depending on the equipment, a lower baud rate may be recommended for long cable runs).

NOTE: Your selected communication speed will not be affected even when [RESET] is done from the menu.

Turning On or Off Remote Sensor [REMOTE SENSOR]

This option determines which remote sensor on the projector is enabled in wireless mode.
The options are: FRONT/BACK, FRONT, and BACK.

Setting ID to the Projector [CONTROL ID]

You can operate multiple projectors separately and independently with the single remote control that has the CONTROL ID function. If you assign the same ID to all the projectors, you can conveniently operate all the projectors together using the single remote control. To do so, you have to assign an ID number to each projector.

CONTROL ID NUMBER .... Select a number from 1 to 254 you wish to assign to your projector.

CONTROL ID .... Select [OFF] to turn off the CONTROL ID setting and select [ON] to turn on the CONTROL ID setting.

NOTE:
* *Your setting will not be affected even when [RESET] is done from the menu.*
* *Pressing and holding the ENTER button on the projector cabinet for 10 seconds will display the menu for canceling the Control ID.*

Assigning or Changing the Control ID
1. Turn on the projector.
2. Press the ID SET button on the remote control.

The CONTROL ID screen will be displayed.

CONTROL ID (ACTIVE)	
CONTROL ID NUMBER	1
ENTER :EXIT **EXIT** :EXIT	
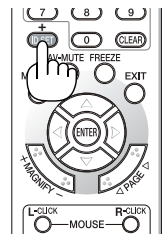
If the projector can be operated with the current remote control ID, the [ACTIVE] will be displayed. If the projector cannot be operated with the current remote control ID, the [INACTIVE] will be displayed. To operate the inactive projector, assign the control ID used for the projector by using the following procedure (Step 3).

3. Press one of numeric keypad buttons while pressing and holding the ID SET button on the remote control.

Example:

To assign "3", press the "3" button on the remote control.

No ID means that all the projectors can be operated together with a single remote control. To set "No ID", enter "000" or press the CLEAR button.

TIP: The range of IDs is from 1 to 254.
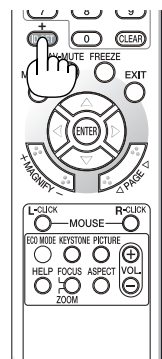
4. Release the ID SET button.

The updated CONTROL ID screen will be displayed.

NOTE:
• The IDs can be cleared in a few days after the batteries are run down or removed.
• Accidentally pressing any one of the buttons of the remote control will clear currently specified ID with batteries removed.

[OPTIONS(1)]

```
  SOURCE     ADJUST     SETUP     INFO.          RESET
◄ GENERAL ● MENU ● INSTALLATION ● OPTIONS(1) ►   1/2

  AUTO ADJUST            NORMAL
  FAN MODE               AUTO
  SIGNAL SELECT
  COLOR SYSTEM
  WXGA MODE              OFF
  DEINTERLACE            ON




  ENTER :SELECT    EXIT :EXIT      ↕:MOVE      ◄►:MOVE
  💻 COMPUTER1
```
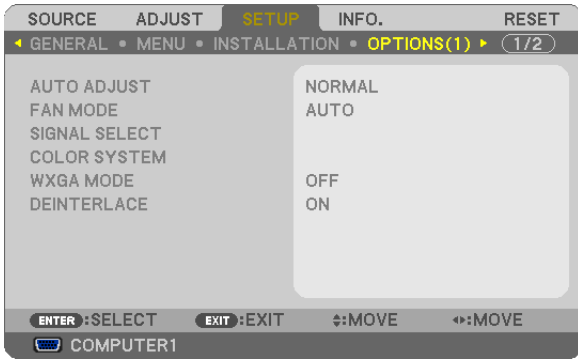
Setting Auto Adjust [AUTO ADJUST]

This feature sets the Auto Adjust mode so that the computer signal can be automatically or manually adjusted for noise and stability. You can automatically make adjustment in two ways: [NORMAL] and [FINE].

OFF .... The computer signal will not be automatically adjusted. You can manually optimize the computer signal.

NORMAL............... Default setting. The computer signal will be automatically adjusted. Normally select this option.

FINE...................... Select this option if fine adjustment is needed. It takes more time to switch to the source than when [NORMAL]is selected.

Selecting Fan Mode [FAN MODE]

This option allows you to select three modes for fan speed: Auto mode, High speed mode, and High Altitude mode.

AUTO .... The built-in fans automatically run at a variable speed according to the internal temperature.

HIGH...................... The built-in fans run at high speed.

HIGH ALTITUDE..... The built-in fans run at a high speed. Select this option when using the projector at altitudes approximately 5500 feet/1600 meters or higher.

When you wish to cool down the temperature inside the projector quickly, select [HIGH].

NOTE:
- *It is recommended that you select High speed mode if you use the projector non-stop for consecutive days.*
- *Set [FAN MODE] to [HIGH ALTITUDE] when using the projector at altitudes approximately 5500 feet/1600 meters or higher.*
- *Using the projector at altitudes approximately 5500 feet/1600 meters or higher without setting to [HIGH ALTITUDE] can cause the projector to overheat and the protector could shut down. If this happens, wait a couple minutes and turn on the projector.*
- *Using the projector at altitudes less than approximately 5500 feet/1600 meters and setting to [HIGH ALTITUDE] can cause the lamp to overcool, causing the image to flicker. Switch [FAN MODE] to [AUTO].*
- *Using the projector at altitudes approximately 5500 feet/1600 meters or higher can shorten the life of optical components such as the lamp.*
- *Your setting will not be affected even when [RESET] is done from the menu.*

Selecting Signal Format [SIGNAL SELECT]

[COMPUTER1], [COMPUTER2]
Allows you to set [COMPUTER1] and [COMPUTER2] to automatically detect an incoming RGB or component source such as a computer or DVD player. However there may be some RGB and component signals that the projector is unable to detect. In this case, select [RGB] or [COMPONENT].

NOTE ([COMPUTER 2] only):
When using the "G/Y" connector of the COMPUTER 2 IN connectors to display a Video signal, select [VIDEO].

Selecting Color System [COLOR SYSTEM]

This feature enables you to select video standards manually.
Normally select [AUTO]. Select the video standard from the menu. This must be done for the COMPUTER 2 IN connectors, VIDEO, or S-VIDEO connector separately.

Enabling or Disabling WXGA Mode [WXGA MODE]

Selecting [ON] will give priority to a WXGA (1280 x 768) signal in recognizing an input signal.
When [WXGA MODE] is set to [ON], an XGA (1024 x 768) signal may not be recognized. In this case, select [OFF].

Enabling the deinterlace [DEINTERLACE]

Turns on or off the deinterlace function for a telecine signal.

OFF .... Select this option if there is any jitter or artifacts in video.

ON .... Default standard setting.

NOTE: This feature is not available for RGB, 480p, 576p and HDTV signals.

[OPTIONS(2)]
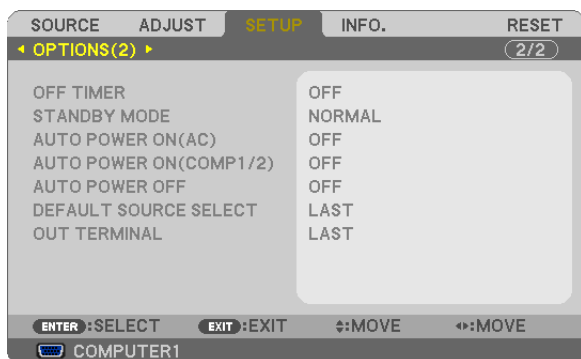
Using Off Timer [OFF TIMER]

1. Select your desired time between 30 minutes and 16 hours: OFF, 0:30, 1:00, 2:00, 4:00, 8:00, 12:00, 16:00.

2. Press the ENTER button on the remote control.

3. The remaining time starts counting down.

4. The projector will turn off after the countdown is complete.

NOTE:
- *To cancel the preset time, set [OFF] for the preset time or turn off the power.*
- *When the remaining time reaches 3 minutes before the projector is turned off, the [THE PROJECTOR WILL TURN OFF WITHIN 3 MINUTES] message will be displayed on the bottom of the screen.*

Selecting Power-saving in [STANDBY MODE]

The projector has two standby modes: [NORMAL] and [POWER-SAVING].
The POWER-SAVING mode is the mode that allows you to put the projector in the power-saving condition which consumes less power than the NORMAL mode. The projector is preset for NORMAL mode at the factory.

NORMAL................ Power indicator: Orange light/STATUS indicator: Green light

POWER-SAVING .... Power indicator: Red light/STATUS indicator: Off

                  The following connectors, buttons or functions will not work during this mode.

                  - PC CONTROL port, MONITOR OUT connector, and AUDIO OUT connector

                  - LAN and Mail Alert functions

                  - Buttons other than POWER button on the cabinet

                  - Buttons other than POWER ON button on the remote control

                  - Virtual Remote function

NOTE:
- *When [CONTROL PANEL LOCK], [CONTROL ID], or [AUTO POWER ON(COMP1/2)] is turned on, the [STANDBY MODE] setting is not available.*
- *Your setting will not be affected even when [RESET] is done from the menu.*

Enabling Auto Power On [AUTO POWER ON(AC)]

Turns the projector on automatically when the power cable is inserted into an active power outlet. This eliminates the need to always use the POWER button on the remote control or projector cabinet.

Turning On the Projector By Applying Computer Signal [AUTO POWER ON(COMP1/2)]

When the projector is in Standby mode, applying a computer signal from a computer connected to the COMPUTER1 IN or COMPUTER2 IN input will power on the projector and simultaneously project the computer's image.
This functionality eliminates the need to always use the POWER button on the remote control or the projector cabinet to power on the projector.
To use this function, first connect a computer to the projector and the projector to an active AC input.

NOTE:
- *Disconnecting a computer signal from the computer will not power off the projector. We recommend using this function in combination of the AUTO POWER OFF function.*
- *This function will not be available under the following conditions:*
  - *when a component signal is applied to the COMPUTER1 IN or COMPUTER2 IN connector*
  - *when a Sync on Green RGB signal or composite sync signal is applied*
  - *when [COMPUTER2] is set to [VIDEO] for [SIGNAL SELECT]*
- *To enable the AUTO POWER ON (COMP1/2) after turning off the projector, wait 3 seconds and input a computer signal.*
  If a computer signal is still present when the projector is turned off, the AUTO POWER ON (COMP1/2) will not work and the projector remains in standby mode.

Enabling Power Management [AUTO POWER OFF]

When this option is selected you can enable the projector to automatically turn off (at the selected time: 5min., 10min., 20min., 30min.) if there is no signal received by any input or if no operation is performed.

Selecting Default Source [DEFAULT SOURCE SELECT]

You can set the projector to default to any one of its inputs each time the projector is turned on.

LAST .... Sets the projector to default to the previous or last active input each time the projector is turned on.

AUTO .... Searches for an active source in order of COMPUTER1 → COMPUTER2 → COMPUTER3 → VIDEO → S-VIDEO → COMPUTER1 and displays the first found source.

COMPUTER1 .... Displays the computer signal from the COMPUTER 1 IN connector every time the projector is turned on.

COMPUTER2 .... Displays the computer signal from the COMPUTER 2 IN connector every time the projector is turned on.

COMPUTER3 .... Displays the DVI digital from the COMPUTER 3 (DVI-D) IN connector every time the projector is turned on.

VIDEO .... Displays the Video source from the VIDEO IN connector every time the projector is turned on.

S-VIDEO .... Displays the Video source from the S-VIDEO IN connector every time the projector is turned on.

Setting MONITOR OUT Connector [OUT TERMINAL]

This option allows you to determine which RGB or component source is output from the MONITOR OUT connector during Standby mode.

LAST .... The signal from the last COMPUTER 1 or COMPUTER 2 input will be output to the MONITOR OUT connector and AUDIO OUT jack.

COMPUTER 1 .... The signal from the COMPUTER 1 input will be output to the MONITOR OUT connector and AUDIO OUT jack.

COMPUTER 2 .... The signal from the COMPUTER 2 input will be output to the MONITOR OUT connector and AUDIO OUT jack.

NOTE: When [COMPUTER 1] or [COMPUTER 2] is selected for [AUTO POWER ON(COMP1/2)], the [OUT TERMINAL] feature is not available.

---

❼ Menu Descriptions & Functions [INFO.]

Displays the status of the current signal and lamp usage. This item has four pages.

TIP: Pressing the HELP button on the remote control will show the [INFO.] menu items.

