SONY®

Data
Projector

Operating Instructions

Before operating the unit, please read this manual thoroughly and retain it for future reference.

VPL-EX293/EX253/EX233

Not all models are available in all countries and area. Please check with your local Sony Authorized Dealer.

HDMI

WARNING

To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.

To avoid electrical shock, do not open the cabinet. Refer servicing to qualified personnel only.

WARNING
THIS APPARATUS MUST BE EARTHED.

WARNING
When installing the unit, incorporate a readily accessible disconnect device in the fixed wiring, or connect the power plug to an easily accessible socket-outlet near the unit. If a fault should occur during operation of the unit, operate the disconnect device to switch the power supply off, or disconnect the power plug.

WARNING:
1 Use the approved Power Cord (3-core mains lead) / Appliance Connector / Plug with earthing-contacts that conforms to the safety regulations of each country if applicable.
2 Use the Power Cord (3-core mains lead) / Appliance Connector / Plug conforming to the proper ratings (Voltage, Ampere).

If you have questions on the use of the above Power Cord / Appliance Connector / Plug, please consult a qualified service personnel.

IMPORTANT
The nameplate is located on the bottom.

For the customers in Taiwan only

廢電池請回收

For the customers in the U.S.A.
SONY LIMITED WARRANTY - Please visit http://www.sony.com/psa/warranty for important information and complete terms and conditions of Sony's limited warranty applicable to this product.

For the customers in Canada
SONY LIMITED WARRANTY - Please visit http://www.sonybiz.ca/pro/lang/en/ca/article/resources-warranty-product-registration for important information and complete terms and conditions of Sony's limited warranty applicable to this product.

For the customers in Europe
Sony Professional Solutions Europe - Standard Warranty and Exceptions on Standard Warranty.
Please visit http://www.pro.sony.eu/warranty for important information and complete terms and conditions.

For the customers in Korea
SONY LIMITED WARRANTY - Please visit http://bpeng.sony.co.kr/handler/BPAS-Start for important information and complete terms and conditions of Sony's limited warranty applicable to this product.

Table of Contents

Presentation Function via Network

Playing Video using USB Connection

USB Media Viewer

Others

Precautions

On safety

- Check that the operating voltage of your unit is identical with the voltage of your local power supply. If voltage adaptation is required, consult with qualified Sony personnel.
- Should any liquid or solid object fall into the cabinet, unplug the unit and have it checked by qualified Sony personnel before operating it further.
- Unplug the unit from the wall outlet if it is not to be used for several days.
- To disconnect the cord, pull it out by the plug. Never pull the cord itself.
- The wall outlet should be near the unit and easily accessible.
- The unit is not disconnected from the AC power source (mains) as long as it is connected to the wall outlet, even if the unit itself has been turned off.
- Do not look into the lens while the lamp is on.
- Do not place your hand or objects near the ventilation holes — the air coming out is hot.
- Be careful not to catch your fingers by the front feet (adjustable) when you adjust the height of the unit. Do not push hard on the top of the unit with the front feet (adjustable) out.
- Avoid using an extension cord with a low voltage limited since it may cause the short-circuit and physical incidents.
- Do not catch your finger between the unit and surface of the floor when moving the projector installed on the floor.
- Do not move the projector when it is turned on and the cabinet cover is open.
- Do not install the unit in a location near heat sources such as radiators or air ducts, or in a place subject to direct sunlight, excessive dust or humidity, mechanical vibration or shock.
- Never mount the projector on the ceiling or move it by yourself. Be sure to consult with qualified Sony personnel (charged).

- If the ventilation holes are blocked, internal heat builds up, and it may cause a fire or damage the unit. To allow adequate air circulation and prevent internal heat build-up, follow the items below:
- Leave space around the unit (page 6).
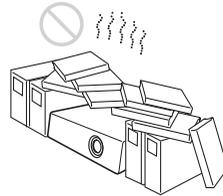
- Avoid using something to cover the ventilation holes (exhaust/intake).

- Do not place the unit on surfaces such as an original packing sheet, soft cloth, papers, rugs, or scraps of paper. The ventilation holes may take in such materials.
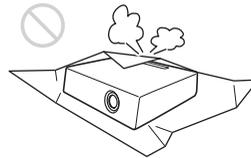
- Do not place any object just in front of the lens that may block the light during projection. Heat from the light may damage the object. Use the picture muting function to cut off the picture.
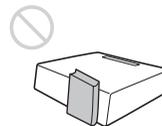
• Do not use the Security bar for the purpose of preventing theft for transporting or installing the unit. If you lift the unit by the Security bar or hang the unit by this bar, it may cause the unit to fall and be damaged, and may result in personal injury.
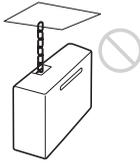
For dealers

• Be sure to secure the cabinet cover firmly when installing to the ceiling firmly.

Safety precautions for installing the unit on a ceiling

• Never mount the projector on the ceiling or move it by yourself. Be sure to consult the store where you purchased the projector or a dedicated installer.
• When installing the unit on a ceiling, be sure to use a safety wire, etc., to prevent the unit from falling. For the installation, be sure to consult the store where you purchased the projector or a dedicated installer.

On Installation

• When installing the unit, leave space between any walls, etc. and the unit as illustrated.

More than 30 cm
(11 ^{7}/8 inches)

More than 30 cm
(11 ^{7}/8 inches)

More than 30 cm
(11 ^{7}/8 inches)
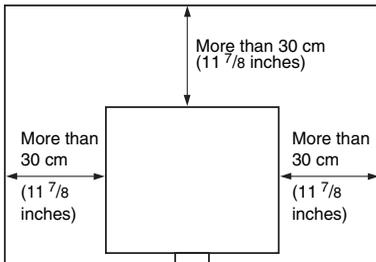
• Avoid using if the unit is tilted more than 15 degrees horizontally.

15°   15°

• Install the projector on the floor or ceiling. Any other installation causes a malfunction such as color irregularity or shortening lamp life.
• Avoid using the unit in a location where the temperature or humidity is very high, or temperature is very low.

• Avoid installing the unit in a location subject to direct cool or warm air from an air-conditioner. Installing in such a location may cause malfunction of the unit due to moisture condensation or rise in temperature.
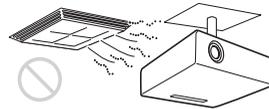
• Avoid installing the unit in a location near a heat or smoke sensor. Installing in such a location may cause malfunction of the sensor.
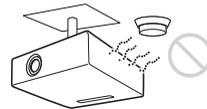
• Avoid installing the unit in a very dusty or extremely smoky environment. Otherwise, the air filter will become obstructed, and this may cause a malfunction of the unit or damage it.
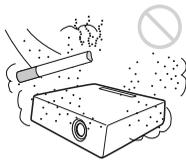
- When using the unit at an altitude of 1,500 m or higher, set "High Altitude Mode" to "On" in the Installation menu. Failing to set this mode when using the unit at high altitudes could have adverse effects, such as reducing the reliability of certain components.
- Set "Installation Attitude" on the Installation menu correctly to suit to the Installation angle. Continuing to use the wrong setting may affect component reliability.

On cleaning the lens and the cabinet

- Be sure to disconnect the AC power cord from the AC outlet before cleaning.
- If you rub on the unit with a stained cloth, the cabinet may be scratched.
- If the unit is exposed to volatile materials such as insecticide, or the unit is in contact with a rubber or vinyl resin product for a long period of time, the unit may deteriorate or the coating may come off.
- Do not touch the lens with bare hands.
- On cleaning the lens surface:
  Wipe the lens gently with a soft cloth, such as a glass cleaning cloth. Stubborn stains may be removed with a soft cloth lightly dampened with water. Never use solvent such as alcohol, benzene or thinner, or acid, alkaline or abrasive detergent, or a chemical cleaning cloth.
- On cleaning the cabinet:
  Clean the cabinet gently with a soft cloth. Stubborn stains may be removed with a soft cloth lightly dampened with mild detergent solution and wrung, followed by wiping with a soft dry cloth. Never use solvent such as alcohol, benzene or thinner, or acid, alkaline or abrasive detergent, or a chemical cleaning cloth.

On Illumination

To obtain the best picture, the front of the screen should not be exposed to direct lighting or sunlight.

On Screen

When using a screen with an uneven surface, stripes pattern may rarely appear on the screen depending on the distance between the screen and the unit or the zooming magnifications. This is not a malfunction of the unit.

On Fan

Since the projector is equipped with fans inside to prevent internal temperature from rising, there may be some noise. This is a normal result of the manufacturing process and does not indicate a malfunction. If, however, in a case of abnormal noise, consult with qualified Sony personnel.

On Lamp

The lamp used as a light source contains mercury that has high internal pressure. A high-pressure mercury lamp has the following characteristics:
- Brightness of the lamp will be lowered as the elapse of time used.
- The lamp may break with a loud noise as a result of shock, damage, or deterioration caused by the elapse of time. The lamp may become unlit and may burn out.
- The lamp life varies with individual differences or usage conditions of each lamp. Therefore, it may break or will not light even before the specified replacement time.
- It may possibly break after the replacement time has elapsed. Replace the lamp with a new one as soon as possible if a message displayed on the projected image, even if the lamp normally lights.

For carrying

This unit is precision equipment. When carrying the unit, do not subject the unit to shocks, or fall. It may damage the unit.

On LCD Projector

The LCD projector is manufactured using high-precision technology. You may, however, see tiny black points and/or bright points (red, blue, or green) that continuously appear on the LCD projector. This is a normal result of the manufacturing process and does not indicate a malfunction.
Also, when you use multiple LCD projectors to project onto a screen, even if they are of the same model, the color reproduction among projectors may vary, since color balance may be set differently from one projector to the next.

On Condensation

If the room temperature where the projector is installed changes rapidly, or if the projector is moved suddenly from a cold to a warm place, condensation in the projector may occur. As the condensation may cause malfunction, be careful in adjusting temperature settings of the air conditioner. If condensation occurs, leave the projector turned on for about two hours before use.

Notes on security

- SONY WILL NOT BE LIABLE FOR DAMAGES OF ANY KIND RESULTING FROM A FAILURE TO IMPLEMENT PROPER SECURITY MEASURES ON TRANSMISSION DEVICES, UNAVOIDABLE DATA LEAKS RESULTING FROM TRANSMISSION SPECIFICATIONS, OR SECURITY PROBLEMS OF ANY KIND.
- Depending on the operating environment, unauthorized third parties on the network may be able to access the unit. When connecting the unit to the network, be sure to confirm that the network is protected securely.
- Communication content may be unknowingly intercepted by unauthorized third parties in the vicinity of the signals. When using wireless LAN communication, implement security measures properly to protect the communication content.
- From a safety standpoint, when using the unit connected with the network, it is strongly recommended to access the Control window via a Web browser and change the access limitation settings from the factory preset values (refer to "Using Network Features" (page 36)). Changing the password regularly is also recommended.
- Do not browse any other website in the Web browser while making settings or after making settings. Since the login status remains in the Web browser, close the Web browser when you complete the settings to prevent unauthorized third parties from using the unit or harmful programs from running.

Notes
- Always verify that the unit is operating properly before use. SONY WILL NOT BE LIABLE FOR DAMAGES OF ANY KIND INCLUDING, BUT NOT LIMITED TO, COMPENSATION OR REIMBURSEMENT ON ACCOUNT OF THE LOSS OF PRESENT OR PROSPECTIVE PROFITS DUE TO FAILURE OF THIS UNIT, EITHER DURING THE WARRANTY PERIOD OR AFTER EXPIRATION OF THE WARRANTY, OR FOR ANY OTHER REASON WHATSOEVER.
- SONY WILL NOT BE LIABLE FOR CLAIMS OF ANY KIND MADE BY USERS OF THIS UNIT OR MADE BY THIRD PARTIES.
- SONY WILL NOT BE LIABLE FOR THE TERMINATION OR DISCONTINUATION OF ANY SERVICES RELATED TO THIS UNIT THAT MAY RESULT DUE TO CIRCUMSTANCES OF ANY KIND.

Checking the Supplied Accessories

RM-PJ8 Remote Commander (1)
Lithium battery (CR2025) (1)
  The battery is already installed. Before using the remote commander, remove the insulation film.
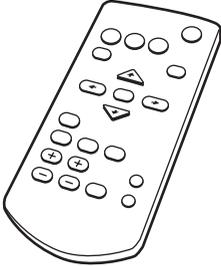
AC power cord (1)
Mini D-sub 15 pin cable (1.8 m) (1)
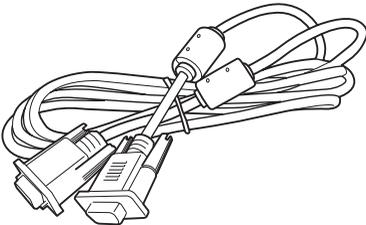
Operating Instructions (this manual) (1)
Projector Station for Network Presentation application (CD-ROM) (1)

Installing Projector Station for Network Presentation

1 Close all running applications.

2 Insert the supplied CD-ROM into the CD-ROM drive of the computer.

3 Open the CD-ROM and double-click the .exe file.
  When the message "User Account Control" is displayed, click "Allow" or "Yes."

4 Follow the on-screen instructions to install the software.

Installing Batteries

1 Pull out the lithium battery compartment.
  Pull out the battery compartment with a stick as shown in the illustration.
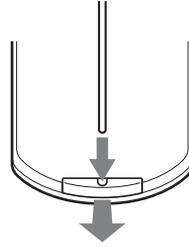
2 Insert a lithium battery.

With the ⊕ (plus) side facing up.
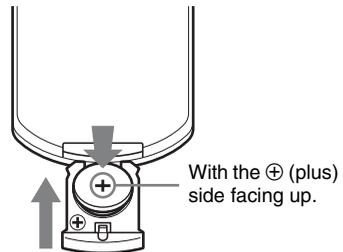
3 Close the lithium battery compartment.

CAUTION
Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type recommended by the manufacturer.
When you dispose of the battery, you must obey the law in the relative area or country.

Installing batteries
One lithium battery (CR2025) is supplied for the RM-PJ8 Remote Commander. To avoid risk of explosion, use a lithium battery (CR2025).

Selecting the Menu Language

The factory setting for the language for displaying menus, messages, etc. is English.
To change the on-screen language, proceed as follows:

3

MENU

2

I / ⏻

1
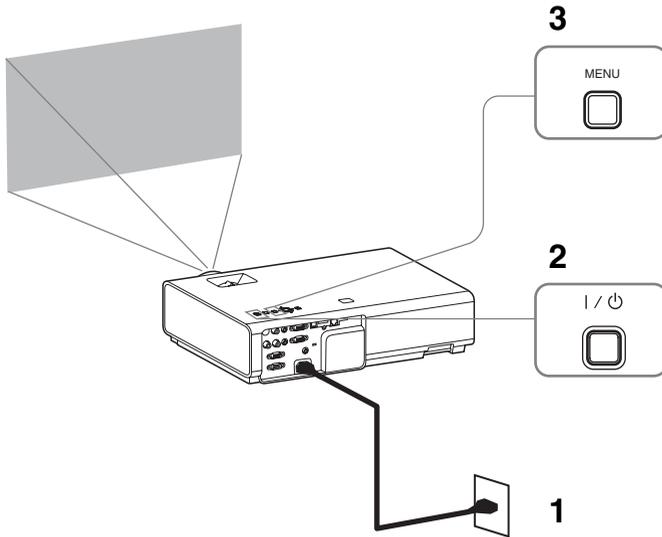
1 Plug in the AC power cord into a wall outlet.

2 Turn on the projector.
Press the **I/⏻** key.

3 Press the MENU key to display the menu.
If the display cannot be properly seen, adjust the focus, size, and position of the projected image [page 21].

4 Select the menu language.
① Press the ▲ or ▼ key to select the Operation (🔲) menu then press the ENTER key.
② Press the ▲ or ▼ key to select "Language (🅰)" then press the ENTER key.

```
Operation
  👤     🅰Language        English
  ⊞      Status           On
  📇     Security Lock     Off
  🔲     Control Key Lock  Off
  🔌
  ⏬
  ℹ

 ◆◆ Sel   ENTER Set            RETURN Back
```

③ Press the ▲/▼/◄/► key to select a language, then press the ENTER key.

5 Press the MENU key to turn off the menu screen.

Location and Function of Controls

Main Unit
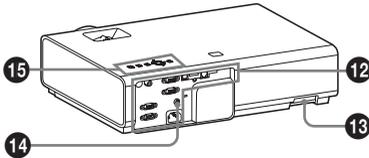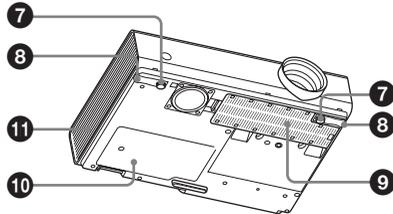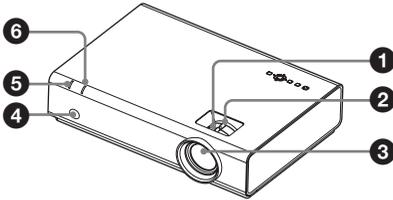
❶ **Focus ring (page 21)**

❷ **Zoom ring (page 21)**

❸ **Lens**

❹ **Remote Control Receiver**

❺ **ON/STANDBY indicator
(page 56)**

❻ **LAMP/COVER indicator
(page 56)**

❼ **Front feet (adjustable) (page 22)**

❽ **Foot adjust button (page 22)**

❾ **Air filter cover/Ventilation holes
(intake) (page 62)**

❿ **Lamp cover (page 60)**

⓫ **Ventilation holes (exhaust)**

Caution

Do not place anything near the ventilation
holes as this may cause internal heat
buildup. Do not place your hand near the
ventilation holes and the circumference as
this may cause injury.

⓬ **Terminals (page 12)**

⓭ **Security bar**

Connects to a commercially available
security chain or wire.

⓮ **Security lock**

Connects to an optional security cable
manufactured by Kensington.
For details, visit Kensington's web site.
http://www.kensington.com/

⓯ **Control panel keys (page 13)**

Overview
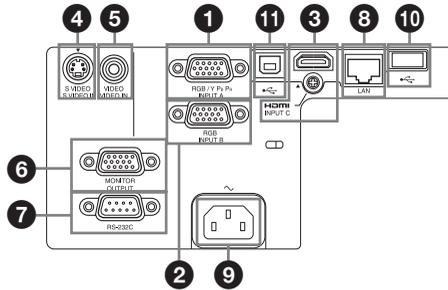
Terminals

Input (pages 15, 17)

1 INPUT A

Video: RGB/YP$_B$P$_R$ input terminal (RGB/YP$_B$P$_R$)

2 INPUT B

Video: RGB input terminal (RGB)

3 INPUT C

Video: HDMI input terminal (HDMI)

4 S VIDEO (S VIDEO IN)

Video: S video input terminal (S VIDEO IN)

5 VIDEO (VIDEO IN)

Video: Video input terminal (VIDEO)

Output (page 19)

6 OUTPUT

Video: Monitor output terminal (MONITOR)

Note

This terminal outputs the projected image only when INPUT A or INPUT B is used.

Others

7 RS-232C terminal (RS-232C)

RS-232C compatible control terminal. Connects the computer's RS-232C terminal and the RS-232C cross cables.

8 LAN terminal (page 36)

Caution

For safety, do not connect the terminal for peripheral device wiring that might have excessive voltage to this port. Follow the instructions for this port.

9 AC IN (∼) socket

Connects the supplied AC power cord.

10 USB terminal (Type A) (•⇌) (pages 19, 52)

11 USB terminal (Type B) (•⇌) (page 50)

Remote Commander and Control Panel Keys

Remote Commander
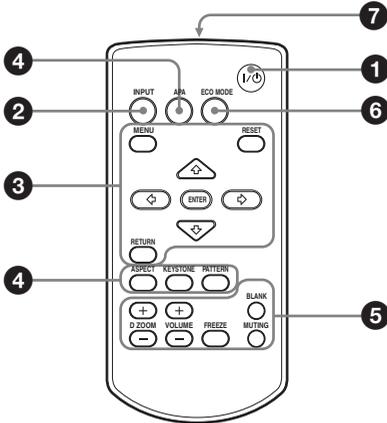
Control Panel Keys
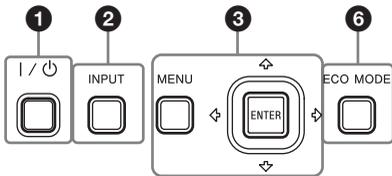
a **Turning on the power/Going to standby mode**
I/$\circlearrowleft$ **(On/Standby) key**

b **Selecting an input signal (page 20)**
INPUT key

c **Operating a menu (page 25)**
MENU key
RESET key
ENTER /♦/♦/♦/♦ (arrow) keys
RETURN key

d **Adjusting the image (page 21)**
ASPECT key (page 27)
KEYSTONE key (page 23)
PATTERN key (page 23)
**APA (Auto Pixel Alignment) key*
(page 23)**

Note

* Use this key when inputting a computer signal via the RGB input terminal (INPUT A or INPUT B).

e **Using various functions during projecting**

D ZOOM (Digital Zoom) +/– key*1
Enlarges a portion of the image while projecting.
1 Press the D ZOOM + key to display the digital zoom icon on the projected image.
2 Press the ♦/♦/♦/♦ keys to move the digital zoom icon to the point on the image you want to enlarge.
3 Press the D ZOOM + key or the D ZOOM – key repeatedly to change the enlargement ratio. The image can be enlarged up to 4 times.
Press the RESET key to restore the previous image.

BLANK key
Cuts off the projected image temporarily. Press again to restore the previous image. Picture muting helps reduce power consumption.

FREEZE key*2
Pauses a projected image. Press again to restore the image.

Notes

*1: Use this key when inputting a computer signal. But it may not be used depending on the resolution of the input signal.
*2: Use this key when inputting a computer signal.You cannot use this key when "Type A USB", "Type B USB" or "Network" is selected as the input.

Location and Function of Controls 13

❻ Setting the energy–saving mode easily

ECO MODE key

Energy-saving mode can be set easily. Energy-saving mode consists of "Lamp Mode," "With No Input," "With Static Signal" and "Standby Mode."

1 Press the ECO MODE key to display the ECO Mode menu.

```
ECO Mode

  ECO
  User                              ▶

  ○○:Sel                  RETURN:Back
```
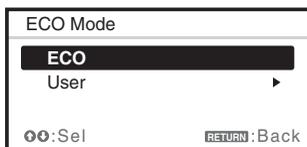
2 Press the ▲/▼ key or ECO MODE key to select "ECO" or "User" mode.

ECO: Sets each mode to the optimum energy-saving value.
Lamp Mode: Low
With No Input: Standby
With Static Signal: Lamp Dimming
Standby Mode: Low

User: Sets each item of the ECO Mode menu as you desire (go to step **3**).

3 Select "User" then press the ➡ key. The setting items appear.

```
User

  Lamp Mode             High
  Constant Brightness   ON
  Auto Power Saving
    With No Input         Off
    With Static Signal    Lamp Dimming
  Standby Mode          Standard
  ○○:Sel   ENTER:Set         RETURN:Back
```
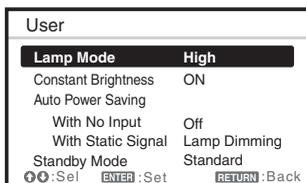
4 Press the ▲/▼ key to select the item then press the ENTER key.

5 Press the ▲/▼ key to select the setting value.

6 Press the ENTER key.
The screen returns to the User screen.

For details on ECO Mode settings, see "Lamp Mode," "With No Input," "With Static Signal" and "Standby Mode" on the Connection/Power menu (page 32).

Note

If you set "ECO Mode" to "ECO," or "Standby Mode"(in "User") to "Low," the network control function will be disabled in standby mode. If the external control is being performed by using the network or network control function, do not select "ECO," or do not set "Standby Mode" (in "User") to "Low."

Others

❼ Infrared transmitter

About remote commander operation

- Direct the remote commander toward the remote control detector.
- The shorter the distance between the remote commander and the projector is, the wider the angle within which the remote commander can control the projector becomes.
- Make sure that nothing obstructs the infrared beam between the remote commander and the remote control detector on the projector.

Connecting the Projector

Notes
- Make sure all the equipment is powered off when connecting the projector.
- Use the proper cables for each connection.
- Insert the cable plugs firmly; Loose connections may reduce performance of picture signals or cause a malfunction. When pulling out a cable, be sure to grip it by the plug, not the cable itself.
- For more information, refer also to the instruction manuals of the equipment you are connecting.

Connecting a Computer

Connection with a computer is explained for each input signal.

INPUT A/INPUT B

For connecting a computer with an RGB output terminal.

Mini D-sub 15-pin cable (supplied)

RGB output terminal

Computer

RGB / Y PB PR
INPUT A
RGB
INPUT B
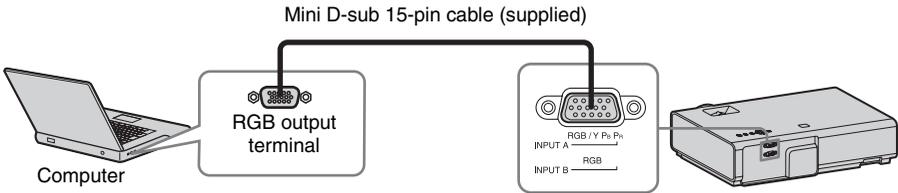
Note
It is recommended that you set the resolution of your computer to 1024 × 768 pixels for the external monitor.