The information included is as follows:

[USAGE TIME]
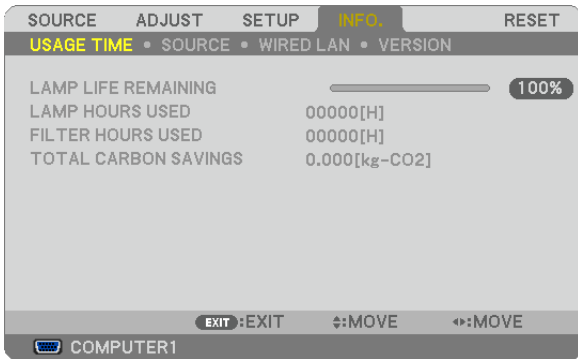
[LAMP LIFE REMAINING] (%)*
[LAMP HOURS USED] (H)
[FILTER HOURS USED] (H)
[TOTAL CARBON SAVINGS] (kg-CO2)

*   The progress indicator shows the percentage of remaining bulb life.

The value informs you of the amount of lamp usage. When the remaining lamp time reaches 0, the LAMP LIFE REMAINING bar indicator changes from 0% to 100 Hours and starts counting down.

If the remaining lamp time reaches 0 hours, the projector will not turn on regardless of whether the ECO MODE is set to OFF or ON.

• The message to the effect that the lamp or the filters should be replaced will be displayed for one minute when the projector is turned on and when the POWER button on the projector or the remote control is pressed.

To dismiss this message, press any button on the projector or the remote control.

Lamp life(H)		Replacement lamp
ECO MODE		
OFF	**ON**	
2000	3000	NP06LP

• [TOTAL CARBON SAVINGS]

This displays the estimated carbon saving information in kg. The carbon footprint factor in the carbon saving calculation is based on the OECD (2008 Edition).

[SOURCE]

SOURCE	ADJUST	SETUP	INFO.	RESET

USAGE TIME • SOURCE • WIRED LAN • VERSION

SOURCE NAME	1024x768
SOURCE INDEX	108
HORIZONTAL FREQUENCY	48[kHz]
VERTICAL FREQUENCY	60[Hz]
SIGNAL TYPE	RGB
VIDEO TYPE	---
SYNC TYPE	SEPARATE SYNC
SYNC POLARITY	H:(–) V:(–)
SCAN TYPE	NON-INTERLACE

EXIT :EXIT   ⬍:MOVE   ⬌:MOVE

COMPUTER1

[SOURCE NAME]	[SOURCE INDEX]
[HORIZONTAL FREQUENCY]	[VERTICAL FREQUENCY]
[SIGNAL TYPE]	[VIDEO TYPE]
[SYNC TYPE]	[SYNC POLARITY]
[SCAN TYPE]	

[WIRED LAN]

SOURCE	ADJUST	SETUP	INFO.	RESET

USAGE TIME • SOURCE • WIRED LAN • VERSION

PROJECTOR NAME	NP3200 Series
IP ADDRESS	192.168.0.10
SUBNET MASK	255.255.255.0
GATEWAY	192.168.0.1
MAC ADDRESS	00-00-00-00-00-00

EXIT :EXIT   ⬍:MOVE   ⬌:MOVE

COMPUTER1

[PROJECTOR NAME]	[IP ADDRESS]
[SUBNET MASK]	[GATEWAY]
[MAC ADDRESS]	

[VERSION]

SOURCE	ADJUST	SETUP	INFO.	RESET

USAGE TIME • SOURCE • WIRED LAN • VERSION

PRODUCT	
SERIAL NUMBER	
FIRMWARE	1.00
DATA	1.00

EXIT :EXIT   ⬍:MOVE   ⬌:MOVE

COMPUTER1

[PRODUCT]
[SERIAL NUMBER]
[FIRMWARE] Version
[DATA] Version
[CONTROL ID] (when [CONTROL ID] is set)

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❽ Menu Descriptions & Functions [RESET]

```
SOURCE    ADJUST    SETUP    INFO.         RESET


CURRENT SIGNAL
ALL DATA
NETWORK SETTINGS
CLEAR LAMP HOURS
CLEAR FILTER HOURS




  ENTER:SELECT    EXIT:EXIT    ♦:MOVE    ◄►:MOVE
  COMPUTER1
```
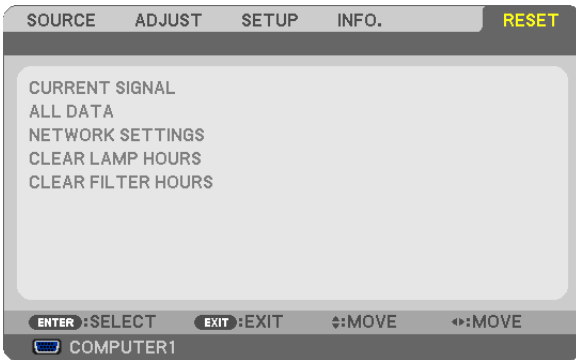
Returning to Factory Default [RESET]

The RESET feature allows you to change adjustments and settings to the factory preset for a (all) source (s) except the following:

[CURRENT SIGNAL]
Resets the adjustments for the current signal to the factory preset levels.
The items that can be reset are: [PRESET], [CONTRAST], [BRIGHTNESS], [SHARPNESS], [COLOR], [HUE], [CLOCK], [PHASE], [HORIZONTAL], [VERTICAL], [OVERSCAN], and [ASPECT RATIO].

[ALL DATA]
Reset all the adjustments and settings for all the signals to the factory preset.
All items can be reset **EXCEPT** [LANGUAGE], [BACKGROUND], [FILTER MESSAGE], [SECURITY], [COM-MUNICATION SPEED], [CONTROL ID], [FAN MODE], [STANDBY MODE], [LAMP LIFE REMAINING], [LAMP HOURS USED], [FILTER HOURS USED], [TOTAL CARBON SAVINGS], and [NETWORK SETTINGS].
To reset the lamp usage time, see "Clearing Lamp Hour Meter [CLEAR LAMP HOURS]" below.

Clearing Networking Settings [NETWORK SETTINGS]

Returns [DHCP], [IP ADDRESS], [SUBNET MASK], and [GATEWAY] to the default settings.

Clearing Lamp Hour Meter [CLEAR LAMP HOURS]

Resets the lamp clock back to zero. Selecting this option displays submenu for a confirmation. Select [YES] and press the ENTER button.

NOTE: Elapsed time of the lamp use will not be affected even when [RESET] is done from the menu.

NOTE: The projector will turn off and go into standby mode when you continue to use the projector for another 100 hours after the lamp has reached the end of its life. In this condition you cannot clear the lamp hour meter on the menu. If this happens, press the HELP button on the remote control for 10 seconds to reset the lamp clock back to zero. Do this only after replacing the lamp.

Clearing the Filter Usage Hours [CLEAR FILTER HOURS]

Resets the filter usage back to zero. Selecting this option displays submenu for a confirmation. Select [YES] and press the ENTER button.

NOTE: Elapsed time of the filter use will not be affected even when [RESET] is done from the menu.

6. Maintenance

This section describes the simple maintenance procedures you should follow to clean the filters and replace the lamp.

❶ Cleaning or Replacing the Filter

The air-filter sponge keeps dust and dirt from getting inside the projector and should be frequently cleaned. If the filter is dirty or clogged, your projector may overheat.

NOTE: The message for filter cleaning will be displayed for one minute when the projector is turned on or off.
To cancel the message, press any button on the projector cabinet or the remote control.

CAUTION

- Turn off the projector, turn off the main power switch and unplug the projector before replacing the filter.
- Only clean the outside of the filter cover with a vacuum cleaner.
- Do not attempt to operate the projector without the filter cover.

To clean the air-filter:

Vacuum the filter-through the filter cover.
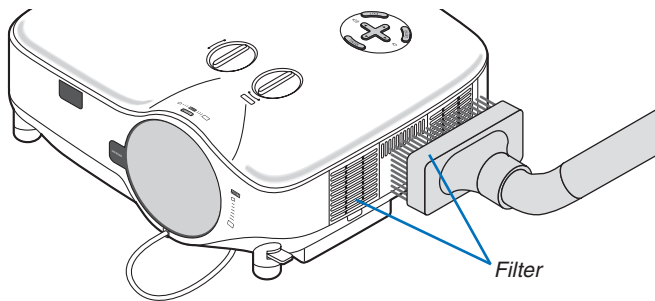
Filter

To reset the filter usage time, from the menu, select [RESET] → [CLEAR FILTER HOURS].
(→ page 76 for resetting the filter usage time)

To replace the filter (sponge):

CAUTION

- Replace both filters at the same time.
- Before replacing the filters, remove dust and dirt from the projector cabinet.
- The projector contains high-precision parts. Keep out dust and dirt during filter replacement.
- Do not wash the filter with water. Water will damage the filter membrane.
- Reattach the filter cover correctly. Failure to do so may cause projector malfunction.

Preparation: Replace the lamp before replacing the filters.

NOTE: When you replace the lamp, it is also wise to replace the filter. The filter comes in the same package with your replacement lamp.

1. Pull to remove the filter cover.
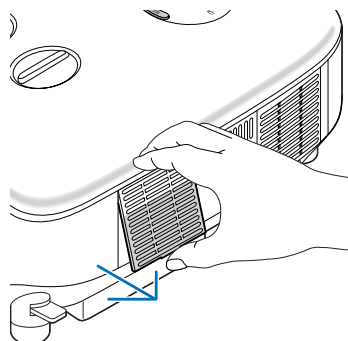
2. Gently peel off the filter (sponge) and replace it with the new one.
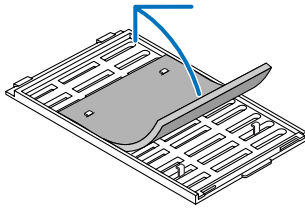
3. Reinstall the filter cover.

- Slip the filter cover back until it snaps into place.
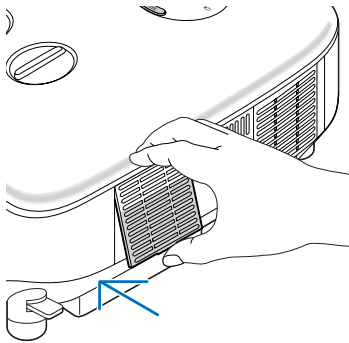
4. Connect the supplied power cable, turn on the Main Power switch and turn on the projector.

5. Finally, select the menu → [RESET] → [CLEAR FILTER HOURS] to reset the filter usage hours.

(→ page 76 for resetting the filter usage time)

❷ Cleaning the Cabinet and the Lens

1. Turn off the projector before cleaning.

2. Clean the cabinet periodically with a damp cloth. If heavily soiled, use a mild detergent. Never use strong detergents or solvents such as alcohol or thinner.

3. Use a blower or lens paper to clean the lens, and be careful not to scratch or mar the lens.

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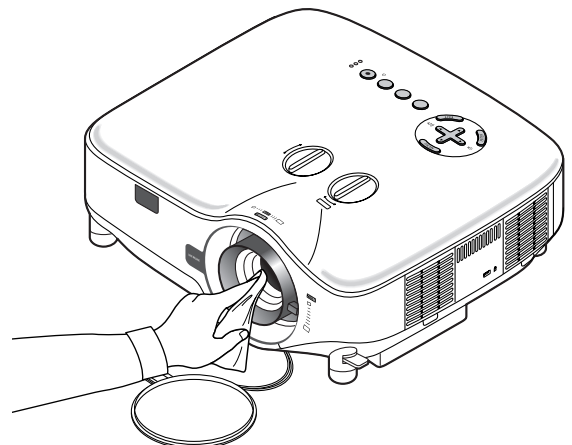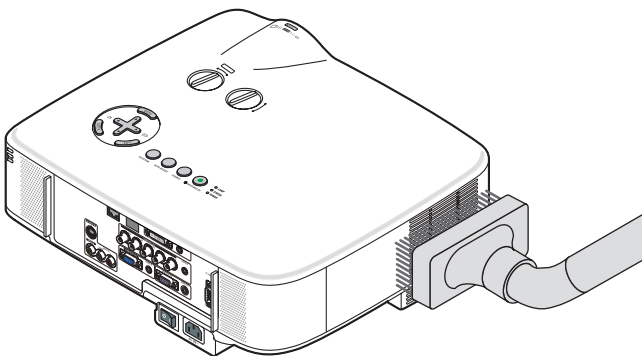
❸ Replacing the Lamp

When the lamp reaches the end of its life, the LAMP indicator in the cabinet will blink red. Even though the lamp may still be working, replace the lamp to maintain the optimal projector performance. After replacing the lamp, be sure to clear the lamp hour meter. (→ page 76)

⚠ CAUTION

- DO NOT TOUCH THE LAMP immediately after it has been used. It will be extremely hot. Turn the projector off, turn off the main power switch and then disconnect the power cable. Allow at least one hour for the lamp to cool before handling.