INPUT C

For connecting a computer with an HDMI output terminal.
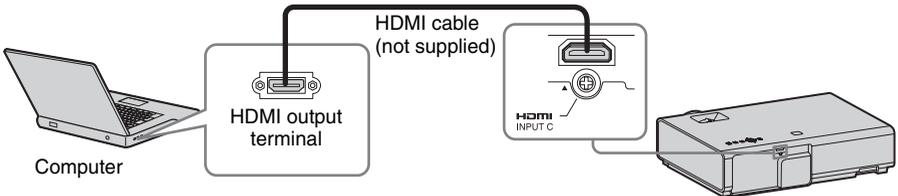
HDMI cable (not supplied)

HDMI output terminal

HƏMI
INPUT C

Computer

Notes
- Use HDMI-compatible equipment which has the HDMI Logo.
- Use a high speed HDMI cable(s) on which the cable type logo is specified. (Sony products are recommended.)
- The HDMI terminal of this projector is not compatible with DSD (Direct Stream Digital) Signal or CEC (Consumer Electronics Control) Signal.

USB terminal (Type B) (•⟜)

For connecting to a computer with a USB terminal ("Playing Video using USB Connection" (page 50)).
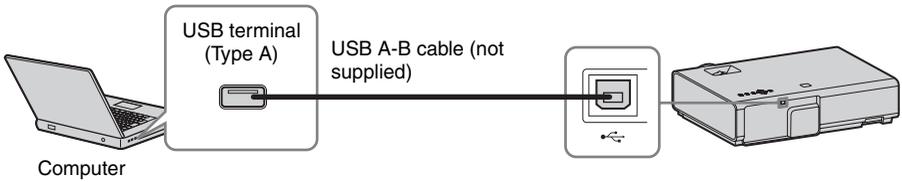
Computer

LAN terminal

For connecting to a computer, tablet PC, or smartphone via a hub or router ("Presentation Function via Network" (page 46)).
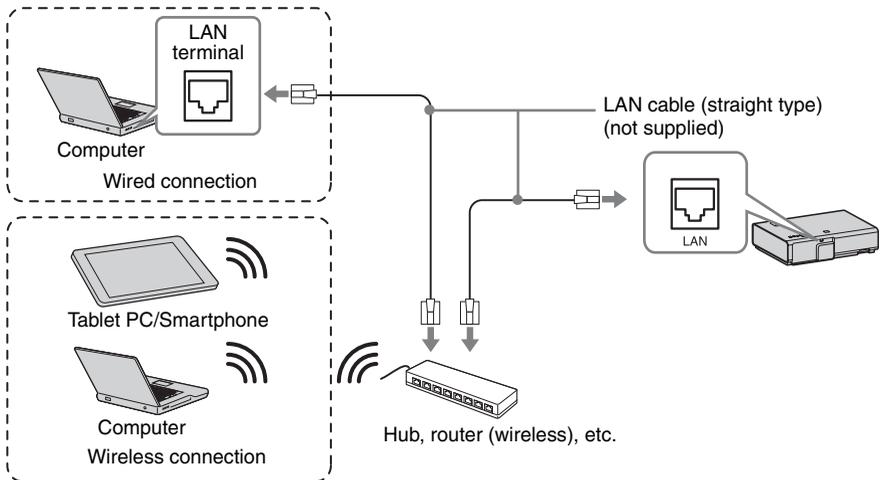
USB terminal (Type A) (•⟵⟶)

For connecting a USB wireless LAN module IFU-WLM3 (not supplied) ("Presentation Function via Network" (page 46)).
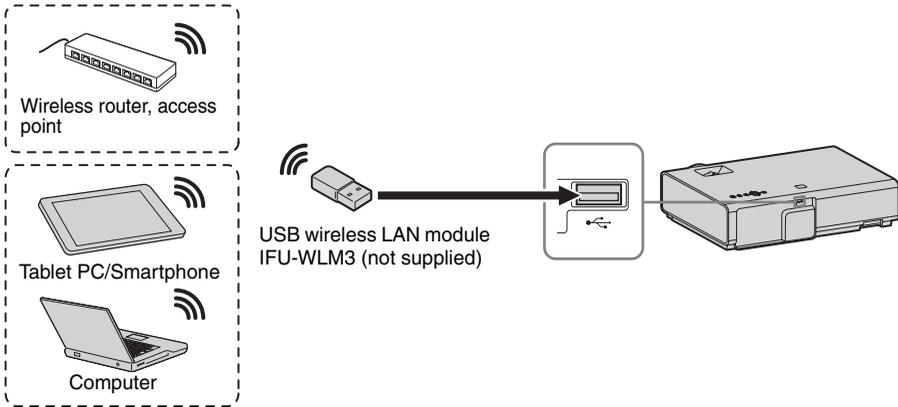
Notes

- Undesignated USB wireless LAN modules do not work.
- When connecting/disconnecting the USB wireless LAN module, make sure that the projector is in Standby mode (Standby Mode: "Low"), or the AC power cord is unplugged from the wall outlet.
- When wirelessly connecting a tablet PC/smartphone to the projector via USB wireless LAN Module IFU-WLM3 (not supplied), set "WLAN Network" to "Access Pt. (Manual)" in the projector's "WLAN Settings" (page 32).
- For connecting to the access point, access to the Web browser, and input the settings for the access point to connect. For details, see "Setting the WLAN Network of the projector" (page 40).

Connecting a Video equipment

Connections with a VHS video deck, DVD player, or BD player are explained for each input signal.

S VIDEO IN

For connecting video equipment with an S-video output terminal.
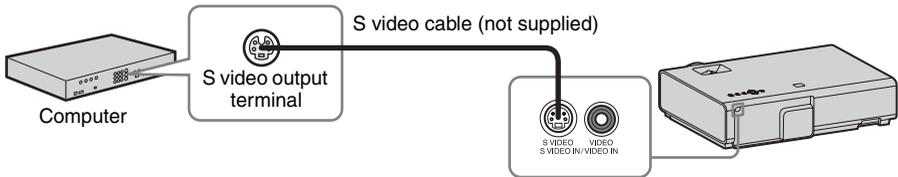
VIDEO IN

For connecting video equipment with a video output terminal.

Video cable (not supplied)

Video output terminal

Video equipment

S VIDEO
S VIDEO IN / VIDEO IN   VIDEO IN
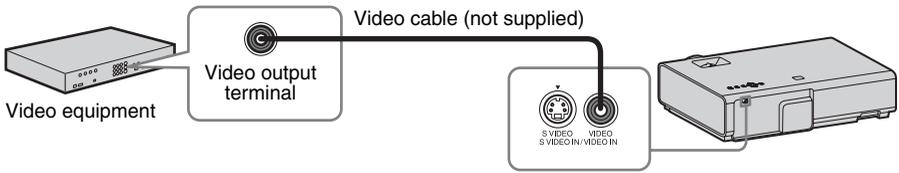
INPUT A

For connecting video equipment with a YPBPR output terminal.

Component – Mini D-sub 15-pin cable (not supplied)

YPBPR output terminal

Video equipment

RGB / Y PB PR
INPUT A
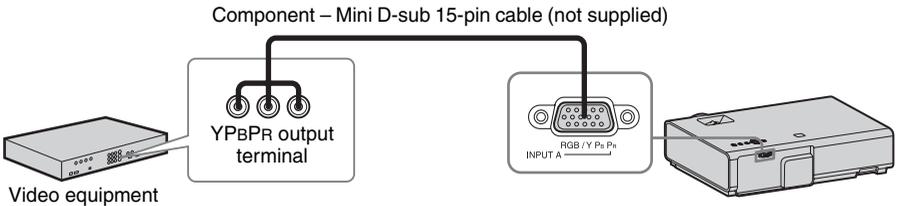
INPUT C

For connecting video equipment with an HDMI output terminal.
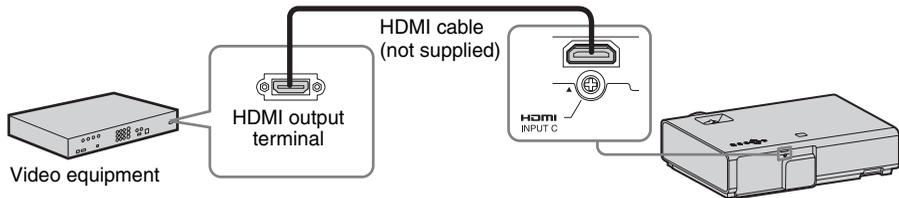
HDMI cable (not supplied)

HDMI output terminal

Video equipment

HDMI
INPUT C

Notes

• Use HDMI-compatible equipment which has the HDMI Logo.
• Use a high speed HDMI cable(s) on which the cable type logo is specified. (Sony products are recommended.)
• The HDMI terminal of this projector is not compatible with DSD (Direct Stream Digital) Signal or CEC (Consumer Electronics Control) Signal.

Connecting a USB memory device

USB terminal (Type A) (•⟨←)

For connecting a USB memory device ("Using USB Media Viewer" (page 52)).

USB memory device
(not supplied)
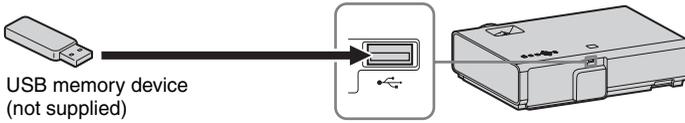
Connecting an External Monitor Equipment

OUTPUT

Projected images can be output to display equipment such as a monitor equipment.

MONITOR
OUTPUT

Display equipment

RGB input
terminal

Mini D-sub 15-pin cable
(supplied)
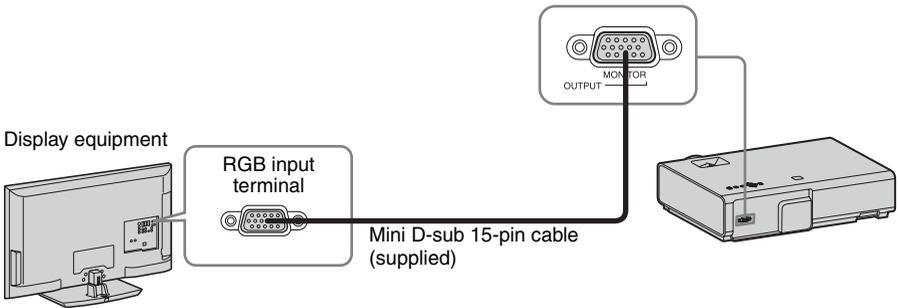
Note

Projected images can be output.

Projecting an Image

The size of a projected image depends on the distance between the projector and screen. Install the projector so that the projected image fits the screen size. For details on projection distances and projected image sizes, see "Projection Distance" (page 68).

Input
○ Video
✪ S-Video
▦ Input-A
▦ Input-B
▦ Input-C
▣ Type B USB
↴ Network
▭ Type A USB
◐◑ 📺 Sel

3   **5**

| / ⏻   INPUT

4

2

Video equipment

Projector

1   Wall outlet   **6**

Computer
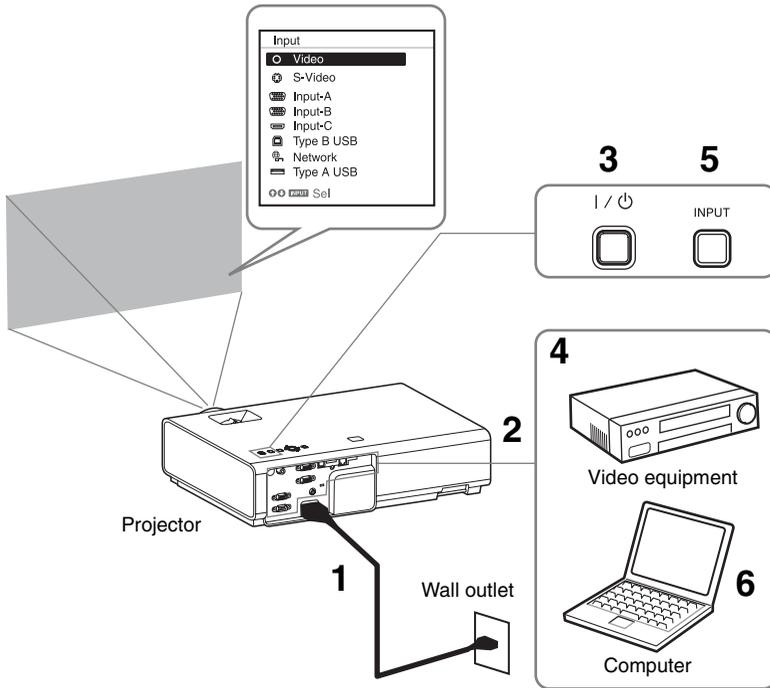
1 Plug the AC power cord into the wall outlet.