- DO NOT REMOVE ANY SCREWS except two lamp housing screws. You could receive an electric shock.

- Do not break the glass on the lamp housing.

  Keep finger prints off the glass surface on the lamp housing. Leaving finger prints on the glass surface might cause an unwanted shadow and poor picture quality.

- The projector will turn off and go into standby mode when you continue to use the projector for another 100 hours after the lamp has reached the end of its life. If this happens, be sure to replace the lamp. If you continue to use the lamp after the lamp reaches the end of its life, the lamp bulb may shatter, and pieces of glass may be scattered in the lamp case. Do not touch them as the pieces of glass may cause injury. If this happens, contact your NEC dealer for lamp replacement.

To replace the lamp:

Optional lamp and tools needed for replacement:

- Replacement lamp NP06LP
- Phillips screwdriver or equivalent

1. Use a Philips screwdriver to push and release the tab.

   Push and pull to remove the lamp cover.
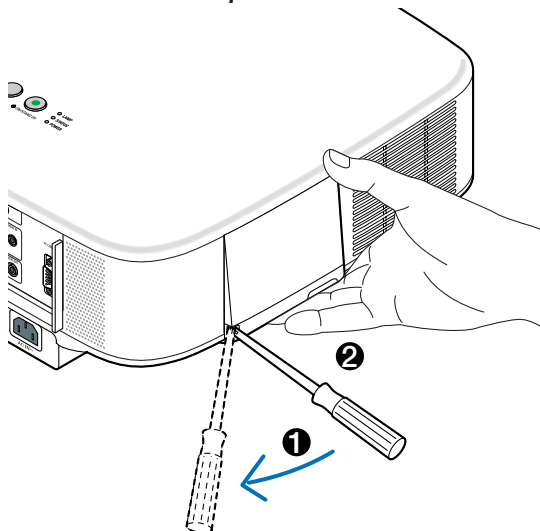
2. Loosen the two screws securing the lamp housing until the phillips screwdriver goes into a freewheeling condition. The two screws are not removable.

Remove the lamp housing by holding it.
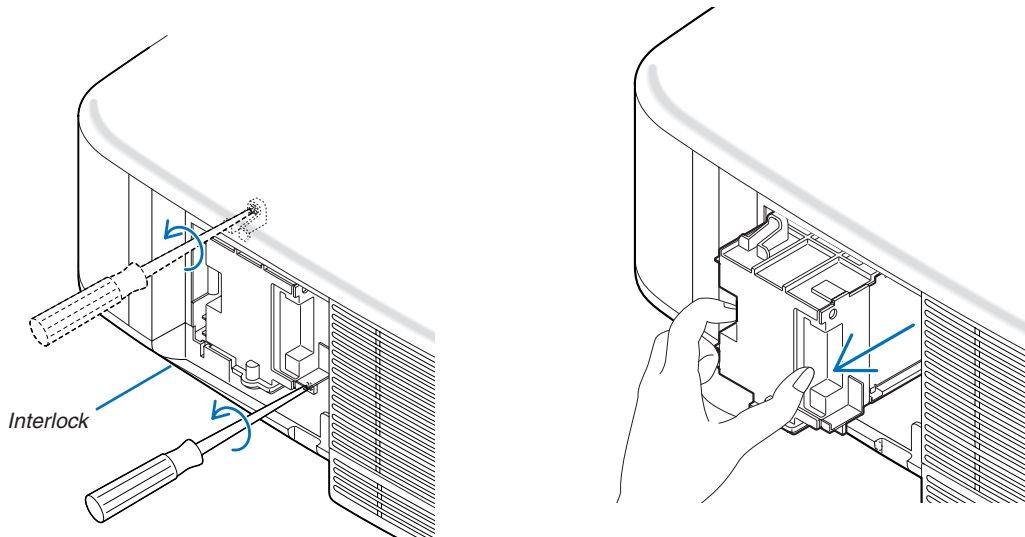
Interlock

NOTE: There is an interlock on this case to prevent the risk of electrical shock. Do not attempt to circumvent this interlock.

3. Insert a new lamp housing until the lamp housing is plugged into the socket.

CAUTION
Do not use a lamp other than the NEC replacement lamp NP06LP.
Order this from your NEC dealer.

Secure it in place with the two screws.

Be sure to tighten the screws.
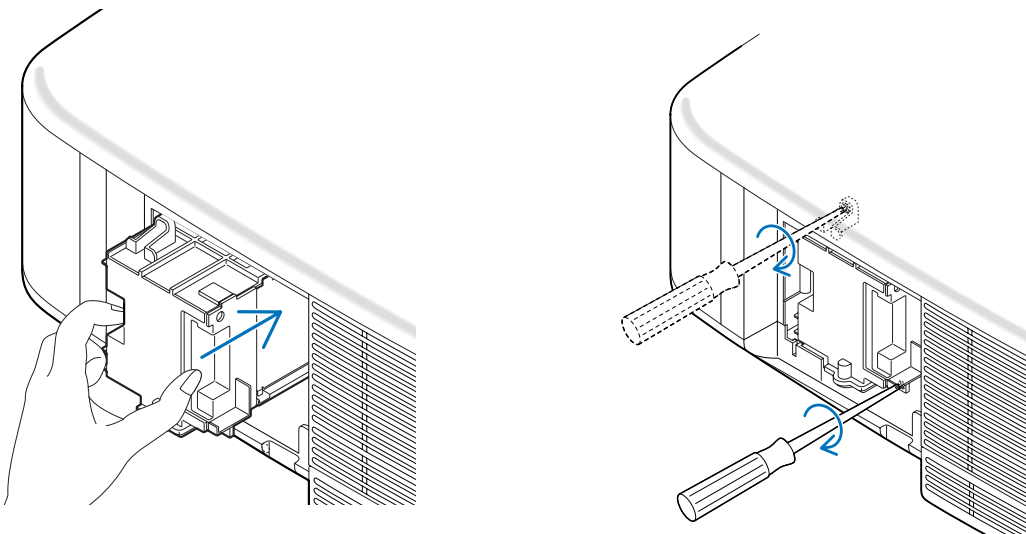
4. Reattach the lamp cover.

Slip the lamp cover back until it snaps into place.
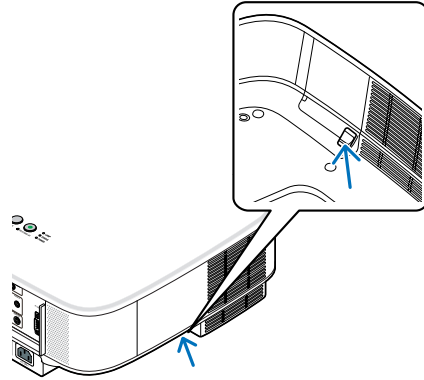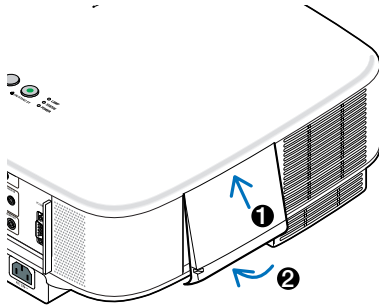
5. Connect the supplied power cable, turn on the Main Power switch and turn on the projector.

6. Finally, select the menu → [RESET] → [CLEAR LAMP HOURS] to reset the lamp life remaining and lamp usage hours.

NOTE: When you continue to use the projector for another 100 hours after the lamp has reached the end of its life, the projector cannot turn on and the menu is not displayed.

If this happens, press the HELP button on the remote control for 10 seconds to reset the lamp clock back to zero.

When the lamp time clock is reset to zero, the LAMP indicator goes out.

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7. Using Optional Lenses

Five optional lenses are available for the NP3200/NP2200/NP1200. See the information described on this page to buy the appropriate lens for your screen size and throw distance. See page 84 for installing the lens.

❶ Table of Throw Distances and Screen Sizes for Optional Lenses

[NP3200/NP2200/NP1200]   *NOTE: The values in the tables are design values and may vary.*

Screen Size	STANDARD 1.5 – 2.0 (m)	(inches)	NP01FL 0.8 (m)	(inches)	NP02ZL 1.2 – 1.5 (m)	(inches)	NP03ZL 1.9 – 3.1 (m)	(inches)	NP04ZL 3.0 – 4.8 (m)	(inches)	NP05ZL 4.7 – 7.2 (m)	(inches)
30"	0.89 – 1.20	35.1 – 47.3			0.70 – 0.92	27.5 – 36.4						
40"	1.20 – 1.62	47.4 – 63.8	0.64	25.3	0.95 – 1.25	37.3 – 49.1	1.56 – 2.51	61.4 – 98.6				
60"	1.83 – 2.45	72.2 – 96.6	0.98	38.6	1.44 – 1.89	56.9 – 74.5	2.37 – 3.79	93.5 – 149.4	3.60 – 5.83	141.7 – 229.7	5.69 – 8.75	224.1 – 344.6
67"	2.05 – 2.75	80.8 – 108.2	1.10	43.3	1.62 – 2.12	63.7 – 83.4	2.66 – 4.25	104.7 – 167.1	4.03 – 6.53	158.8 – 257.0	6.38 – 9.80	251.1 – 385.7
72"	2.21 – 2.96	87.0 – 116.4	1.18	46.6	1.74 – 2.28	68.6 – 89.8	2.86 – 4.57	112.8 – 179.8	4.34 – 7.03	171.1 – 276.6	6.87 – 10.54	270.4 – 415.0
80"	2.46 – 3.29	96.9 – 129.5	1.32	51.9	1.94 – 2.54	76.4 – 99.9	3.19 – 5.08	125.6 – 200.1	4.84 – 7.82	190.6 – 307.9	7.65 – 11.73	301.3 – 462.0
84"	2.59 – 3.46	101.8 – 136.1	1.39	54.6	2.04 – 2.67	80.3 – 105.0	3.35 – 5.34	132.0 – 210.3	5.09 – 8.22	200.4 – 323.5	8.05 – 12.33	316.8 – 485.5
90"	2.78 – 3.71	109.3 – 146.0	1.49	58.6	2.19 – 2.86	86.2 – 112.6	3.60 – 5.73	141.7 – 225.5	5.46 – 8.81	215.0 – 346.9	8.63 – 13.23	340.0 – 520.7
100"	3.09 – 4.13	121.6 – 162.4	1.66	65.3	2.44 – 3.18	96.0 – 125.4	4.01 – 6.37	157.7 – 250.8	6.08 – 9.81	239.5 – 386.0	9.62 – 14.72	378.6 – 579.4
120"	3.72 – 4.96	146.3 – 195.3	2.00	78.6	2.93 – 3.83	115.5 – 150.8	4.82 – 7.66	189.8 – 301.6	7.32 – 11.79	288.3 – 464.2	11.58 – 17.70	455.8 – 696.8
150"	4.66 – 6.21	183.4 – 244.6	2.50	98.6	3.68 – 4.80	144.9 – 188.9	6.05 – 9.59	238.0 – 377.7	9.18 – 14.77	361.6 – 581.5	14.52 – 22.17	571.7 – 872.9
180"	5.60 – 7.47	220.5 – 294.0			4.42 – 5.77	174.2 – 227.1	7.27 – 11.53	286.2 – 453.8	11.05 – 17.75	434.9 – 698.7	17.46 – 26.65	687.5 – 1049.0
200"	6.23 – 8.30	245.3 – 326.9			4.92 – 6.41	193.8 – 252.5	8.08 – 12.81	318.3 – 504.5	12.29 – 19.73	483.8 – 776.9	19.43 – 29.63	764.8 – 1166.4
210"	6.54 – 8.72	257.6 – 343.3			5.17 – 6.74	203.5 – 265.2	8.49 – 13.46	334.3 – 529.9	12.91 – 20.73	508.2 – 816.0	20.41 – 31.12	803.4 – 1225.1
240"	7.49 – 9.97	294.7 – 392.6			5.91 – 7.71	232.9 – 303.4	9.72 – 15.39	382.5 – 606.0	14.77 – 23.70	581.5 – 933.3	23.35 – 35.59	919.3 – 1401.2
250"	7.80 – 10.39	307.1 – 409.1			6.16 – 8.03	242.7 – 316.1	10.12 – 16.04	398.6 – 631.4	15.39 – 24.70	605.9 – 972.4	24.33 – 37.08	957.9 – 1459.9
270"	8.43 – 11.23	331.8 – 442.0			6.66 – 8.67	262.2 – 341.5	10.94 – 17.33	430.7 – 682.1	16.63 – 26.68	654.8 – 1050.5	26.29 – 40.06	1035.1 – 1577.3
300"	9.37 – 12.48	368.9 – 491.3			7.41 – 9.64	291.5 – 379.7	12.16 – 19.26	478.8 – 758.2	18.49 – 29.66	728.1 – 1167.8	29.23 – 44.54	1151.0 – 1753.5
400"	12.51 – 16.66	492.5 – 655.8			9.89 – 12.87	389.3 – 506.8	16.24 – 25.70	639.4 – 1011.9	24.70 – 39.59	972.4 – 1558.7	39.04 – 59.45	1537.2 – 2340.5
500"	15.65 – 20.83	616.2 – 820.2			12.37 – 16.10	487.1 – 634.0	20.32 – 32.15	799.9 – 1265.6	30.90 – 49.52	1216.7 – 1949.5	48.85 – 74.36	1923.4 – 2927.5

For screen sizes between 30" and 500" not indicated on the above table, use formulas below.

Throw distance for Standard lens (m/inch)=H × 1.5 through H × 2.0 Distance from 0.89 m to 20.83 m/35.1" to 820.2"
Throw distance for NP01FL(m/inch)=H × 0.8 Distance from 0.64m to 2.5 m/25.3" to 98.6"
Throw distance for NP02ZL(m/inch)=H × 1.2 through H × 1.5 Distance from 0.7 m to 16.1 m/27.5" to 634"
Throw distance for NP03ZL(m/inch)=H × 1.9 through H × 3.1 Distance from 1.56 m to 32.15 m/61.4" to 1265.6"
Throw distance for NP04ZL(m/inch)=H × 3.0 through H × 4.8 Distance from 3.6 m to 49.52 m/141.7" to 1949.5"
Throw distance for NP05ZL(m/inch)=H × 4.7 through H × 7.2 Distance from 5.69 m to 74.36 m/224.1" to 2927.5"
"H"= Screen width

NP04ZL (H X 3.0) - (H X 4.8)
STANDARD (H X 1.5) - (H X 2.0)
NP01FL (H X 0.8)
NP02ZL (H X 1.2) - (H X 1.5)
NP03ZL (H X 1.9) - (H X 3.1)
NP05ZL (H X 4.7) - (H X 7.2)
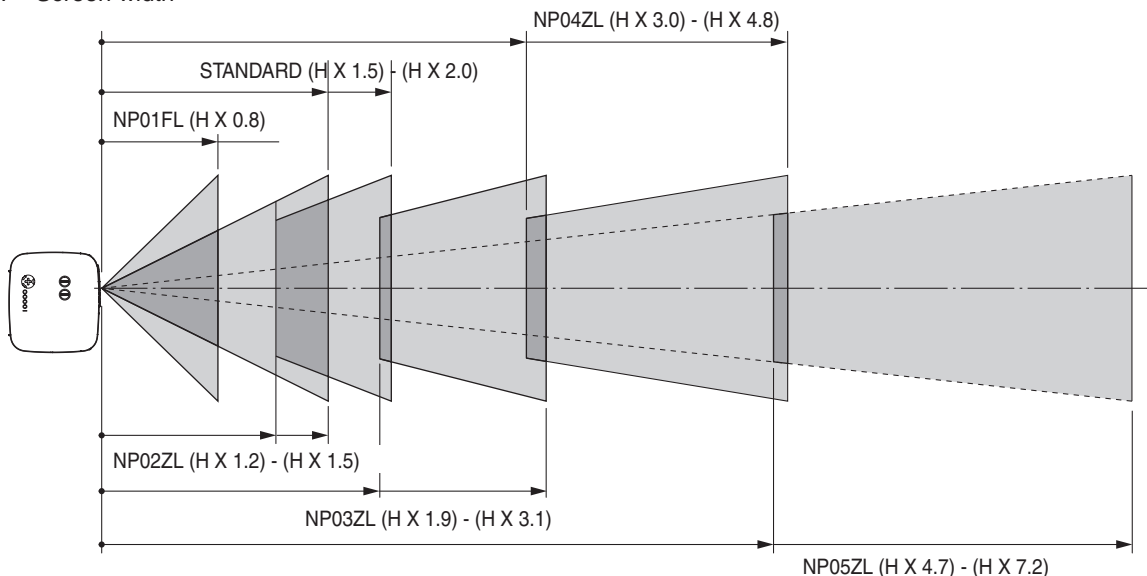
Example: Distance from a 100" screen with the lens NP03ZL
Referring to the diagram on page 93, "H" is 2.0 m/78.7". Therefore, the projection distances of 100 inches are from 2.0 m/78.7" × 1.9 to 2.0 m/78.7" × 3.1 = from 3.8 m/150" to 6.2 m/244".

❷ Lens Shift Adjustable Range

The top right diagram shows the location of the image position in the lens. The lens can be shifted within the shaded area as shown using the normal projection position as a starting point.
The projector has a lens shift feature that allows you to move the image vertically or horizontally.

NOTE: Lens shift is not available with the NP01FL optional lens. The NP01FL should be used only for "zero degree" applications.

Desktop front projection

Vertical shift

Max. 0.5V

1V

0.5V

Normal projection Position

0.1H

1H

0.1H

Width of projected image

Ceiling front projection

Vertical shift

Max. 0.5V

1V

Shift to left

Shift to right
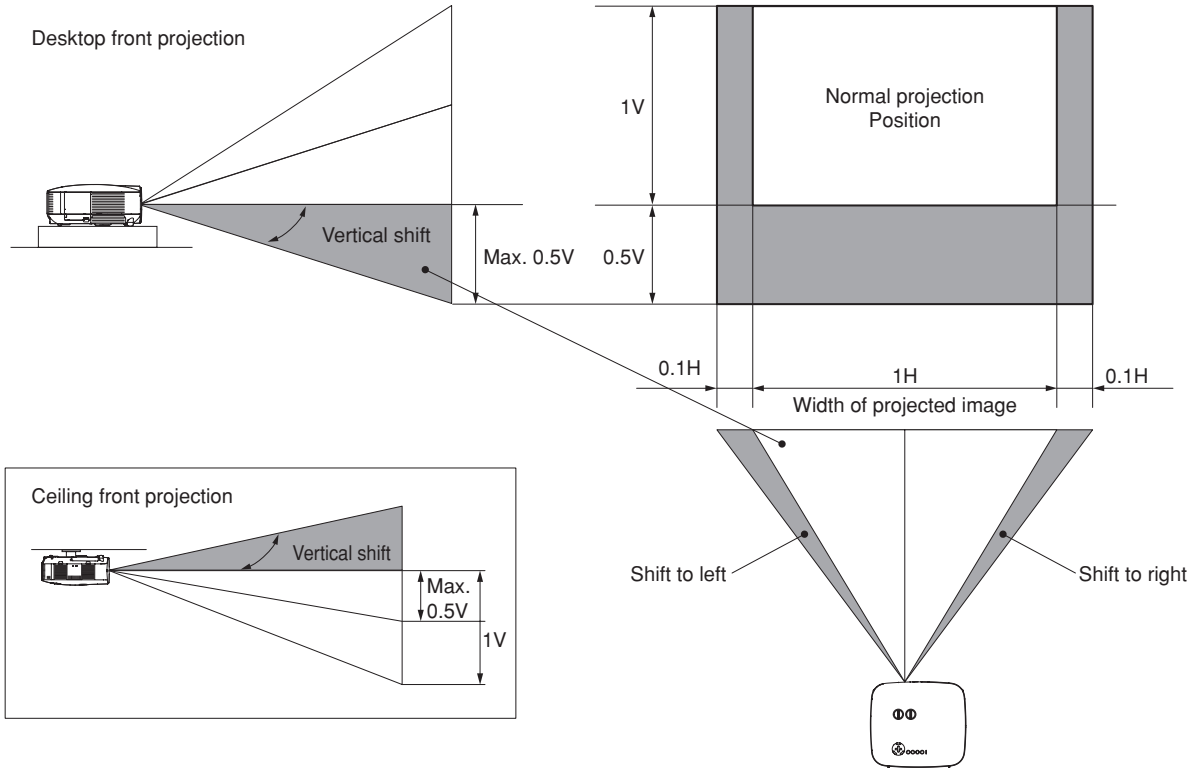
❸ Replacing with Optional Lens

CAUTION

- Do not give a shock or excessive load to the projector or the lens components as the projector and lens components contain precision parts.

- When shipping the projector with the optional lens, remove the optional lens before shipping the projector. The lens and the lens shift mechanism may encounter damage caused by improper handling during transportation.

- Before removing or installing the lens, be sure to turn off the projector, wait until the cooling fans stop, and turn off the main power switch.

- Do not touch the lens surface when removing or installing the lens.

- Keep fingerprints, dust or oil off the lens surface. Do not scratch the lens surface.

- Work on a level surface with a soft cloth under it to avoid scratching.

- If you remove and store the lens, attach the lens cap to the projector to keep off dust and dirt.

- Please heed the following information if you own two or more NP3200/NP2200/NP1200 projectors and may interchange the standard lenses.
  When replacing the standard lens (with an optional lens) and then re-installing the standard lens back into the projector, the standard lens must go back to its original projector from which it was removed.
  If you remove the standard lens from one NP3200/NP2200/NP1200 projector and re-install it into another NP3200/NP2200/NP1200 projector, performance may be compromised.
  Be sure to use the standard lens in combination with its original factory-adjusted projector.

Remove the existing lens from the projector.

LENS RELEASE Button

1. Rotate the lens counterclockwise while strongly pushing the LENS RELEASE button all the way in.

The existing lens will be disengaged.

NOTE: If the lens cannot be removed even by using the LENS RELEASE button, the anti-theft screw for lens may be used to secure the lens.
If such is the case, remove the anti-theft screw first. (→ next page)

2. Pull out the existing lens slowly.
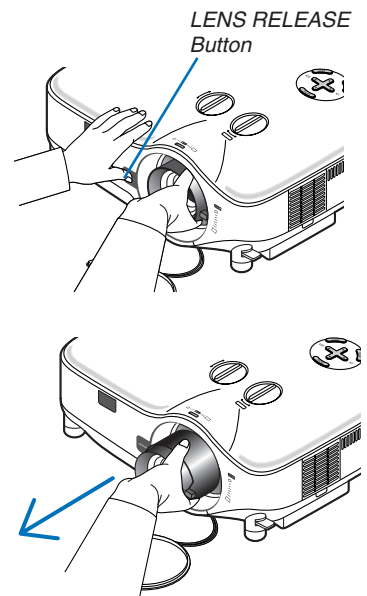
Install the new lens

1. Insert the lens with the yellow protrusion on top.

Yellow Protrusion
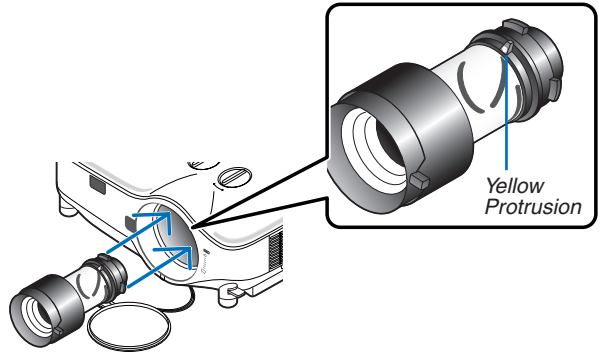
2. Rotate the lens clockwise.

Rotate the lens until you feel it click into place.
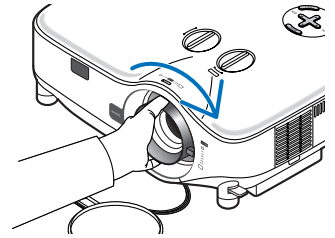
Using the anti-theft screw to prevent theft of the lens
Tighten the supplied anti-theft screw on the front bottom.

Hole of anti-theft screw for lens unit

85
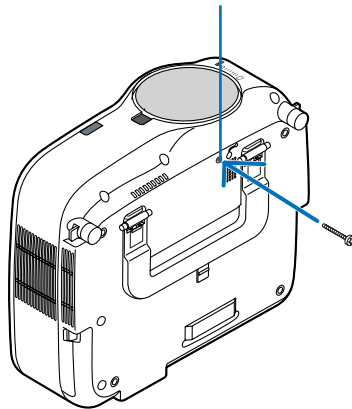
8. Appendix

❶ Troubleshooting

This section helps you resolve problems you may encounter while setting up or using the projector.