2 Connect all equipment to the projector (page 15).

3 Press the **I/**⏻ key to turn on the unit.

4 Turn on the connected equipment.

5 Select the input source.
Press the INPUT key on the projector to display the menu for switching input signal on the screen. Press the INPUT key repeatedly, or press the ▲/▼ key to select an image to be projected.

6 When projecting a computer image, switch your computer's output to external display.
The method to switch the output varies depending on the type of computer.

(Example)

Fn + F7

To project image files stored in a USB memory device, see "USB Media Viewer" (page 52). To play video using USB Connection, see "Playing Video using USB Connection" (page 50). To use Presentation Function via Network, see "Presentation Function via Network" (page 46).

7 Adjust the focus, size and position of the projected image (page 21).

Adjusting the Projected image

Focus	Size (Zoom)	Position
Focus ring	Zoom ring	Foot adjust button Front feet (adjustable)

Adjusting the tilt of the projector with the front feet (adjustable)

By changing the tilt of the projector with the foot adjust buttons/front feet (adjustable), you can adjust the position of the projected image.

How to adjust the angle

1 Press and hold the foot adjust buttons.

2 Lift up the front of the projector to adjust the angle.

3 Release the foot adjust buttons.

4 Turn the front feet (adjustable) to set the angle of the projector precisely.
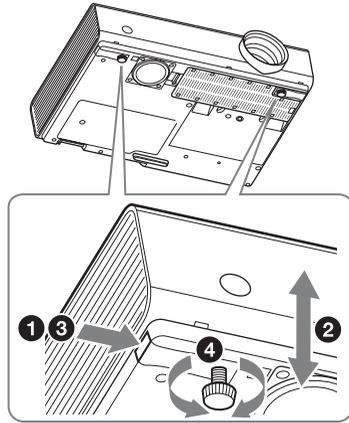
Notes

- Be careful not to let the projector down on your fingers.
- Do not push hard on the top of the projector with the front feet (adjustable) extended.

Changing the aspect ratio of the projected image

Press the ASPECT key on the remote commander to change the aspect ratio of the projected image. You can also change the setting in Aspect of the Screen menu (pages 27).

Correcting trapezoidal distortion of the projected image (Keystone feature)

Normally the Keystone feature automatically adjusts the projected image. The Keystone feature may not work automatically if the screen is tilted. In this case, set Keystone manually.

1 Press the KEYSTONE key on the remote commander or select V Keystone in the Installation menu.

2 Use the ↑/↓/←/→ keys to set the value. The higher the value, narrower the top of the projected image. The lower the value, the narrower the bottom.

Note

Since the Keystone adjustment is an electronic correction, the image may be deteriorated.

Increase the number towards plus

Increase the number towards minus
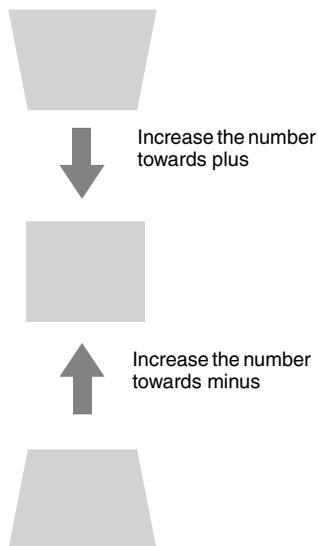
Displaying a pattern

You can display a pattern for adjusting the projected image or a grid pattern with the PATTERN key on the remote commander. Press the PATTERN key again to restore the previous image. You can use a grid pattern as a guide to write text or to draw lines and shapes on the whiteboard or blackboard without using a computer.

Note

You cannot use this key when "Type A USB", "Type B USB" or "Network" is selected as the input.

Automatically adjusts Phase, Pitch and Shift of projected image while a signal is input from a computer (APA (Auto Pixel Alignment))

Press the APA key on the remote commander. Press again to cancel adjusting during the setting. You can also set APA in the Screen Menu (page 27). If Smart APA in the Function menu is set to "On", executes APA automatically when a signal is input (page 30).

Turning Off the Power

1 Press the **I/**(¹) key on the unit or the remote commander.

The projector starts shutdown and turns off. If you press the **I/**(¹) key within 10 seconds again, shutdown is cancelled.

2 Unplug the AC power cord from the wall outlet.

To turn off without displaying confirmation message

Press and hold the **I/**(¹) key on the unit for a few seconds (page 57).

ECO gauge

This gauge indicates the current effectiveness of the projector's ECO function. (For details on the ECO function, see "ECO MODE key" (page 14) and "ECO" (page 32).)
The leaf icons are displayed when the projector is shut down. The number of displayed icons varies according to how much energy is saved as a result of using the ECO function.

ECO gauge
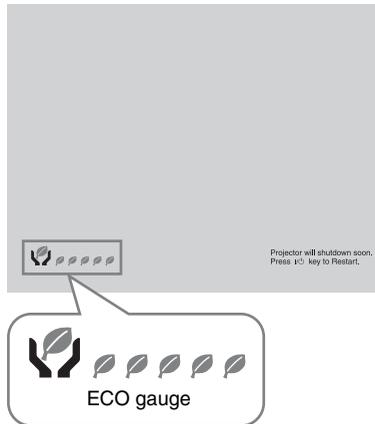
Using a MENU

Note

The menu displays used for the explanation below may be different depending on the model you are using.

1 Press the MENU key to display the menu.

2 Select the setting menu.
Use the ▲/▼ key to select the setting menu then press the ➡ key or ENTER key.

Setting menu

```
Picture
    Picture Mode      Standard
    Reset
    Contrast          80  ━━━━━━━
    Brightness        50  ━━━━━━━
    Color             50  ━━━━━━━
    Hue               50  ━━━━━━━
    Color Temp.       Low
    Sharpness         5   ━━━━━━━
    Expert Setting                ▶

◯◯:Sel ENTER:Set              RETURN:Back
```
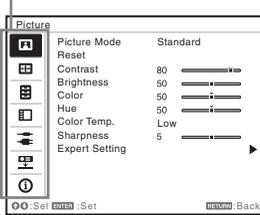
3 Select the setting item.
Use the ▲/▼ key to select the setting menu then press the ➡ key or ENTER key.
To return to the selection screen of the setting menu, press the ◀ or RETURN key.

Setting items

```
Picture
    Picture Mode      Standard
    Reset
    Contrast          80  ━━━━━━━
    Brightness        50  ━━━━━━━
    Color             50  ━━━━━━━
    Hue               50  ━━━━━━━
    Color Temp.       Low
    Sharpness         5   ━━━━━━━
    Expert Setting                ▶

◯◯:Sel ENTER:Set              RETURN:Back
```
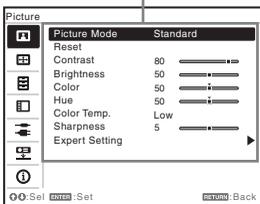
4 Make the setting or adjustment for the selected item.
The setting method varies, depending on the setting item.
If the next menu window is displayed, select the item according to the

operations in step **3** and then press the ENTER key to register the setting.
To return to the selection screen of the setting items, press the ◀ or RETURN key. You can press the RESET key to reset an item to its factory setting value to aid setting.

Using a pop-up menu
Press the ▲/▼/◀/➡ key to select an item.
A selected item takes effect immediately, except "Language", which will take effect after you press the ENTER key.

```
Picture Mode
    Dynamic
    Standard
    Presentation
    Blackboard
    Whiteboard
    Cinema

◯◯:Sel   RETURN:Back
```
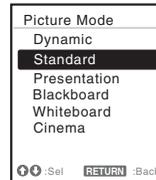
Using the setting menu
Press the ▲/▼ key to select the item.
Press the ENTER key to register the setting and return to the previous screen.
Using the adjustment menu
To increase the value, press the ▲/➡ key and to decrease the number, press the ▼/◀ key. Press the ENTER key to register the setting and return to the previous screen.

```
Contrast
        Min            Max
    80  ━━━━━━━━━━━━━━━━━━
◯◯ Adjust        RETURN Back
```

5 Press the MENU key to clear the menu.
The menu disappears automatically if no operation is performed.

🖼 The Picture Menu

The Picture is used to adjust the picture for each input signal.

Items	Item descriptions
Picture Mode	**Dynamic:** Emphasizes the contrast to produce a dynamic and vivid picture. **Standard:** Provides an image which is natural and well balanced. **Presentation:** Provides a bright image, suitable for presentations. **Blackboard:** Provides an image suitable for displaying on a blackboard. **Whiteboard:** Provides an image suitable for displaying on a whiteboard. **Cinema:** Provides an image suitable for viewing movies.
Reset[*1]	Resets the factory setting.
Contrast	The higher the value, the greater the contrast. The lower the value, the lower the contrast.
Brightness	The higher the value, the brighter the picture. The lower the value, the darker the picture.
Color[*2 *3]	The higher the value, the greater the intensity. The lower the value, the lower the intensity.
Hue[*2 *3 *4]	The higher the value, the more greenish the picture becomes. The lower the value, the more reddish the picture becomes.
Color Temp.[*5]	**High/Middle/Low:** The higher the value, the more bluish the picture. The lower the value, the more reddish the picture.
Sharpness[*6]	The higher the value, the sharper the picture. The lower the value, the softer the picture.
Expert Setting	
Gamma Mode[*7]	**Graphics1:** Gamma correction to make halftones brighter. This setting is suitable when projecting highly colorful images, such as photos, in a bright place. **Graphics2:** Gamma correction to improve the reproduction of halftones. Highly colorful images, such as photos, can be reproduced in natural tones. **Graphics3:** Selects gamma correction to emphasize bright parts. Projects images explicitly.

Notes

*1: The settings in the Picture return to their factory defaults, except for Picture Mode.
*2: When a video signal is input, this option is available.
*3: When the signal without color burst signal is input after selecting "Video" or "S-Video", this option is unavailable.
*4: When an analog TV signal is input, this option may not available, depending on the color system.
*5: When "Picture Mode" is set to the item other than "Presentation" or "Blackboard," this option is available.
*6: Not available if "Input" is set to "Type A USB."
*7: When "Picture Mode" is set to "Blackboard," this option is unavailable.

⊞ The Screen Menu

The Screen menu is used to adjust the size, position and aspect ratio of the projected image for each input signal.

Items		Item descriptions
Aspect[*1]		Changes the aspect ratio of the projected image.
	When the computer signal is input	**4:3:** Displays the image to fit the maximum projected image size with an aspect ratio fixed to 4:3. **16:9:** Displays the image to fit the maximum projected image size with an aspect ratio fixed to 16:9. **Full 1:** Displays the image to fit the maximum projected image size without changing the aspect ratio of the input signal. **Normal:** Displays the image on the center position of the projected screen without changing the resolution of the input signal or enlarging the image.
	When the video signal is input	**4:3:** Displays the image to fit the maximum projected image size with an aspect ratio fixed to 4:3. **16:9:** Displays the image to fit the maximum projected image size with an aspect ratio fixed to 16:9. **Zoom:** Zooms the center area of a projected image.
Adjust Signal		Adjusts the image of computer signal. Use this item if the edge of the image is cut and reception is bad.
	APA[*2] [*3]	Automatically adjusts the projected image to an optimum quality when you press the ENTER key (page 13).
	Phase[*2]	Adjusts the dot phase of the display pixel and the input signal. Set to the value where looks clearest.
	Pitch[*2] [*5]	The higher the value, the wider the horizontal image elements (pitch). The lower the value, the narrower the horizontal image elements (pitch).
	Shift[*4]	**H (Horizontal):** The higher the value, the farther right the image is projected on the screen. The lower the value, the image farther left. **V (Vertical):** The higher the value, the farther up the image is projected on the screen. The lower the value, the image farther down.

Notes

*1: • Note that if the projector is used for profit or for public viewing, modifying the original picture by switching to the aspect mode may constitute an infringement of the rights of authors or producers, which are legally protected.
 • Depending on the input signal, setting items for aspect ratio or some other setting items cannot be set in some cases, or changing the aspect ratio setting may have no effect.
 • A part of the image may be displayed in black, depending on the setting item.
*2: Available when a computer signal is input from the RGB input terminal (INPUT A/INPUT B).
*3: If the projected image includes large amount of black portion around it, the APA function will not work properly and a part of the image may not be displayed on the screen and also optimum image cannot be obtained, depending on the type of input signal. In this case, adjust the "Phase," "Pitch," and "Shift" items manually.

Adjustments and Settings Using a Menu

*4: Available when a computer or a video signal is input from the RGB/YPʙPʀ input terminal (INPUT A).

*5: When "APA" (page 27) or "Smart APA" (page 30) is performed, the adjusted value for "Pitch" will return to its factory default. If you want to continue using the adjusted value, set "Smart APA" to "Off."