Indicator Messages

POWER Indicator

Indicator Condition			Projector Condition	Note
Off			The main power is off	–
Blinking light	Green	0.5 sec On, 0.5 sec Off	The projector is getting ready to turn on.	Wait for a moment.
		2.5 sec On, 0.5 sec Off	Off Timer is enabled.	–
Steady light	Green		The projector is turned on.	–
	Orange		[NORMAL] is selected for [STANDBY MODE]	–
	Red		[POWER-SAVING] is selected for [STANDBY MODE]	–

STATUS Indicator

Indicator Condition			Projector Condition	Note
Off			Normal or Standby ([POWER-SAVING] for [STANDBY MODE])	–
Blinking light	Red	1 cycle (0.5 sec On, 2.5 sec Off)	Lamp cover error or lamp housing error	Replace the lamp cover or lamp housing correctly.
		2 cycle (0.5 sec On, 0.5 sec Off)	Temperature error	The projector is overheated. Move the projector to a cooler location.
		3 cycle (0.5 sec On, 0.5 sec Off)	Power error	Power unit is not working properly. Contact your dealer.
		4 cycle (0.5 sec On, 0.5 sec Off)	Fan error	Fans will not work correctly.
		6 cycle (0.5 sec On, 0.5 sec Off)	Lamp error	Lamp fails to light. Wait a full minute and then turn on again.
	Green		Re-firing the lamp (The projector is cooling down.)	The projector is re-firing. Wait for a moment.
Steady light	Green		Standby ([NORMAL] for [STANDBY MODE])	–
	Orange		CONTROL PANEL LOCK is on.	You have pressed cabinet button when Control Panel Lock is on.
			CONTROL ID error	Remote control ID and projector ID are not matched.

LAMP Indicator

Indicator Condition		Projector Condition	Note
Off		Normal	–
Blinking light	Red	Lamp has reached its end of life. Lamp replacement message will be displayed.	Replace the lamp.
Steady light	Red	Lamp has been used beyond its limit. The projector will not turn on until the lamp is replaced.	Replace the lamp.
	Green	[ECO MODE] is set to [ON]	–

Over-Temperature Protection

If the temperature inside the projector rises too high, the over-temperature protector will automatically turn off the lamp with the STATUS indicator blinking (2-cycle On and Off.)
Should this happen, do the following:
• Unplug the power cable after the cooling fans stop.
• Move the projector to a cooler location if the room where you are presenting is particularly too warm.
• Clean the ventilation holes if they are clogged with dust.
• Wait about 60 minutes until the inside of the projector becomes cool enough.

Common Problems & Solutions (→ "POWER/STATUS/LAMP Indicator" on page 86)

Problem	Check These Items
Does not turn on or shut down	• Check that the power cable is plugged in and that the power button on the projector cabinet or the remote control is on. (→ pages 20, 21) • Ensure that the lamp cover is installed correctly. (→ page 81) • Check to see if the projector has overheated. If there is insufficient ventilation around the projector or if the room where you are presenting is particularly warm, move the projector to a cooler location. • Check to see if you continue to use the projector for another 100 hours after the lamp has reached the end of its life. If so, replace the lamp. After replacing the lamp, reset the lamp hours used. (→ page 76) • The lamp may fail to light. Wait a full minute and then turn on the power again. • Set [FAN MODE] to [HIGH ALTITUDE] when using the projector at altitudes approximately 5500 feet/1600 meters or higher. Using the projector at altitudes approximately 5500 feet/1600 meters or higher without setting to [HIGH ALTITUDE] can cause the projector to overheat and the projector could shut down. If this happens, wait a couple minutes and turn on the projector. (→ page 70) If you turn on the projector immediately after the lamp is turned off, the fans run without displaying an image for some time and then the projector will display the image. Wait for a moment.
Will turn off	• Ensure that the [OFF TIMER] or [AUTO POWER OFF] is off. (→ page 72, 73)
No picture	• Use the COMPUTER1, the COMPUTER2, the COMPUTER3, the VIDEO or the S-VIDEO button on the remote control to select your source (Computer, Video or S-Video). (→ page 23) If there is still no picture, press the button again. • Ensure your cables are connected properly. • Use menus to adjust the brightness and contrast. (→ page 56) • Remove the lens cap. • Reset the settings or adjustments to factory preset levels using the [RESET] in the Menu. (→ page 76) • Enter your registered keyword if the Security function is enabled. (→ page 35) • Be sure to connect the projector and notebook PC while the projector is in standby mode and before turning on the power to the notebook PC. In most cases the output signal from the notebook PC is not turned on unless connected to the projector before being powered up. * If the screen goes blank while using your remote control, it may be the result of the computer's screen-saver or power management software. • See also the next page.
Picture suddenly becomes dark	• Check if the projector is in the Forced ECO mode because of too high ambient temperature. If this is the case, lower the internal temperature of the projector by selecting [HIGH] for [FAN MODE]. (→ page 70)
Color tone or hue is unusual	• Check if an appropriate color is selected in [WALL COLOR]. If so, select an appropriate option. (→ page 64) • Adjust [HUE] in [PICTURE]. (→ page 56)
Image isn't square to the screen	• Reposition the projector to improve its angle to the screen. (→ page 24) • Use the Keystone correction function to correct the trapezoid distortion. (→ page 28)
Picture is blurred	• Adjust the focus. (→ page 26) • Reposition the projector to improve its angle to the screen. (→ page 24) • Ensure that the distance between the projector and screen is within the adjustment range of the lens. (→ page 82, 83) • Condensation may form on the lens if the projector is cold, brought into a warm place and is then turned on. Should this happen, let the projector stand until there is no condensation on the lens.
Flicker appears on screen	• Set [FAN MODE] to other than [HIGH ALTITUDE] mode when using the projector at altitudes approximately 5500 feet/1600 meters or lower. Using the projector at altitudes less than approximately 5500 feet/1600 meters and setting to [HIGH ALTITUDE] can cause the lamp to overcool, causing the image to flicker. Switch [FAN MODE] to [AUTO]. (→ page 70)
Image is scrolling vertically, horizontally or both	• Check the computer's resolution and frequency. Make sure that the resolution you are trying to display is supported by the projector. (→ page 95) • Adjust the computer image manually with the Horizontal/Vertical in the [IMAGE OPTIONS]. (→ page 59)
Remote control does not work	• Install new batteries.(→ page 10) • Make sure there are no obstacles between you and the projector. • Stand within 22 feet (7 m) of the projector. (→ page 10) • Check if one or more remote sensors are enabled. Select [SETUP] → [INSTALLATION] → [REMOTE SENSOR] from the menu. (→ page 68) • Make sure that the remote control's ID corresponds with the projector's ID. (→ page 68)
Indicator is lit or blinking	• See the POWER/STATUS/LAMP Indicator. (→ page 86)
Cross color in RGB mode	• Press the AUTO ADJ. button on the projector cabinet or the remote control. (→ page 30) • Adjust the computer image manually with [CLOCK]/[PHASE] in [IMAGE OPTIONS] in the menu. (→ page 58)

For more information contact your dealer.

If there is no picture, or the picture is not displayed correctly.

- Power on process for the projector and the PC.

  Be sure to connect the projector and notebook PC while the projector is in standby mode and before turning on the power to the notebook PC.

  In most cases the output signal from the notebook PC is not turned on unless connected to the projector before being powered up.

  NOTE: You can check the horizontal frequency of the current signal in the projector's menu [SOURCE] under Information. If it reads "0kHz", this means there is no signal being output from the computer. See page 75 or go to next step.

- Enabling the computer's external display.

  Displaying an image on the notebook PC's screen does not necessarily mean it outputs a signal to the projector. When using a PC compatible laptop, a combination of function keys will enable/disable the external display. Usually, the combination of the "Fn" key along with one of the 12 function keys gets the external display to come on or off. For example, NEC laptops use Fn + F3, while Dell laptops use Fn + F8 key combinations to toggle through external display selections.

- Non-standard signal output from the computer

  If the output signal from a notebook PC is not an industry standard, the projected image may not be displayed correctly. Should this happen, deactivate the notebook PC's LCD screen when the projector display is in use. Each notebook PC has a different way of deactivate/reactivate the local LCD screens as described in the previous step. Refer to your computer's documentation for detailed information.

- Image displayed is incorrect when using a Macintosh

  When using a Macintosh with the projector, set the DIP switch of the Mac adapter (not supplied with the projector) according to your resolution. After setting, restart your Macintosh for the changes to take affect.

  For setting display modes other than those supported by your Macintosh and the projector, changing the DIP switch on a Mac adapter may bounce an image slightly or may display nothing. Should this happen, set the DIP switch to the 13" fixed mode and then restart your Macintosh. After that, restore the DIP switches to a displayable mode and then restart the Macintosh again.

  NOTE: A Video Adapter cable manufactured by Apple Inc. is needed for a PowerBook which does not have a mini D-Sub 15-pin connector.

- Mirroring on a PowerBook

  * When using the projector with a Macintosh PowerBook, output may not be set to 1024 × 768 unless "mirroring" is off on your PowerBook. Refer to owner's manual supplied with your Macintosh computer for mirroring.

- Folders or icons are hidden on the Macintosh screen

  Folders or icons may not be seen on the screen. Should this happen, select [View] → [Arrange] from the Apple menu and arrange icons.

❷ Specifications

This section provides technical information about the projector's performance.

Model Number   NP3200/NP2200/NP1200

Optical

LCD Panel	NP3200/NP2200/NP1200: 0.8" p-Si TFT active-matrix with Micro Lens Array (Aspect ratio 4:3)
Resolution	NP3200/NP2200/NP1200: 1024 × 768 pixels*1 up to UXGA with scaling technology (up to SXGA+ @ 60 Hz on DVI-D)
Standard Lens	Manual zoom and focus: F1.7–2.2 f=24.4–32.5 mm
Lamp	NP3200 : 330W AC (264 W in Eco mode) NP2200/NP1200 : 300W AC (264W in Eco mode)
Light Output*2, *3	NP3200 : 5000 lumens (approx.80% in Eco) NP2200 : 4200 lumens (approx.88% in Eco) NP1200 : 3700 lumens (approx.88% in Eco)
Contrast Ratio*3 (full white: full black)	NP3200/NP2200/NP1200: 600:1
Image Size (Standard lens)	30"–500" (0.76 m–12.7 m) diagonal
Lens Options	Fixed lens : NP01FL (throw ratio 0.8:1) Zoom lens : NP02ZL (throw ratio 1.2–1.5:1) NP03ZL (throw ratio 1.9–3.1:1) NP04ZL (throw ratio 3.0–4.8:1) NP05ZL (throw ratio 4.7–7.2:1) Lens Shift : Vertical +/– 0.5V, Horizontal +/– 0.1H

*1 Effective pixels are more than 99.99%.

*2 This is the light output value (lumens) when the [PRESET] mode is set to [HIGH-BRIGHT]. If any other mode is selected as the [PRESET] mode, the light output value may drop slightly.

*3 Compliance with ISO21118-2005

Electrical

Inputs	1 Analog RGB (Mini D-Sub 15 P), 1 Analog RGB R/Cr, G/Y, B/Cb, H, V (BNC × 5), 1 Digital RGB (DVI-D 24 P, HDCP supported), 2 Component (Mini D-Sub 15 P & BNC) shared with COMPUTER 1&2 IN, 1 S-Video (Mini DIN 4P), 1 Video (RCA), 3 Stereo Mini Audio, 2 (L/R) RCA Audio
Outputs	1 RGB (Mini D-Sub 15P), 1 Stereo Mini Audio
PC Control	1 PC Control Port (D-Sub 9P)
LAN Port	RJ-45
Video Compatibility	NTSC, NTSC4.43, PAL, PAL60, PAL-N, PAL-M, SECAM, DTV: 480i, 480p, 720p, 1080i (60Hz) 576i, 576p, 1080i (50Hz) DVD: Progressive (50/60Hz)
Scan Rate	Horizontal: 15 kHz to 100 kHz (RGB: 24 kHz or over) Vertical: 50 Hz to 120 Hz
Video Bandwidth	RGB: 90 MHz (Max.)
Color Reproduction	16.7 million colors simultaneously, Full color
Horizontal Resolution	NTSC / NTSC4.43 / PAL / PAL-M / PAL-N / PAL60: 540 TV lines SECAM: 300 TV lines RGB: 1024 dots (H) × 768 dots (V)
External Control	RS232, IR, LAN
Sync Compatibility	Separate Sync / Composite Sync / Sync on G
Built-in Speakers	5W × 2
Power Requirement	100–240V AC, 50/60Hz
Input Current	NP3200 : 4.7-2.0A NP2200/NP1200 : 4.3-1.9A

Power Consumption	NP3200: 428W(100-130V AC)/412W(200-240V AC) in OFF for ECO MODE/345W(100-130V AC)/334W(200-240V AC) in ON for ECO MODE
	NP2200/NP1200: 396W(100-130V AC)/381W(200-240V AC) in OFF for ECO MODE/345W(100-130V AC)/334W(200-240V AC) in ON for ECO MODE
	NP3200/NP2200/NP1200: 12W(100-130V AC)/13W(200-240V AC) in NORMAL Mode for STANDBY MODE/0.4W(100-130V AC)/0.5W(200-240V AC) in POWER-SAVING Mode for STANDBY MODE

Mechanical

Installation	Orientation: Desktop/Front, Desktop/Rear, Ceiling/Front, Ceiling/Rear
Dimensions	15.7" (W) × 5.9" (H) × 14.1" (D)
	399 mm (W) × 150.5 mm (H) × 358 mm (D)
	(not including protrusions)
Weight	16.3 lbs/7.4 kg
Environmental Considerations	
Operational Temperatures :	
	41° to 104°F / 5° to 40°C,
	(Eco mode selected automatically at 95° to 104°F/35° to 40°C), 20% to 80% humidity (non-condensing)
Storage Temperatures :	
	14° to 122°F (−10° to 50°C), 20% to 80% humidity (non-condensing)
Regulations	UL/C-UL Approved (UL 60950-1, CSA 60950-1)
	Meets DOC Canada Class B requirements
	Meets FCC Class B requirements
	Meets AS/NZS CISPR.22 Class B
	Meets EMC Directive (EN55022, EN55024, EN61000-3-2, EN61000-3-3)
	Meets Low Voltage Directive (EN60950-1, TÜV GS Approved)
	CE

For additional information visit:
US : http://www.necdisplay.com/
Europe : http://www.nec-display-solutions.com/
Global : http://www.nec-display.com/global/index.html
For information on our optional accessories, visit our website or see our brochure.
The specifications are subject to change without notice.

❸ Cabinet Dimensions

358/14.1"

4.7/0.19"

399/15.7"

150.5/5.9"

168.3/6.63"
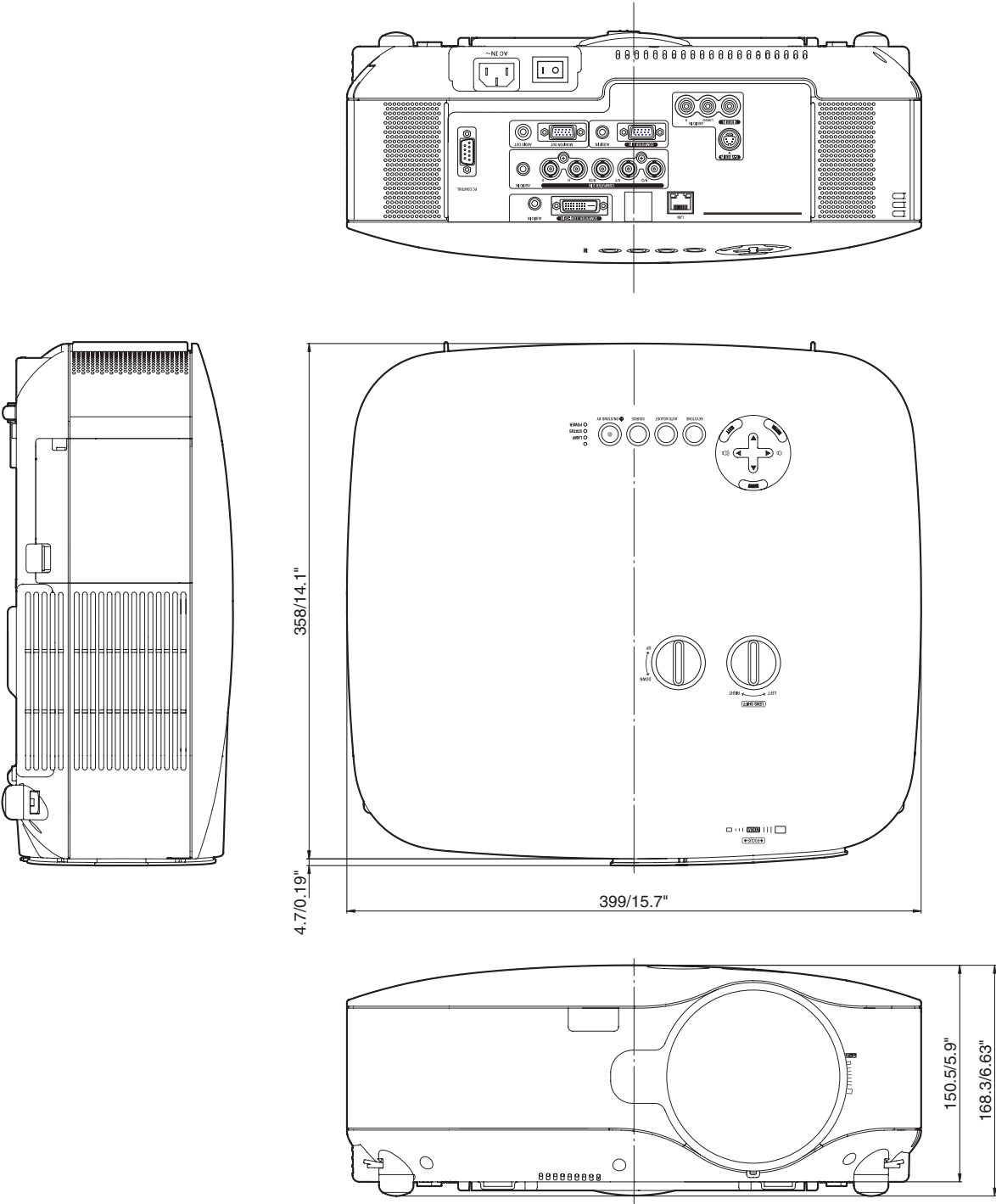
Unit: mm/inch

❹ Screen Size and Projection Distance

This section should be used when considering the distance to the screen and the screen size.
The following is an example of when the standard lens is used.

[NP3200/NP2200/NP1200]

Available projection distances are 1.0 m/41.2 inches for 30" screen to 18 m/718 inches for 500" screen, according to the chart.
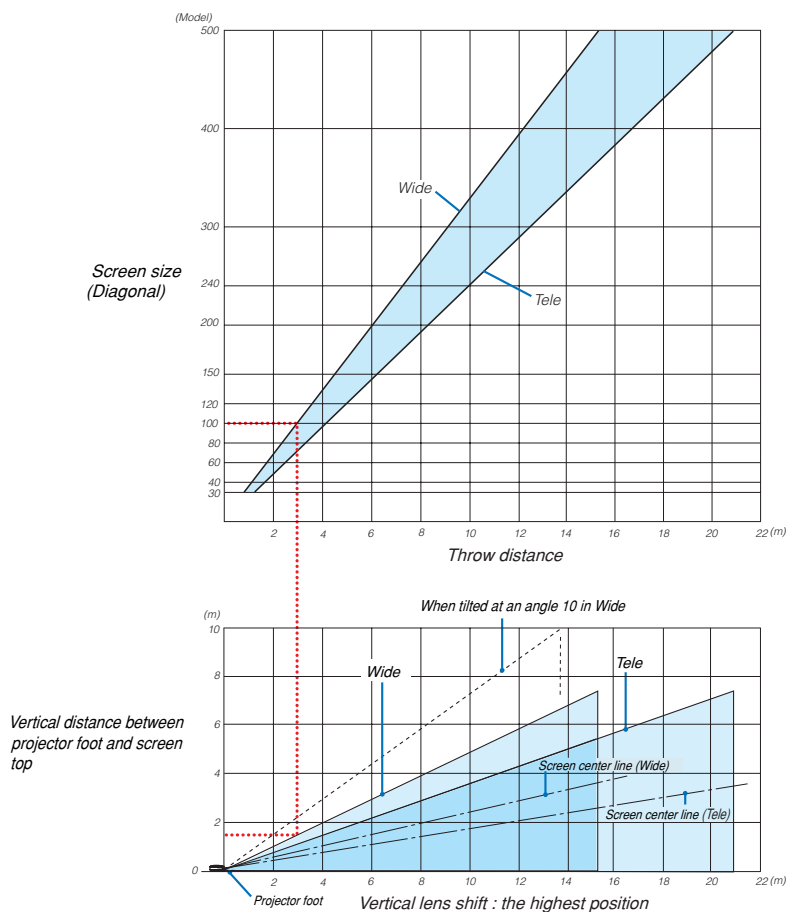
Using the Chart

Example for 100" screen:
The projection distance is approximately 3.1 m (122") according to the upper chart.
The lower chart shows that the vertical distance between the projector foot and the screen top is approximately 1.5 m (59"). The projection angle can be adjusted up to 10°. (The lower chart shows that the projector is placed in a horizontal position)

List of Screen Sizes

[NP3200/NP2200/NP1200]

Height

Screen size (Diagonal)
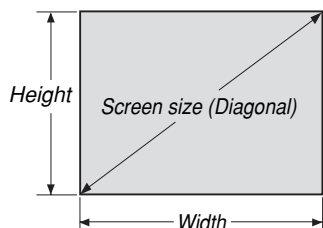
Width

List of Screen Sizes

Screen size	Width (H)		Height (V)	
	m	inch	m	inch
30"	0.6	24.0	0.46	18.0
40"	0.8	31.5	0.6	23.6
60"	1.2	47.2	0.9	35.4
80"	1.6	63.0	1.2	47.2
100"	2.0	78.7	1.5	59.1
120"	2.4	94.5	1.8	70.9
150"	3.0	118.1	2.3	90.6
200"	4.1	161.4	3.0	118.1
250"	5.1	200.8	3.8	149.6
300"	6.1	240.2	4.6	181.1
400"	8.1	318.9	6.1	240.2
500"	10.2	401.6	7.6	299.2

Formulas: Screen width H (m)=Screen size x 4/5 x 0.0254
Screen height V (m)=Screen size x 3/5 x 0.0254
Screen width H (inch)=Screen size x 4/5
Screen height V (inch)=Screen size x 3/5

Screen Size and Projection Distance for Desktop when the standard lens is used

The following drawing shows an example for use of Desktop.
Horizontal projection position: Lens centered left to right
Vertical projection position: See the table below.

Screen size (diagonal)	STANDARD				
	Projection Distance (L)			(H1)	
	(m)	(inches)			
	Wide - Tele	Wide - Tele		(cm)	(inches)
30"	0.89 - 1.20	35.1 - 47.3		0-23	0-9.0
40"	1.20 - 1.62	47.4 - 63.8		0-30	0-12.0
60"	1.83 - 2.45	72.2 - 96.6		0-46	0-18.0
67"	2.05 - 2.75	80.8 - 108.2		0-51	0-20.1
72"	2.21 - 2.96	87.0 - 116.4		0-55	0-21.6
80"	2.46 - 3.29	96.9 - 129.5		0-61	0-24.0
84"	2.59 - 3.46	101.8 - 136.1		0-64	0-25.2
90"	2.78 - 3.71	109.3 - 146.0		0-69	0-27.0
100"	3.09 - 4.13	121.6 - 162.4		0-76	0-30.0
120"	3.72 - 4.96	146.3 - 195.3		0-91	0-36.0
150"	4.66 - 6.21	183.4 - 244.6		0-114	0-45.0
180"	5.60 - 7.47	220.5 - 294.0		0-137	0-54.0
200"	6.23 - 8.30	245.3 - 326.9		0-152	0-60.0
210"	6.54 - 8.72	257.6 - 343.3		0-160	0-63.0
240"	7.49 - 9.97	294.7 - 392.6		0-183	0-72.0
250"	7.80 - 10.39	307.1 - 409.1		0-191	0-75.0
270"	8.43 - 11.23	331.8 - 442.0		0-206	0-81.0
300"	9.37 - 12.48	368.9 - 491.3		0-229	0-90.0
400"	12.51 - 16.66	492.5 - 655.8		0-305	0-120.0
500"	15.65 - 20.83	616.2 - 820.2		0-381	0-150.0

$H2 = Screen\ height\ (V) - H1$

Screen center

H2

Projector foot

88 mm/3.47"   Lens center   Screen bottom

L

H1
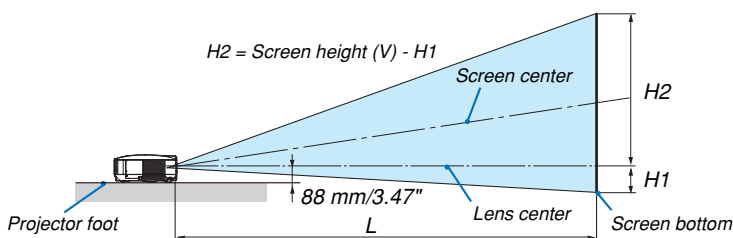
NOTE: The values in the tables are design values and may vary.