Input signal	Recommended setting value and projected image
Computer signal	
4:3	Full1[*1]
16:9	Full1[*1] [*2]
16:10	Full1[*1] [*2]
Video signal	
4:3	4:3[*3]
16:9	16:9[*4]
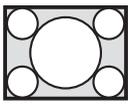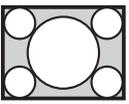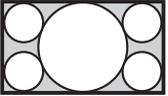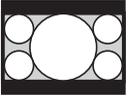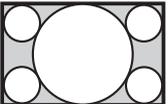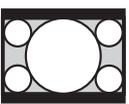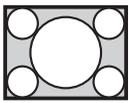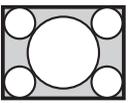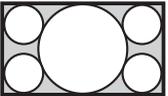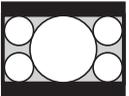
*1: If you select "Normal," the image is projected in the same resolution as the input signal without changing the aspect ratio of the original image.

*2: If you select "4:3," the image is projected to fit the projected image size, regardless of the aspect ratio of the image.

*3: Depending on the input signal, the projected image may be projected as illustrated below. In this a case, select "16:9."
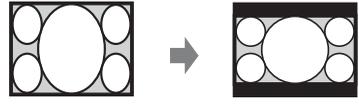
*4: Depending on the input signal, the projected image may be projected as illustrated below. In this a case, select "Zoom."

⊞ The Function Menu

The Function menu is used for setting various functions of the projector.

Items	Item descriptions
Smart APA	**On/Off:** When set to "On," APA functions automatically when a signal is input.[*1]
CC Display	**CC1/CC2/CC3/CC4/Text1/Text2/Text3/Text4:** Select the closed caption service (captions or text). **Off:** Closed caption does not appear.
Lamp Timer Reset	When replacing the lamp, resets the lamp timer (page 60).
Start Up Image	**On/Off:** When set to "On," the Start Up Image is displayed on the screen when the projector is powered on.

Notes

*1: APA functions when a computer signal is input via the RGB input terminal (INPUT A/INPUT B).

🗔 The Operation Menu

The Operation menu is used for setting for the operations by using the menu or the remote commander.

Items	Item descriptions
Language	Selects the language used in the menu and messages.
Status	**On:** All on-screen statuses are enabled. **Off:** Turns off the on-screen displays, except for menus, warning messages and messages from the message list.

Security Lock[*1]	**On/Off:** This function enables restriction of the projector to authorized users by password. The setting procedures for security locking are as follows:
	  1 Select "On" and press the ENTER key to display the setting menu.
	  2 Input the password with the MENU, ▲/▼/◄/► and ENTER keys. (The default setting password is "ENTER, ENTER, ENTER, ENTER.")
	  3 Input a new password with the MENU, ▲/▼/◄/► and ENTER keys.
	  4 Enter the password again to confirm.
	Enter the password when you turn on the projector after disconnecting and reconnecting the AC power cord.
	When it is set to "Off," you can cancel the security lock. You are required to input the password again.
	If you fail to enter the correct password after three consecutive times, the projector cannot be used. In this case, press the I/⏻ key to go Standby mode then turn on the power again.

Control Key Lock	**On/Off:** When set to "On," locks all the control panel keys of the projector. However, you can operate the following when set to "On":
	• Press and hold the I/⏻ key for approximately 10 seconds during Standby mode.
	  → The projector turns on.
	• Press and hold the MENU key for approximately 10 seconds during power on.
	  → "Control Key Lock" is set to "Off" and enables operation of all keys on the projector.

Note

*1: You will not be able to use the projector if you forget your password. If you call qualified Sony personnel because you have forgotten the password, you will be asked to verify the projector's serial number and your identity. (This process may differ in other countries/regions.) Once your identity has been confirmed, we will provide you with the password.

⚡The Connection/Power Menu

The Connection/Power menu is used for setting for the connections and power.

Items		Item descriptions
LAN Settings		
	IP Address Setup[*9]	**Auto (DHCP):** The IP address is assigned automatically from the DHCP server such as a router. **Manual:** To specify the IP Address manually.
WLAN Settings[*10]		
	WLAN Connection[*8]	**On/Off:** Set the wireless output of the USB wireless LAN module (not supplied) to On/Off.
	WLAN Network[*14]	**Access Pt. (Auto)/Access Pt. (Manual)/Client** [*11]**:** Changes modes for WLAN. [*12]
Input-A Signal Sel.		**Auto/Computer/Video GBR/Component:** When set to "Auto," selects the type of video signal input automatically when "Input-A" is selected. [*1]
ECO		
	Lamp Mode	**High/Standard/Low/Auto**[*5][*7]**:** When set to "High," the image becomes brighter, and power consumption becomes higher. When set to "Low," power consumption is minimized; however, the image will be darker. When set to "Auto," brightness is adjusted automatically according to image content. Dark images are projected with brightness adjusted, leading to energy-saving. Bright images are projected brightly, without adjusting brightness.
	Constant Brightness	**On/Off:** Available when the lamp mode is set to **High**. Outputs light at a certain brightness. [*13]
	Auto Power Saving	
	With No Input	**Lamp Cutoff:** The lamp turns off automatically and power consumption is reduced if no signal is input for about 10 minutes. The lamp lights again when a signal is input or any key is pressed. In Lamp Cutoff, the ON/STANDBY indicator lights in orange. (page 56) **Standby**[*6]**:** If no signal is input to the unit for about 10 minutes, the power turns off automatically, and the unit enters standby mode. **Off:** You can deactivate the With No Input.
	With Static Signal	**Lamp Dimming** [*4][*5][*7]**:** If an image does not change for about 10 seconds, lamp output is gradually reduced (approximately 10% to 15%[*3]) from that set in the Lamp Mode. Automatically the lamp slowly darkens to approximately 30% of its lamp output according to the selected time (with no change to input signal) "**5**," "**10**," "**15**," "**20**" minutes or "**Demo.**," While dimming the lamp, the message "Lamp Dimming" appears. If you select "Demo.," the image will start to darken about 40 seconds later. When any change in signal is detected, or an operation (remote control or control panel) is performed, normal brightness is restored. **Off:** You can deactivate the With Static Signal.
	Standby Mode[*2]	**Standard/Low:** When set to "Low," lowers power consumption in Standby mode.

Items	Item descriptions
Direct Power On	**On/Off:** When set to "On," you can turn the power on without going to Standby mode when the AC power cord is connected to a wall outlet. With the projector turned off, you can also unplug the AC power cord without going to Standby mode, regardless of the Direct Power On setting.

Notes

*1: This may not be optimum depending on the input signal. In this case set manually according to the connected equipment.

*2: When "Standby Mode" is set to "Low," the network and network control function cannot be operated while the projector is in standby mode.

*3: This varies depending on the "Lamp Mode" setting.

*4: As the lamp is dimmed gradually, you may not notice any change in brightness. You might only notice that the lamp has dimmed when its brightness is restored after there is a change in input signal.

*5: This mode does not work for about three minutes after the lamp lights. A change in signal may not be detected depending on the input image. The lamp may become brighter at intervals during lamp dimming. However, this is not a malfunction. If With No Input is set, it takes priority.

*6: Select "Off" to avoid entering standby mode when there is no input signal.

*7: Does not function when "Type A USB", "Type B USB" or "Network" is selected as the input. In this case, it becomes equivalent to "Standard."

*8: Reflecting changes in WLAN settings may take a few moments.

*9: To set the IP address manually, select "Manual", press "Apply", then enter the IP address.

*10: When you send images or files from a tablet PC/smartphone and display them (page 49), set "WLAN Network" to "Access Pt. (Auto)" or "Access Pt. (Manual)," to use USB wireless LAN module IFU-WLM3 (not supplied) as a wireless access point.

*11: The factory default settings for "Access Pt. (Manual)" are as follows.
SSID: VPL + MAC address for LAN
Security Method: WEP(64bit)
Password: sony1
To change the settings for "Access Pt. (Manual)", use a Web browser.
For details, see "Setting the WLAN Network of the projector" (page 40).
If "Access Pt. (Manual)" is set, when you use Presentation Function via Network (page 46), select "Manual Connect" to connect to the network.

*12: For changing the settings for "Client," use the Web browser for change. For details, see "Setting the WLAN Network of the projector" (page 40).

*13: Constant Brightness mode will be enabled for about 2,000 hours after it is activated at early usage. After this period, it will be disabled automatically. Activated time and brightness may vary depending on the usage conditions.

*14: If the projector cannot connect wirelessly, click [Apply] once again to make sure the connection is established. For details, see "Setting the WLAN Network of the projector" (page 40).

Adjustments and Settings Using a Menu

⬓ The Installation Menu

The Installation menu is used for installing the projector.

Items	Item descriptions
Image Flip	**HV/H/V/Off:** Flips the projected image horizontally or vertically according to the installation method.
Installation Attitude	**Right Side Up/Upside Down/Link to Image Flip:** Change the cooling setting to suit to the installation attitude. When set to "Link to Image Flip," the cooling setting changes based on the setting of "Image Flip." Continuing to use the wrong setting may affect component reliability.
High Altitude Mode[*1]	**On/Off:** Set to "On" when using the projector at an altitude of 1,500 m or higher. Continuing to use the wrong setting may affect component reliability.
V Keystone[*2]	**Auto/Manual[*2]:** The higher the value, the narrower the top of the projected image. The lower the value, the narrower the bottom.

Notes

*1: When "High Altitude Mode" is set to "On," the speed of the fan increases, and the fan noise becomes slightly louder.
*2: Since the Keystone adjustment is an electronic correction, the image may be deteriorated.

ⓘ The Information Menu

The Information menu is used to check projector status, such as total usage time of the lamp.

Items	Item descriptions
Model Name	Displays the model name.
Serial No.	Displays the serial number.
fH/fV[*1]	Displays the horizontal/vertical frequency of the current input signal.
Signal Type	Displays the type of the current input signal.
Lamp Timer	Indicates the total usage time of a lamp.

Note

*1: These items may not be displayed depending on the input signal.

Using Network Features

Connection to the network allows you to operate the following features:
• Checking the current status of the projector via a Web browser.
• Remotely controlling the projector via a Web browser.
• Receiving the e-mail report via the projector.
• Making the network settings for the projector.
• Displaying messages on the projected image using an application.
• Supports network monitoring, control protocol (Advertisement, ADCP, PJ Talk, PJ Link, AMX DDDP [Dynamic Device Discovery Protocol], Crestron RoomView).

Notes
• When connecting this projector with the network, consult with the network administrator. The network must be secured.
• The content communicated via a wireless LAN communication may be intercepted due to the use of radio waves. To protect the communication content, implement security measures properly according to the connection environment (page 40).
• When using this projector connected with the network, access the Control window via a Web browser and change the access limitation of the factory preset values (page 37). It is recommended to change the password regularly.
• When the setting on the Web browser is completed, close the Web browser to log out.
• The menu displays used for the explanation below may be different depending on the model you are using.
• Supported Web browsers are Internet Explorer 6/7/8/9/10.
• The menu displays only in English.
• If the browser of your computer is set to [Use a proxy server] when you access to the projector from your computer, click the check mark to set accessing without using a proxy server.
• To display messages, specific application Projector Station for Network Control (Version 1.1 or later) is necessary. For download or detailed method of using Projector Station for Network Control, please access the following URL.
http://pro.sony.com/bbsc/ssr/cat-projectors/resource.downloads
Contact your local Sony dealer for detailed information of Projector Station for Network Control.

Displaying the Control Window of the Projector with a Web Browser

1 Connect the LAN cable (page 16).

2 Set the network settings for the projector using "LAN Settings" on the Connection/Power menu (page 32).

3 Start a web browser on the computer, enter the following in the address field, then press the Enter key on your computer.
http://xxx.xxx.xxx.xxx
(xxx.xxx.xxx.xxx: IP address for the projector)
You can confirm the IP address of the projector in the "LAN Settings" on the Connection/Power menu (page 32).

The following window appears in the Web browser:
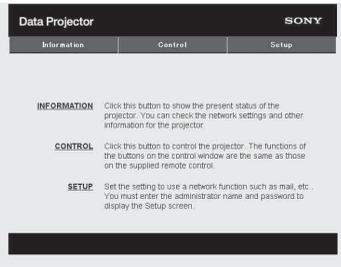
Once you make the network settings, you can open the Control window only by performing step **3** of this procedure.

How to operate the Control window

Switching the page
Click one of the Page Switching buttons to display the desired setting page.

Page Switching buttons

Setting the access limitation
You can limit a user for accessing any particular page.

Administrator: Allowed access to all pages

User: Allowed access to all pages except the Setup page

Set the access limitation from [Password] of the Setup page.

When you access the Setup page for the first time, enter "root" in the Name box and enter "Projector" in the Password box of User.

The Name box of the Administrator is preset to "root."
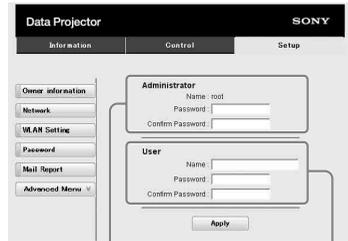
Entry area for [Administrator]

Entry area for [User]

When you change the password, input a new password after deleting the password (*****) that was set.