❺ Pin Assignments of D-Sub COMPUTER 1 Input Connector
Mini D-Sub 15 Pin Connector
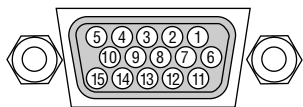
Signal Level
Video signal : 0.7Vp-p (Analog)
Sync signal : TTL level

Pin No.	RGB Signal (Analog)	YCbCr Signal
1	Red	Cr
2	Green or Sync on Green	Y
3	Blue	Cb
4	Ground	
5	Ground	
6	Red Ground	Cr Ground
7	Green Ground	Y Ground
8	Blue Ground	Cb Ground
9	No Connection	
10	Sync Signal Ground	
11	No Connection	
12	Bi-directional DATA (SDA)	
13	Horizontal Sync or Composite Sync	
14	Vertical Sync	
15	Data Clock	

❻ Compatible Input Signal List

Horizontal: 15KHz to 100KHz (RGB: 24KHz or over)
Vertical: 50Hz to 120Hz

Signal		Resolution (Dots)				Frequency H. (kHz)	Refresh Rate (Hz)
VIDEO	NTSC	-			*	15.73	59.94
	PAL	-			*	15.63	50.00
	PAL60	-			*	15.73	60.00
	SECAM	-			*	15.63	50.00
IBM compatible		640	×	480		31.47	59.94
		640	×	480		31.48	59.95
		640	×	480		37.86	72.81
		640	×	480		37.50	75.00
		640	×	480		39.38	75.00
		640	×	480		43.27	85.01
		800	×	600		35.16	56.25
		800	×	600		37.88	60.32
		800	×	600		48.08	72.19
		800	×	600		46.88	75.00
		800	×	600		53.67	85.06
		1024	×	768		48.36	60.00
		1024	×	768		56.48	70.07
		1024	×	768		60.02	75.03
		1024	×	768		68.68	85.00
		1152	×	864		54.35	60.05
		1152	×	864		63.99	70.02
		1152	×	864		67.50	75.00
		1152	×	864	*	77.49	85.06
		1280	×	768		47.78	59.87
		1280	×	800		49.70	59.81
		1280	×	960		60.00	60.00
		1280	×	960	*	75.00	75.00
		1280	×	960	*	85.94	85.00
		1280	×	1024		63.98	60.02
		1280	×	1024	*	79.98	75.02
		1280	×	1024	*	91.15	85.02
		1400	×	1050		64.74	59.95
		1400	×	1050	*	65.32	59.98
		1440	×	900	*	55.94	59.89
		1600	×	1200	*	75.00	60.00
		1600	×	1200	*	81.25	65.00
		1600	×	1200	*	87.50	70.00
		1600	×	1200	*	93.75	75.00
Apple Macintosh®		640	×	480		35.00	66.67
		832	×	624		49.72	74.55
		1024	×	768		60.24	74.93
		1152	×	870		68.68	75.06
		1280	×	1024		64.30	60.38
		1280	×	1024	*	69.87	65.18
		1280	×	1024	*	78.44	73.72
HDTV	(1080i/60)	1920	×	1080		33.75	60.00
	(1080i/50)	1920	×	1080		28.13	50.00
	(720p/60)	1280	×	720		45.00	60.00
SDTV	480p	720	×	480		31.47	59.94
DVD	YCbCr	720	×	480	*	15.73	59.94
		720	×	576	*	15.63	50.00
	Progressive	720	×	480		31.47	59.94
		720	×	576		31.25	50.00

NOTE:
- *Images above flagged with "*" are not supported by digital signal.*
- *An image with higher resolution than the projector's native resolution (1024 x 768) will be displayed with Advanced AccuBlend.*
- *Some composite sync signals may not be displayed correctly.*
  Signals other than those specified in the table above may not be displayed correctly. If this should happen, change the refresh rate or resolution on your PC. Refer to Display Properties help section of your PC for procedures.

❼ PC Control Codes and Cable Connection

PC Control Codes

Function	Code Data						
POWER ON	02H	00H	00H	00H	00H	02H	
POWER OFF	02H	01H	00H	00H	00H	03H	
INPUT SELECT COMPUTER 1	02H	03H	00H	00H	02H	01H	01H	09H
INPUT SELECT COMPUTER 2	02H	03H	00H	00H	02H	01H	02H	0AH
INPUT SELECT COMPUTER 3	02H	03H	00H	00H	02H	01H	1AH	22H
INPUT SELECT VIDEO	02H	03H	00H	00H	02H	01H	06H	0EH
INPUT SELECT S-VIDEO	02H	03H	00H	00H	02H	01H	0BH	13H
PICTURE MUTE ON	02H	10H	00H	00H	00H	12H	
PICTURE MUTE OFF	02H	11H	00H	00H	00H	13H	
SOUND MUTE ON	02H	12H	00H	00H	00H	14H	
SOUND MUTE OFF	02H	13H	00H	00H	00H	15H	

NOTE: Contact your local dealer for a full list of PC Control Codes if needed.

Cable Connection

Communication Protocol

Baud rate	19200 bps
Data length	8 bits
Parity	No parity
Stop bit	One bit
X on/off	None
Communications procedure	Full duplex

NOTE: Depending on the equipment, a lower baud rate may be recommended for long cable runs.

PC Control Connector (D-SUB 9P)

To TxD of PC

To RxD of PC

To GND of PC

1 2 3 4 5
6 7 8 9

To RTS of PC

To CTS of PC
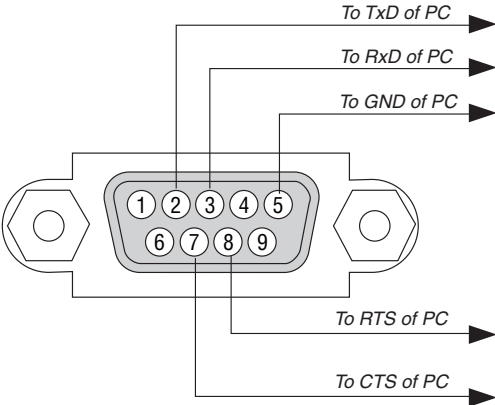
NOTE 1: Pins 1, 4, 6 and 9 are not used.

NOTE 2: Jumper "Request to Send" and "Clear to Send" together on both ends of the cable to simplify cable connection.

NOTE 3: For long cable runs it is recommended to set communication speed within projector menus to 9600 bps.

❽ Troubleshooting Check List

Before contacting your dealer or service personnel, check the following list to be sure repairs are needed also by referring to the "Troubleshooting" section in your user's manual. This checklist below will help us solve your problem more efficiently.

* Print this page and the next page for your check.

Frequency of occurrence ☐ always ☐ sometimes (How often? _____) ☐ other (_____)

Power

☐ No power (POWER indicator does not light green) See also "Status Indicator (STATUS)".
    ☐ Power cable's plug is fully inserted into the wall outlet.
    ☐ Main power switch is pressed to the ON position.
    ☐ Lamp cover is installed correctly .
    ☐ Lamp Hours Used (lamp operation hours) was cleared after lamp replacement.
    ☐ No power even though you press and hold the POWER button for 1 second.

☐ Shut down during operation.
    ☐ Power cable's plug is fully inserted into the wall outlet.
    ☐ Lamp cover is installed correctly .
    ☐ [AUTO POWER OFF] is turned off (only models with the [AUTO POWER OFF] function).
    ☐ [OFF TIMER] is turned off (only models with the [OFF TIMER] function).

Video and Audio

☐ No image is displayed from your PC or video equipment to the projector.
    ☐ Still no image even though you connect the projector to the PC first, then start the PC.
    ☐ Enabling your notebook PC's signal output to the projector.
        • *A combination of function keys will enable/disable the external display. Usually, the combination of the "Fn" key along with one of the 12 function keys turns the external display on or off.*
    ☐ No image (blue or black background, no display).
    ☐ Still no image even though you press the AUTO ADJUST button.
    ☐ Still no image even though you carry out [RESET] in the projector's menu.
    ☐ Signal cable's plug is fully inserted into the input connector
    ☐ A message appears on the screen.
        (_____)
    ☐ The source connected to the projector is active and available.
    ☐ Still no image even though you adjust the brightness and/or the contrast.
    ☐ Input source's resolution and frequency are supported by the projector.

☐ Image is too dark.
    ☐ Remains unchanged even though you adjust the brightness and/or the contrast.

☐ Image is distorted.
    ☐ Image appears to be trapezoidal (unchanged even though you carry out the [KEYSTONE] adjustment).

☐ Parts of the image are lost.
    ☐ Still unchanged even though you press the AUTO ADJUST button.
    ☐ Still unchanged even though you carry out [RESET] in the projector's menu.

☐ Image is shifted in the vertical or horizontal direction.
    ☐ Horizontal and vertical positions are correctly adjusted on a computer signal.
    ☐ Input source's resolution and frequency are supported by the projector.
    ☐ Some pixels are lost.

☐ Image is flickering.
    ☐ Still unchanged even though you press the AUTO ADJUST button.
    ☐ Still unchanged even though you carry out [RESET] in the projector's menu.
    ☐ Image shows flickering or color drift on a computer signal.
    ☐ Still unchanged even though you change [FAN MODE] from [HIGH ALTITUDE] to [AUTO].

☐ Image appears blurry or out of focus.
    ☐ Still unchanged even though you checked the signal's resolution on PC and changed it to projector's native resolution.
    ☐ Still unchanged even though you adjusted the focus.

☐ No sound.
    ☐ Audio cable is correctly connected to the audio input of the projector.
    ☐ Still unchanged even though you adjusted the volume level.
    ☐ AUDIO OUT is connected to your audio equipment (only models with the AUDIO OUT connector).

Other

☐ Remote control does not work.
    ☐ No obstacles between the sensor of the projector and the remote control.
    ☐ Projector is placed near a fluorescent light that can disturb the infrared remote controls.
    ☐ Batteries are new and are not reversed in installation.

☐ Buttons on the projector cabinet do not work (only models with the [CONTROL PANEL LOCK] function)
    ☐ [CONTROL PANEL LOCK] is not turned on or is disabled in the menu.
    ☐ Still unchanged even though you press and hold the EXIT button for a minimum of 10 seconds.

In the space below please describe your problem in detail.

Information on application and environment where your projector is used

Projector

Model number:

Serial No.:

Date of purchase:

Lamp operating time (hours):

Eco Mode: ☐ Off ☐ On

Information on input signal:

  Horizontal synch frequency   [   ] kHz

  Vertical synch frequency   [   ] Hz

  Synch polarity   H ☐ (+) ☐ (−)

                                 V ☐ (+) ☐ (−)

  Synch type   ☐ Separate ☐ Composite

                                   ☐ Sync on Green

STATUS Indicator:

  Steady light   ☐ Orange ☐ Green

  Flashing light   [   ] cycles

Remote control model number:

Projector　　　　　　　　*PC*

DVD player

Signal cable

NEC standard or other manufacturer's cable?

  Model number: Length: inch/m

Distribution amplifier

  Model number:

Switcher

  Model number:

Adapter

  Model number:

Installation environment

Screen size: inch

Screen type: ☐ White matte ☐ Beads ☐ Polarization

                 ☐ Wide angle ☐ High contrast

Throw distance: feet/inch/m

Orientation: ☐ Ceiling mount ☐ Desktop

Power outlet connection:

  ☐ Connected directly to wall outlet

  ☐ Connected to power cord extender or other (the number of connected equipment_____)

  ☐ Connected to a power cord reel or other (the number of connected equipment_____)
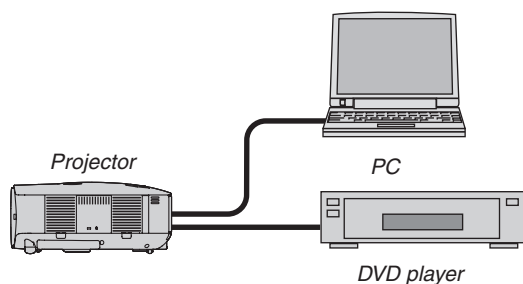
Computer

Manufacturer:

Model number:

Notebook PC ☐ / Desktop ☐

Native resolution:

Refresh rate:

Video adapter:

Other:

Video equipment

VCR, DVD player, Video camera, Video game or other

Manufacturer:

Model number:

❾ TravelCare Guide

TravelCare - a service for international travelers

This product is eligible for "TravelCare", NEC's unique international warranty.
Please note that TravelCare coverage differs in part from coverage under the warranty included with the product.

Services offered with TravelCare

This warranty allows customers to receive service on their product at the NEC and NEC-designated service stations in the countries listed herein when temporarily traveling internationally for business or pleasure.
For details on services offered by the different service stations, please refer to the "List of TravelCare Outlets" below.