Note
If you forget your password, consult with qualified Sony personnel.

Confirming the Information regarding the Projector

You can confirm the current settings for the projector on the Information page.

Information area

Operating the Projector from a Computer

You can control the projector from the computer on the Control page.
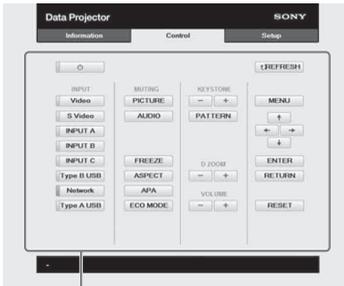
Operation area

The functions of the buttons shown in the operation area are the same as the keys on the remote commander.

Using the e-mail report Function

Set the e-mail report function on the Setup page.
Entered values will not be applied unless you click on [Apply].

1 Click on [Owner information] to enter the owner information recorded in the e-mail report.
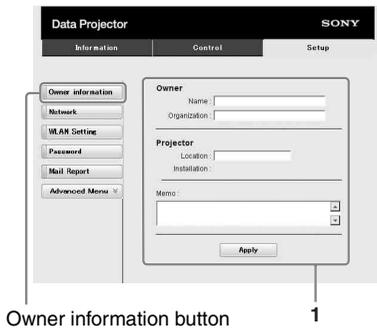
Owner information button   **1**

2 Set the timing of the e-mail report.
Click on [Mail Report] to open the Mail Report page.

Lamp Reminder (Lamp1): Set the timing of the email report for lamp replacement. To reset Lamp Reminder, execute "Lamp Timer Reset" on the projector (page 30).

Maintenance Reminder: Set the timing of the email report for maintenance. To reset Maintenance Reminder, check the RESET check box and then click on [Apply].

Mail Report button
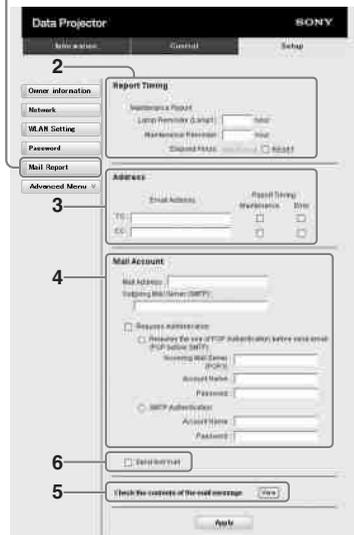
3 Enter the outgoing e-mail address in the Email Address box then check the Report Timing check box of the e-mail report to be sent.

4 Set the mail account for sending e-mail reports.

Mail Address: Enter the e-mail address.
Outgoing Mail Server (SMTP): Enter the address of outgoing mail server (SMTP).
Required Authentication: Check this check box if authentication is required for sending e-mail.

Requires the use of POP Authentication before sending email (POP before SMTP): Check this check box to arrange for POP authentication to be performed before sending e-mail.

Incoming Mail Server (POP3): Enter the address of the incoming-mail server (POP3) to be used for POP authentication.

Account Name: Enter the mail account name.

Password: Enter the password.

SMTP Authentication: Check this check box to arrange for SMTP authentication to be performed before sending e-mail.

Account Name: Enter the mail account name.

Password: Enter the password.

5 Confirm the contents of the e-mail report.

When you click on [View], the contents of the e-mail report are displayed.

6 Send the test mail.

Check on the Send test mail check box then click on [Apply] to send your test mail to the e-mail address you set.

Notes

- The email report function will not work if the network uses Outbound Port25 blocking, which prevents access to the SMTP server.
- You cannot use the following characters to enter the characters in the text box: " ' ", " " ", " \ ", " & ", " < ", " > "

Setting the LAN Network of the projector

Set the LAN network function on the Setup page.
Entered values will not be applied unless you click on [Apply].

1 Click on [Network] to open the Network page.

Network button   LAN Network setting area

2 Set the items for internet protocol.

Obtain an IP address automatically: Automatically provides the network settings by a DHCP server function, such as the router. The IP Address, Subnet Mask, Default Gateway, Primary DNS, and Secondary DNS display the values provided by a DHCP server.

Specify an IP address: Set the network manually.

-IP Address: Input the IP address of the projector.

-Subnet Mask: Input the subnet mask of the projector.

-Default Gateway: Input the default gateway of the projector.

-Primary DNS: Input the primary DNS server of the projector.

-Secondary DNS: Input the secondary DNS server of the projector.

3 Set the items for Ethernet.

MAC Address: Displays the MAC address of the projector.

Network

Speed: Select the network speed of the projector.

Setting the WLAN Network of the projector

Set the WLAN network function on the Setup page.
Entered values will not be applied unless you click on [Apply].
To use the wireless LAN network, a USB wireless LAN module IFU-WLM3 (not supplied) is necessary.

1 Click the [WLAN Setting] to open the WLAN Setting page.
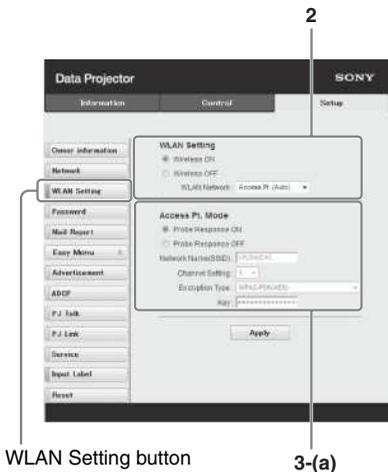
WLAN Setting button   3-(a)

2 Enable or disable the radio wave output of USB wireless LAN module.
Wireless ON: Enables radio wave output of USB wireless LAN module.
Wireless OFF: Disables radio wave output of USB wireless LAN module.
WLAN Network: Set the modes for USB wireless LAN module.

Items	Descriptions
Access Pt. (Auto)	Activates USB wireless LAN module as an access point, and items for WLAN are automatically set.

Items	Descriptions
Access Pt. (Manual)	Activates USB wireless LAN module as an access point. Set the items for WLAN manually.
Client	Activates USB wireless LAN module as a client.

3 **(a) Input the settings for Access Pt. Mode.**

When the USB wireless LAN module is activated as an access point, set the items for the access point.
Probe Response ON: Responds to the probe request from the client.
Probe Response OFF: Does not respond to the probe request from the client.
Network Name (SSID): Displays the SSID of the access point if "WLAN Network" is set to "Access Pt. (Auto)." Input the SSID of the access point if "Access Pt. (Manual)" is selected.
Channel Setting: Displays the channel of the access point if "WLAN Network" is set to "Access Pt. (Auto)." Select the channel of the access point if "Access Pt. (Manual)" is selected.
Encryption Type: Displays the security method of the access point if "WLAN Network" is set to "Access Pt. (Auto)." Select the security method of the access point from the following list if "Access Pt. (Manual)" is selected.

Encpytion Type	Descriptions
Open	Sets the security method of the access point to open system authentication.
WEP 64bit	Sets the security method of the access point to WEP (64bit).
WEP 128bit	Sets the security method of the access point to WEP (128bit).
MIX (WPA-PSK/WPA2-PSK (TKIP/AES))	Sets the security method of the access point to MIX. (corresponding to both WPA-PSK (TKIP/AES) and WPA2-PSK (AES) security methods).

Encryption Type	Descriptions
WPA2-PSK(AES)	Sets the security method of the access point to WPA2-PSK (AES).

Key: Input the password for security method of the access point according to the selected encryption type as below;

Encryption Type	Password
Open	The password cannot be input.
WEP 64bit	Input 5 ASCII characters for a password.
WEP 128bit	Input 13 ASCII characters for a password.
MIX (WPA-PSK/WPA2-PSK (TKIP/AES)) or WPA2-PSK (AES)	Input 8-63 ASCII characters for a password.

(b) Input the settings for Client Mode.

When the USB wireless LAN module is activated as a client, set the items for the client (set the items for the access point the projector tries to connect to).
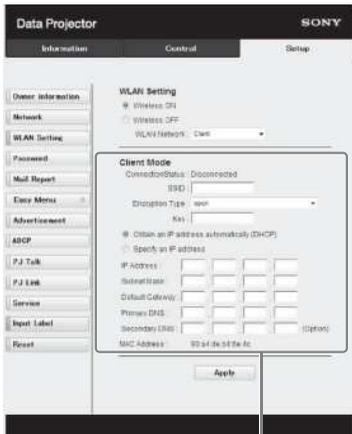
3-(b)

Connection Status: Displays the connecting status between the access point and projector.

ESSID: Input the ESSID of access point the projector tries to connect to.

Encryption Type: Select the security method of access point the projector tries to connect to from the following list.

Encryption Type	Descriptions
Open	Sets the security method of the access point to open system authentication.
WEP 64bit	Sets the security method of the access point to WEP (64bit).
WEP 128bit	Sets the security method of the access point to WEP (128bit).
MIX (WPA-PSK/WPA2-PSK (TKIP/AES))	Sets the security method of the access point to MIX. (corresponding to both WPA-PSK (TKIP/AES) and WPA2-PSK (AES) security methods).
WPA2-PSK (AES)	Sets the security method of the access point to WPA2-PSK (AES).

Key: Input the password for security method of the access point according to the selected encryption type as below;

Encryption Type	Password
Open	The password cannot be input.
WEP 64bit	Input 5 ASCII characters for a password.
WEP 128bit	Input 13 ASCII characters for a password.
MIX (WPA-PSK/WPA2-PSK (TKIP/AES)) or WPA2-PSK (AES)	Input 8-63 ASCII characters for a password.

Obtain an IP address automatically: Automatically provides the network settings by a DHCP server function, such as the router. The IP Address, Subnet Mask, Default Gateway, Primary DNS, and Secondary DNS display the values provided by a DHCP server.

Specify an IP address: Set the network manually.

-IP Address: Input the IP address of the projector.

-Subnet Mask: Input the subnet mask of the projector.

-Default Gateway: Input the default gateway of the projector.

-Primary DNS: Input the primary DNS server of the projector.

-Secondary DNS: Input the secondary DNS server of the projector.

MAC Address: Displays the MAC address for USB wireless LAN module.

Setting the Custom Labels for the Input Terminals of the Projector

• Change the label names for the input terminals that will be displayed on the projected screen on the Set up page. The entered label names will not be applied unless you click on [Apply].

1 **Click on [Advanced Menu] to open the Setup page.**
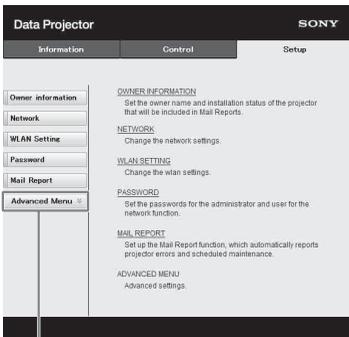
Advanced Menu button

2 **Click on the [Input Label] and open the Input label setting window.**

Clear the check box for the label that you want to change and input the label name. You can input up to 20 of the following letters.

Alphabets: "a" to "z", "A" to "Z"
Numbers: "0" to "9"
Characters: ".", ",", ":", ":", "!", "?", "'", """, "#", "$", "%", "&", "@", "(", ")", "<", ">", "[", "]", "{", "}", "|", "=", "*", "+", "-", "/", "_", "\", "^", "`", "~", space
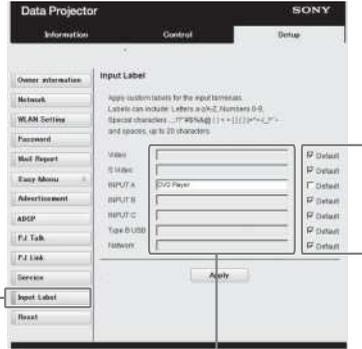
Input Label button

Label name for the input terminal

Use the factory default setting

3 **Click the [Apply] button to apply the set label names.**

The label name will be reflected on the screen when the input of the projector is changed.
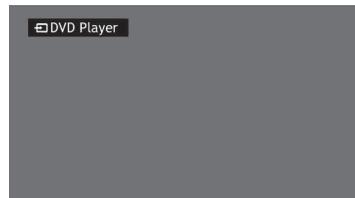
Input Terminal Label Display Screen

Setting the Control Protocol of the Projector

Change the settings for the control protocol on the Setup page. Entered values will not be applied unless you click on [Apply].

1 Click on [Advanced Menu] to display the buttons for more settings.
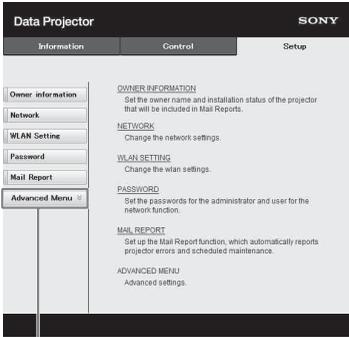
Advanced Menu button

2 (a)Set Advertisement.

Advertisement Service setting area
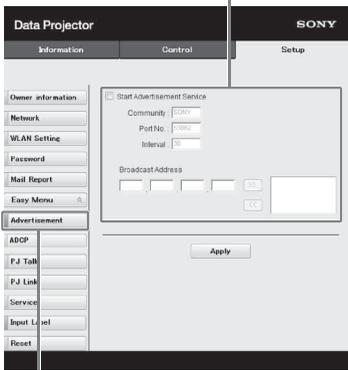
Advertisement button

Start Advertisement Service:
Set Advertisement to enabled or disabled. Items for Advertisement are enabled only when this function is enabled. The function is disabled at the factory default.

-Community:
Input the community name for Advertisement and PJ Talk. If the community name for Advertisement is changed, the one for PJ Talk will also be changed. Only four alphanumeric characters can be input. The factory default setting is "SONY." It is recommended that the community name be changed from the factory setting to avoid unnecessary access to the projector from other computers.
-Port No.:
Input the transmit port of Advertisement. The factory default setting is "53862."
-Interval:
Input the transmission interval (seconds) of Advertisement. The factory default setting is "30."
-Broadcast Address:
Input the destination of data via Advertisement. If nothing is input, the data will be broadcast in the same subnetwork.

(b)Set ADCP.

ADCP Service setting area
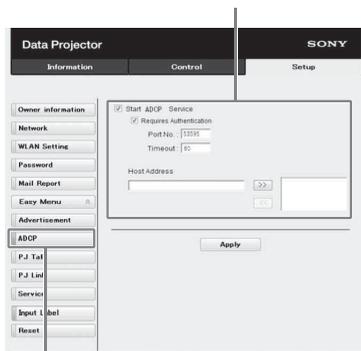
ADCP button

Start ADCP Service: Set ADCP to enabled or disabled. Items for ADCP are enabled only when this function is enabled. The function is disabled at the factory default.

-Requires Authentication: Set the authentication for ADCP to enabled or

disabled. The password is the same as that of the Web page administrator.
-Port No.: Input the server port of ADCP. The factory default setting is "53595."
-Timeout: Input the time (minutes) until ADCP communication is terminated in case it is disconnected. The factory default setting is "60."
-Host Address: Input the IP address that the ADCP server is allowed to receive. If no IP address is input, receiving commands will be allowed from any IP address. From the moment the IP address is input, access will be allowed only from that input IP address. For security reasons, it is recommended to input an IP address to restrict access.

(c)Set PJ Talk.

PJ Talk Service setting area
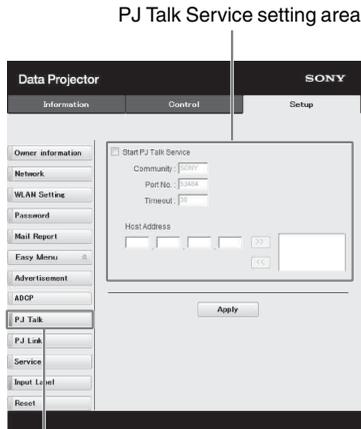
PJ Talk button
Start PJ Talk Service:
Set PJ Talk to enabled or disabled. Items for PJ Talk are enabled only when this function is enabled. The function is disabled at the factory default.

-Community:
Input the community name of Advertisement and PJ Talk. If the community name for PJ Talk is changed, the one for Advertisement will also be changed. Only four alphanumeric characters can be input. The factory default setting is "SONY." It is recommended that the community name be changed from the factory setting to avoid unnecessary access to the projector from other computers.
-Port No.:
Input the server port of PJ Talk. The factory default setting is "53484."
-Timeout:
Input the time until PJ Talk communication is terminated in the case that it is disconnected. The factory default setting is "30."
-Host Address:
Input the IP address that the PJ Talk server is allowed to receive. If no IP address is input, receiving commands will be allowed from any IP address. From the moment the IP address is input, access will be allowed only from that input IP address. For security reasons, it is recommended to input an IP address to restrict access.

(d)Set PJ Link.

PJ Link Service setting area

PJ Link button

Start PJ Link Service:
Set PJ Link to enabled or disabled. Items
for PJ Link are enabled only when this
function is enabled. This function is
disabled at the factory setting.
-Requires Authentication:
Set the authentication for PJ Link to
enabled or disabled.
-Password:
Input the authentication password for PJ
Link. For the factory default password,
refer to the PJ Link specifications.

(e)Set the system service.

System service setting area
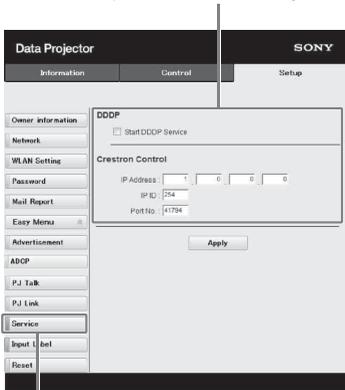
Service button
Start DDDP Service:
Set DDDP to enabled or disabled. For
details, refer to the DDDP specifications
in the reference from AMX Corporation.
The function is disabled at the factory
default.
Crestron Control:
For details, refer to the specifications in
product catalogues, etc., from Crestron
Corporation.
-IP Address:
Input the Crestron system server.
-IP ID:
Input the IP ID for the CIP protocol.
-Port No.:
Input the port number for the CIP
protocol server.

(f)Reset the network settings.
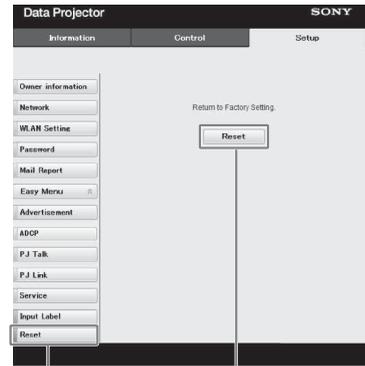
Reset button   Reset

Reset:
Reset all Web browser settings to their
factory defaults.

Using Presentation Function via Network

The Presentation Function via Network enables you to do the following:
• Connect a maximum of eight computers to the projector.
• Project images from a maximum of four computers simultaneously.
• Connecting a USB wireless LAN module (not supplied) to the projector as an access point, allows the projector to connect to up to seven computers simultaneously.

Presentation Function via Network requires installation of Projector Station for Network Presentation (supplied CD-ROM). For information on updates of Projector Station for Network Presentation, visit Sony's web site: https://www.servicesplus.sel.sony.com/
System requirements for using the application are as follows.

OS

Windows XP: Home/Professional
Windows Vista: Home Premium/Business/Ultimate/Enterprise
Windows 7: Home Premium/Professional (Recommended)/Ultimate/Enterprise
Windows 8/8.1
Mac OS X: 10.6.x/10.7.x/10.8.x

CPU

Pentium4 2.8GHz or faster

Notes

• To install the application, administrative rights are required.
• If you do not have administrative rights, the application may not run properly.
• If firewall or security software is installed, the application may not run properly.
• Depending on the type of network adapter, the application may not run properly.
• Images may not be projected properly depending on the operating environment or the application.

Installing Projector Station for Network Presentation

1 Close all running applications.

2 Insert the supplied CD-ROM into the CD-ROM drive of the computer.

3 Open the CD-ROM.
For Windows:
Double-click the .exe file. When the message "User Account Control" is displayed, click "Allow" or "Yes."
For Mac:
Double-click the .pkg file.

4 Follow the on-screen instructions to install the software.

Starting Projector Station for Network Presentation

1 Connect the projector to a network.
For a wired connection, connect the projector by a LAN cable, then make the network settings. For details, see "LAN Settings" (page 32) or "Setting the LAN Network of the projector" (page 39). For a wireless connection, see "LAN terminal" (page 16) or "USB terminal (Type A) (⟵⟶)" (page 17). Also check "WLAN Settings" (page 32).

2 Turn on the projector.
Select "Network" as the input source (page 20).

3 Start Projector Station for Network Presentation.

For Windows:
Select [Start]-[All Programs]-[Projector Station for Network Presentation] on the computer.

For Mac:
Double-click [Projector Station for Network Presentation] in Applications folder.

Projecting an Image

After starting Projector Station for Network Presentation, the connection method selection window appears.

1 Select the connection method.
Select "Network connection" or "Wireless direct connection" depending on your use environment.

Network connection: Select this item when the projector uses LAN or "WLAN Network" is set to "Client" on the Connection/Power menu.

Wireless direct connection: Select this item when "WLAN Network" is set to "Access Pt. (Auto)" or "Access Pt. (Manual)" on the Connection/Power menu of the projector.

For Windows:

Connection method selection window
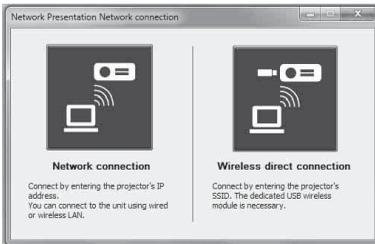
Network connection window
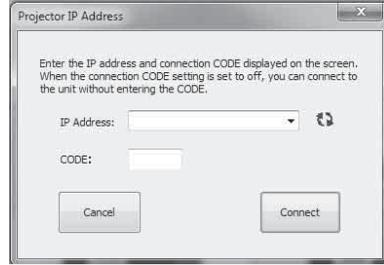
Wireless direct connection window

Notes

- The appearance of the application on the screen is subject to change without notice.
- When a projector is connected to a network via a wireless connection, if the "SSID" is changed from the factory default, it may not be found.
- When a projector is connected to a network via a wired connection, depending on the network environment, it may not be found.

2 Set the projector an image will be projected to.

a) Network connection

Select or directly input the IP address of the projector that the computer is connected to. If the Connection CODE function is activated, input the four digit Connection CODE that is displayed on the right bottom area of the screen (only on the projectors with the Connection CODE function).
Since the Connection CODE function is not available on this projector, there is no need to enter the code for connection.

b) Wireless direct connection

Select or directly input the SSID of the projector that the computer is connected to. If the "WLAN settings" is set to "Access Pt.(Auto)" and "Auto" has been checked, you can skip inputting the wireless password. If the Connection CODE function is activated, input the four digit Connection CODE that is displayed on the right bottom area of the screen (only on the projectors with the Connection CODE function).
Since the Connection CODE function is not available on this projector, there is no need to enter the code for connection.

3 Click "Connect".

If other users are projecting an image, the controller appears on the screen. Click the ► to start projecting an image (page 48).
If no users are projecting an image, the controller appears on the screen and starts projecting an image.

Note

Display related settings (such as your computer's resolution) change when the application is started.

Connection Settings

Item	Item descriptions
IP Address	Input the IP Address. List the IP addresses of the projectors on the network and IP addresses of projectors connected so far, as candidates.
SSID	Input SSID. List the peripheral SSIDs and SSIDs of projectors connected to the computer so far, as candidates.
🔄 Update button	Search the network again and update the candidate list of the projectors.
Security Method	Displays the security method of the input SSID.

Item	Item descriptions
Wireless Password	Input the wireless password of the SSID. If open system Authentication is used, input of the wireless password is unnecessary.
Auto (checkbox)	Check this item when the "WLAN settings" is set to "Access Pt.(Auto)".
CODE	Input the Connection CODE displayed on the screen of the projector (only on the projectors with the Connection CODE function). The Connection CODE function is not available on this projector.
Connect	Connect to the projector that is set in the items above and start to project an image.

Using the Controller

For Windows:

```
Network          📶  —  ✕
Presentation
CODE:  1234
►    ‖    ■    🔧
User 000001    ▣  —✕—
👤8    ═══    ▼
```

For Mac:

```
○ ○ ○
CODE:  1234
►    ‖    ■    🔧
User64    ▣  —✕—
👤1    ▼
```
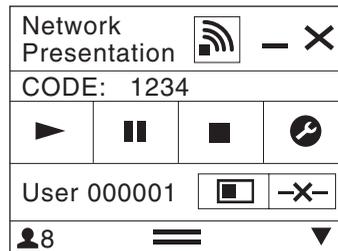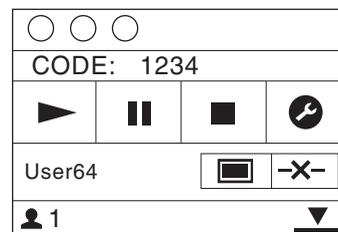
Items	Functions
►	Start projecting an image.
‖	Pause projecting an image.
■	Stop projecting an image (screen turns black).