1 Repair services

The product will be repaired and delivered within 10 business days, not including shipping time.
During the term of warranty, the cost of maintenance parts, labor costs for repairs and shipping costs within the service station's coverage area are covered by the warranty.

2 Replacement product rental service

If the customer desires, he or she can rent a replacement product while the original product is being repaired.
Fee: US$200 for 12 days
This fee must be paid at the local service station in cash or credit card.
The US$200 rental fee is non-refundable even if the customer rents it less than 12 days before returning.
The replacement product will be delivered within 3 business days.
If the customer did not return the replacement product within 12 days, the customer will be charged the price of the unit.
If the customer returned the replacement product in a faulty or damaged condition, the repair cost will be charged to the customer.
Note that this service is not offered in all countries and regions. Please refer to the "List of TravelCare Outlets".
In addition, this replacement product rental service is not offered after the product's warranty has expired.

Term of warranty

1

　a. *Upon presentation of the warranty or receipt received upon purchase:*

　　Valid for the term indicated on the warranty or the normal term of warranty for the country of purchase.

　b. *When only the product is brought in:*

　　Valid for a period of within 14 months of the date of manufacture indicated by the serial number attached to the product.

2　When a product whose term of warranty is expired is brought in:

　Repairs will be offered for a fee. In this case the customer is not eligible for the replacement product rental service.

3　In the following cases, repairs may be charged, even if the product's warranty is still in effect:

　1) *If the term of warranty, model name, serial number and name of the store of purchase are not indicated on the warranty or have been altered.*

　2) *Problems or damage caused by dropping or shocks during shipment or movement by the customer or by improper handling by the customers.*

　3) *Problems or damage caused by improper usage or unwarrantable alterations or repairs by the customer.*

　4) *Problems or damage caused by fire, salt damage, gas damage, earthquakes, lightning damage, storm or flood damage or other natural disasters or such external factors as dust, cigarette smoke, abnormal voltage, etc.*

　5) *Problems or damage caused by use in hot or humid places, in vehicles, boats or ships, etc.*

　6) *Problems or damage caused by expendable supplies or devices connected to the product other than those designated by NEC.*

　7) *Problems caused by natural consumption, wear or deterioration of parts under normal usage conditions.*

　8) *Problems or damage to lamps and other expendable supplies, included parts or optional parts.*

　9) *Other conditions stipulated in the warranty included with the product also apply.*

NOTE: The product can be used overseas with voltages indicated in the rating label on the product by using a power cable suited for the standards and power source voltage of the country in which the product is being used.

List of TravelCare Outlets

This list applies as of July 1, 2009.
For the most up-to-date information, please refer to the websites of the service stations in the various countries on the List of TravelCare Outlets or to the NEC website at http://www.nec-display.com/global/index.html

In Europe
NEC Europe Ltd. / European Technical Centre
Address:　　　　Unit G, Stafford Park 12, Telford TF3 3BJ, U.K.
Telephone:　　　+44 1952 237000
Fax Line:　　　　+44 1952 237006
Email Address:　AFR@uk.neceur.com
WEB Address:　　http://www.neceur.com

(Regions Covered)
EU:　Austria*, Belgium*, Bulgaria*, Czech Republic*, Cyprus*, Denmark*, Estonia*, Finland*, France*, Germany*, Greece*, Hungary*, Ireland*, Italy*, Latvia*, Lithuania*, Luxembourg*, Malta*, The Netherlands*, Poland*, Portugal*, Romania*, Slovakia*, Slovenia*, Spain*, Sweden* and the United Kingdom*
EEA:　Norway*, Iceland and Liechtenstein

In North America
NEC Display Solutions of America, Inc.
Address:　　　　500 Park Boulevard, Suite 1100 Itasca, Illinois 60143, U.S.A.
Telephone:　　　+1 800 836 0655
Fax Line:　　　　+1 800 356 2415
Email Address:　vsd.tech-support@necdisplay.com
WEB Address:　　http://www.necdisplay.com/

(Regions Covered)
U.S.A. *, Canada*

In Oceania
AWA Limited.
Address:　　　　151 Arthur Street
　　　　　　　　Homebush West NSW 2140 Australia
Customer Call Centre
Telephone:　　　0297647777
Fax Line:　　　　1300772688
Email Address:　commercialsupport@awa.com.au

For Travel Care service, while customer is in Australia, the customer will contact AWA on 1300366144, select Option 4. If you want to book warranty service by email customer goes to: commercialsupport@awa.com.au.

(Regions Covered)
Australia

NOTE: In countries designated with an asterisk(*), replacement product rental service are offered.

Visual Group Ltd.
    Address: 28 Walls Road Penrose Auckland New Zealand
    Telephone: 095250740
    Fax Line: 095809607
    Email Address: sarah.reed@visualgroup.co.nz

    (Regions Covered)
    New Zealand

In Asia and Middle East
NEC Display Solutions, Ltd.
    Address: 686-1, Nishioi, Oi-Machi, Ashigarakami-Gun,
                      Kanagawa 258-0017, Japan
    Telephone: +81 465 85 2369
    Fax Line: +81 465 85 2393
    Email Address: support_pjweb@gw.necds.nec.co.jp
    WEB Address: http://www.nec-pj.com

    (Regions Covered)
    Japan*

NEC Solutions (China) Co.,Ltd.
    Address: Rm 1903, Shining Building, 35 Xueyuan Rd,
                      Haidian District Beijing 100083, P.R.C.
    Telephone: +8610 82317788
    Fax Line: +8610 82331722
    Email Address: Lily@necsl.com.cn
                      Johnson_liu@necsl.com.cn
    WEB Address: http://www.necsl.com.cn

    (Regions Covered)
    China

NEC Hong Kong Ltd.
    Address: 25/F., The Metropolis Tower, 10 Metropolis
                      Drive, Hunghom, Kowloon, Hong Kong
    Telephone: +852 2369 0335
    Fax Line: +852 2795 6618
    Email Address: nechksc@nechk.nec.com.hk
                      esmond_au@nechk.nec.com.hk
    WEB Address: http://www.nec.com.hk

    (Regions Covered)
    Hong Kong

NEC Taiwan Ltd.
    Address: 7F, No.167, SEC.2, Nan King East Road,
                      Taipei, Taiwan, R.O.C.
    Telephone: +886 2 8500 1700
    Fax Line: +886 2 8500 1420
    Email Address: eric@nec.com.tw
    WEB Address: http://www.nec.com.tw

    (Regions Covered)
    Taiwan

NEC Asia Pte.Ltd.
    Address: 401 Commonwealth Drive, #07-02, Haw Par
                      Technocentre, Singapore 149598
    Telephone: +65 6 273 8333
    Fax Line: +65 6 274 2226
    Email Address: ncare@nec.com.sg
    WEB Address: http://www.nec.com.sg/home.php

    (Regions Covered)
    Singapore

NEC Corporation of Malaysia Sdn. Bhd.
    Address: 33rd Floor, Menara TA One, 22, Jalan P. Ram-
                      lee, 50250 Kuala Lumpur, Malaysia
    Telephone: +6 03 2178 3600 (ISDN)
    Fax Line: +6 03 2178 3789
    Email Address: necare@nsm.nec.co.jp
    WEB Address: http://www.necarecenter.com

    (Regions Covered)
    Malaysia

Hyosung ITX Co., Ltd.
    Address: 1st Fl., Ire B/D. #2, 4Ga, Yangpyeng-Dong,
                      Youngdeungpo-Gu, Seoul, Korea 150-967
    Telephone: +82 2 2163 4193
    Fax Line: +82 2 2163 4196
    Email Address: moneybear@hyosung.com

    (Regions Covered)
    South Korea

Lenso Communication Co., Ltd.
    Address: 292 Lenso House 4, 1st Floor, Srinakarin
                      Road, Huamark, Bangkapi, Bangkok 10240,
                      Thailand
    Telephone: +66 2 375 2425
    Fax Line: +66 2 375 2434
    Email Address: pattara@lenso.com
    WEB Address: http://www.lensocom.com/

    (Regions Covered)
    Thailand

e-flex L.L.C.
    Address: Al Suwaidi Road, Rashidiya 43500 Dubai
                      United Arab Emirates
    Telephone: +971 4 2861533
    Fax Line: +971 4 2861544
    Email Address: sc@eflex.ae

    (Regions Covered)
    United Arab Emirates

Samir Photographic Supplies
    Address: P.O.Box 599, Jeddah 21421, Saudi Arabia
    Telephone: +966 2 6828219
    Fax Line: +966 2 6830820
    Email Address: Mohamed.asif@samirgroup.com

    (Regions Covered)
    Saudi Arabia

NOTE: In countries designated with an asterisk(*), replacement product rental service are offered.

Date: /   /   ,   P-1/   ,

TO: NEC or NEC's Authorized Service Station:
FM:

_____

(Company & Name with signature)

Dear Sir (s),

I would like to apply your TravelCare Service Program based on attached registration and qualification sheet and agree with your following conditions, and also the Service fee will be charged to my credit card account, if I don't return the Loan units within the specified period. I also confirm following information is correct.   Regards.

Application Sheet for TravelCare Service Program

Country, product purchased :	
User's Company Name :	
User's Company Address : Phone No., Fax No. :	
User's Name :	
User's Address :	
Phone No., Fax No. :	
Local Contact office :	
Local Contact office Address :	
Phone No., Fax No. :	
User's Model Name :	
Date of Purchase :	
Serial No. on cabinet :	
Problem of units per User :	
Required Service :	(1) Repair and Return (2) Loan unit
Requested period of Loan unit :	
Payment method :	(1) Credit Card (2) Travelers Cheque (3) Cash
In Case of Credit Card : Card No. w/Valid Date :	

Condition of your TravelCare Service Program

Enduser is requested to understand following condition of TravelCare Service Program and complete the necessary information on the application sheet.

1. Service Options:

There are 3 types of "Service" available. Enduser has to understand following condition and is required to fill in the Application Sheet.

1) Repair and Return:

The 'Faulty unit' is sent or collected from the customer. It is repaired and returned within 10 days to the customer, excluding transport time.

There may have a case, repair and return can't be done by NEC Authorized Service Station, because of shortage of spare parts due to same model is not sold in the territory.

2) Repair and Return with Loan: (This service is limited to some Service Stations)

This service is offered to the Enduser, who cannot wait until their unit is repaired.

The customer can borrow a unit for $200 up to 12 days. Customer then sends in inoperable unit to nearest NEC Authorized Service Station for service. In order to prevent collection problem, Enduser is required to fill in Application Sheet.

Enduser needs to confirm the availability of the Service to NEC Authorized Service Stations.

3) Loan Only:

For this service, NEC Authorized Service Station supplies the customer with a loan unit for US$200 up to 12 days. Customer keeps the inoperable unit and when customer returns home, customer arranges to have the projector serviced in the home country.

2. Warranty Exclusions:

This program does not apply if the Projector's serial number has been defaced, modified or removed.

If, in the judgement of NEC Authorized Service Station or its agent the defects or failures result from any cause other than fair wear and tear or NEC neglect, or fault including the following without limitation:

1) Accidents, transportation, neglect, misuse, abuse, water, dust, smoke or default of or by the Customer its employees or agents or any third party;

2) Failure or fluctuation of electrical power, electrical circuitry, air conditioning, humidity control or other environmental conditions such as use it in smoking area;

3) Any fault in the attachments or associated products or components (whether or not supplied by NEC or its agents which do not form part of the Product covered by this warranty);

4) Any act of God, fire, flood, war, act of violence or any similar occurrence;

5) Any attempt by any person other than any person authorized by NEC to adjust, modify, repair, install or service the product.

6) Any Cross-border charges such as, duty, insurance, tax etc.

3. Charges for Warranty Exclusions and Out of Warranty Case:

In case faulty unit is under warranty exclusions case or under Out of Warranty period, NEC Authorized Service Station will Inform estimation of actual service cost to the Enduser with reason.

4. Dead on Arrival (DOA):

Enduser must take this issue up with their original supplier in the country of purchase.

NEC Authorized Service Station will repair the DOA unit as a Warranty repair, but will not exchange DOA unit with new units.

5. Loan Service Charges and Conditions:

Upon acceptance of this NEC Projector, Customer agrees to assume liability for this loan unit.

The current cost of use of this loan unit is $200.00 USD for 12 calendar days.

If Customer does not return the unit within the 12 calendar days, Customer will be charged the next highest cost up to and including the full list price to Credit Cards, which price will be informed by NEC Authorized Service Stations. Please see the attached listing of contacts for each country to arrange for pickup of the loan unit.

If you return to their country of origin with the loan unit, you will be charged additional freight to return the unit to the loaning country.

Thank you for your understanding of this program.

NEC

7N951381