Items		Functions
⊘		Change the application settings.
—×—		Disconnect from the projector.
▣		Select a projection method then start projecting an image.
Projection method	◹	Not projecting an image.
	▬	Project in full screen.
	◧	Project in the left half of the screen.
	◨	Project in the right half of the screen.
	◰	Project in the upper left quadrant of the screen.
	◳	Project in the upper right quadrant of the screen.
	◱	Project in the lower left quadrant of the screen.
	◲	Project in the lower right quadrant of the screen.
📶		Display the strength of the wireless signal.
CODE		Display the Connection CODE of the projector that is connected to the computer (only on the projectors with the Connection CODE function). The Connection CODE function is not available on this projector.
👤		Display the number of users connected to the projector.
▼		Display the users' status.

Displaying Images or Files Sent from a Tablet PC/Smartphone

You can project JPEG images, PDF files, etc. stored in a tablet PC/smartphone wirelessly by using a specific application.[*1]
For downloading[*2] or detailed method of using the application, access the following URL.

http://PWPresenter.pixelworks.com

*1: To use the application, one of the following conditions is required.
  • Connected to network where wireless connection can be established (page 16).
  • Connected to a wireless network via USB wireless LAN module IFU-WLM3 (not supplied) that is connected to the projector (page 17).
*2: Depending on your Internet connection, a data communication fee may apply.

Playing Video using USB Connection

You can also play video simply by connecting the projector and computer with a USB A-B cable (not supplied).
Playing video using USB connection requires to start USB Display.
System requirements for using the application are as follows.

OS
Windows XP: Home/Professional (recommended)
Windows Vista: Home Premium/Business/Ultimate/Enterprise
Windows 7: Home Premium/Professional (Recommended)/Ultimate/Enterprise
Windows 8
Mac OS X: 10.6.x/10.7.x/10.8.x

CPU
Pentium4 2.8GHz or faster

Starting USB Display

1 Connecting the projector and your computer with a USB A-B cable (not supplied) (page 16).

2 Turn on the projector.
Select "Type B USB" as the input source (page 20). After a short time, the projector is recognized as a CD-ROM drive in the computer.

3 Open "USB Display" in the CD-ROM drive.

Notes
• The resolution of your computer changes when the application is started.
• Depending of the computer's setting, the application may start automatically.
• When you are finished using the projector, you can simply disconnect the USB cable without using the Safely Remove Hardware option.
• Images may not be projected properly depending on the operating environment or the application.
• If your OS is Windows Vista, Windows 7 or Windows 8, turning off the Windows Aero is recommended.

Playing Video

After starting USB Display, the controller appears on the screen, and projection playback starts automatically.

Using the Controller

For Windows:

| USB Display | | — ✕ |
| ► | ‖ | ■ | ❶ |

For Mac:

◯ ◯ ◯			
►	❚❚	■	❶
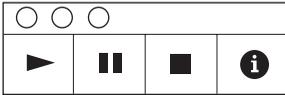
Items	Functions
►	Start video playback.
❚❚	Pause video playback.
■	Stop video playback (the screen turns black).
❶	Display information about USB Display.

Using USB Media Viewer

You can browse image files stored in a USB memory device inserted in the USB terminal of the projector, without using a computer.
Supported storage media and file format:
• Supported storage media: USB flash memory
• Supported format of storage media: FAT format
• Supported file format: JPEG (.jpg/.jpeg), Bitmap (.bmp), PNG (.png), GIF (.gif), TIFF (.tif/.tiff)

Notes
• exFAT, NTFS are not supported.
• TIFF files containing EXIF information are not supported.
• Image files in a USB memory device connected to the projector via a USB hub may not be displayed.
• Security protected USB memory may not function correctly.
• A USB memory card reader that is recognized as more than one drive may not function correctly.
• Display of image files that are larger than 4092 × 3072 pixels is not guaranteed. It may take a long time to display, or may not be displayed.
• A folder with a deep folder structure or with a very long folder name may not be displayed.
• An image may not be displayed, depending on its file type.
• Files or folders with names including non-alphanumeric characters may not be displayed.
• When displaying an image file, do not disconnect the USB memory device. It may cause a malfunction of the USB memory device or the projector. Disconnect the USB memory device when the USB Memory device selection screen is displayed.

1 Connect a USB Memory device to the projector (page 19).

2 Select "Type A USB" as the input source (page 20).

3 Select the USB Memory device.
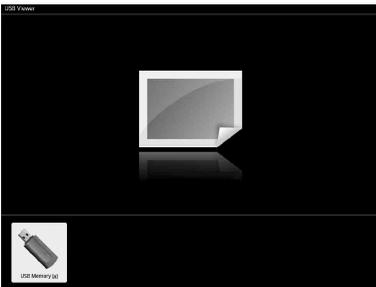
Press the ENTER key to display in the thumbnail mode.
USB Media Viewer has three display modes: "thumbnail mode," "display mode" and "slideshow mode."

Thumbnail Mode

The image files in the folder are displayed as a thumbnail list.

Option menu

Press the ↑/↓/←/→ key on the remote commander to select an image, then press the ENTER key. The option menu appears in the lower part of the screen.

Option Menu

You can select the display order of thumbnails and display method of image files.

Items	Item descriptions
✕	Hide the option menu.
⛶	Switch to the display mode, and display the selected image in full screen view. (page 54)
⟳	Switch to the slideshow mode, and start the slideshow from the selected image. (page 54)
↓ᵃ₂	Sort image files.
Sort image files	

↓ᵃ₂	Sort by name in alphabetical order.
↓ᶻₐ	Sort by name in reverse alphabetical order.
↓¹₂	Sort by date in chronological order.
↓²₁	Sort by date in reverse chronological order.

Notes

• Files without thumbnail data (including those created by an application) appear as blank icons.
• Cannot display more than 200 image files and folders in one folder.

Display Mode

In display mode, you can view a selected image in full screen view.

 — Option menu

Press the ENTER key on the remote commander. The option menu appears in the lower part of the screen.

Option Menu

Items	Item descriptions
✕	Hide the option menu.
▦	Return to the thumbnail mode (page 53).
↺	Rotate the image 90 degrees counter-clockwise.
↻	Rotate the image 90 degrees clockwise.
⤢	Switch to the slideshow mode, and start the slideshow from the selected image. (page 54)
←	Display the previous image.
→	Display the next image.

Slideshow Mode

In slideshow mode, you can view images as a slideshow.

 — Option menu

Press ENTER key on the remote commander. The slideshow pauses and the option menu appears in the lower part of the screen.

Option Menu

Items	Item descriptions
✕	Hide the option menu.
▦	Return to the thumbnail mode (page 53).
←	Display the previous image.
→	Display the next image.
🔁	Press the ▲/▼ key to change the slideshow time interval.

Slideshow time interval		
	🔁	After 3 seconds, display the next image.
	🔁	After 5 seconds, display the next image.
	🔁	After 10 seconds, display the next image.

▨		Press the ▲/▼ key to change the slideshow effect.

Slideshow effect		
	▨	The next image appears with tile transition effect.
	▢▪	The next image appears from the left side of the screen.
	▪▢	The next image appears from the right side of the screen.
	▭	The next image appears from the top of the screen.
	▭	The next image appears from the bottom of the screen.

⟲ On		Press the ▲/▼ key to change the slideshow repeat setting.

Repeat Setting		
	⟲ On	After displaying the last image, the slideshow starts from the first image again.
	⟲ Off	After displaying the last image, the slideshow ends and returns to the thumbnail mode.

Indicators

The indicators allow checking the status and notify you of abnormal operation of the projector. If the projector exhibits abnormal status, address the problem in accordance with the table below.

ON/STANDBY indicator

Status		Meaning/Remedies
Lights in red		The projector is in Standby mode.
Flashes in green		• The projector is ready to operate after having been turned on. • The lamp cools after the projector is turned off.
Lights in green		The projector's power is on.
Lights in orange		The projector is in With No Input (Lamp Cutoff). (page 32)
Flashes in red		The projector is in abnormal status. Symptoms are indicated by number of flashes. Address the problem in accordance with the following. If the symptom is shown again, consult with qualified Sony personnel.
	Flashes twice	The internal temperature is unusually high. Check the items below. • Check if nothing is blocking the ventilation holes. (pages 11, 11) • Check if the air filter is not clogged. (page 62) • Check if the Installation Attitude in the Installation menu is set correctly. (page 34)
	Flashes six times	Unplug the AC power cord from a wall outlet. After checking that the ON/STANDBY indicator goes out, plug the power cord to a wall outlet again then turn on the projector.
	Other number of flashes	Consult with qualified Sony personnel.

LAMP/COVER indicator

Status		Meaning/Remedies
Flashes in red		Symptoms are indicated by number of flashes. Address the problem in accordance with the following.
	Flashes twice	The lamp cover is not attached securely. (page 60)
	Flashes three times	The temperature of lamp is unusually high. Turn off the power and wait for lamp to cool then turn on the power again. If the symptom is shown again, the lamp may be burnt out. In this case, replace the lamp with a new one (page 60).

Messages List

When any of the messages listed below appears on the projected image, address the problem in accordance with the table below.

Messages	Meaning/Remedy	Page
High temp.! Lamp off in 1 min.	Check the items below. • Check if nothing is blocking the ventilation holes. • Check if the air filter is not clogged. • Check if the Installation Attitude in the Installation menu is set correctly.	11, 11, 34, 62
Frequency is out of range!	Change the output setting of the connected equipment to one for signals supported by the projector.	67
Please check Input-A Signal Sel.	Set "Input-A Signal Sel." to "Auto" or select the input signal type to suit to the input signal.	32
Please clean the filter.	Clean the air filter.	62
Please replace the Lamp and clean the Filter.	Replace the lamp with a new one and clean the air filter. The message appears whenever you turn on the power until you replace the lamp and reset the lamp timer.	60, 62
Projector temperature is high. High Altitude Mode should be "On" if Projector is being used at high altitude.	When not using the projector at an altitude of 1,500 m or higher, check the items below. • Check if nothing is blocking the ventilation holes. • Check if the air filter is not clogged. • Check if Installation Attitude in the Installation menu is set correctly.	11, 11, 34, 62
Not applicable!	Invalid key was pressed.	–
The control keys are locked!	"Control Key Lock" is set to "On."	31
Projector will shutdown soon Press I/(¹) Key to Restart	The I/(¹) key was pressed and the projector will be shut down soon. To cancel shutdown, press the I/(¹) key again (the projector will remain on). To turn off the projector directly, press and hold the I/(¹) key.	24
Lamp Dimming	Reduces lamp output when "With Static Signal" is set. When any change in signal is detected, or an operation (remote control or control panel) is performed, normal brightness is restored.	32

Others

Troubleshooting

Before asking to have the projector repaired, try to diagnose the problem, following the instructions below.

Symptoms	Remedy	Page
The power is not turned on.	Check if the AC power cord is firmly connected.	–
	When the "Control Key Lock" is set to "On," you cannot turn on the projector using the I/⏻ key on the projector.	31
	If the lamp or lamp cover is not attached securely, the projector cannot be turned on.	60
No image.	Check if the connecting cable is connected to external equipment firmly.	15
	Check the computer signal is set for output to an external monitor only. If you set your computer to output to both the computer's display and an external monitor, the external monitor image may not be displayed properly. Set your computer to output to only an external monitor.	20
	Check if the application "USB Display" or "Projector Station for Network Presentation" is running.	46, 50
	Check if the USB memory device connected to the projector is compatible with the projector.	52
	Check if the input source is correctly selected.	20
	Check if the picture is muted by pressing the BLANK key.	13
The application "USB Display" or "Projector Station for Network Presentation" does not start.	Check if the computer connected to the projector meets the system requirement for the applications.	46, 50
The computer cannot connect to the projector.	• Check "LAN Settings" of the projector. • Check the condition of the wireless connection.	32
On-screen display does not appear.	The on-screen display does not appear when "Status" in the Operation menu is set to "Off."	31
The aspect ratio of the display is not right/the image is displayed smaller /a portion of image does not appear.	The image may not display correctly because the input signal cannot be judged correctly. In this case, set "Aspect" manually.	13, 27
The image is a trapezoid.	The images become trapezoidal because of the projection angle. In this case, you can correct the trapezoidal distortion, using a Keystone feature.	13, 23, 34
	When the "V Keystone" is set to "Manual," the keystone feature does not work automatically. Set "V Keystone" to "Auto" or "Manual" to set manually.	13, 23, 34
	When the projector is installed on an uneven surface, the feature may not work properly. In this case, select "Manual" to set "V Keystone" manually.	13, 23, 34

Symptoms	Remedy	Page
The image is dark/too bright.	The settings for "Brightness," "Contrast," and "Lamp Mode" affect brightness of the image. Check if the value is appropriate.	26, 32
	The image will be dark when the lamp is burnt out. Check "Lamp Timer," and replace the lamp with a new one if necessary.	35, 60
	"With Static Signal" is set to "On."	32
	During picture muting, the lamp is dimmed to reduce power consumption.	32
	When video signal is not input, the lamp is dimmed to reduce power consumption.	–
The image becomes darker or brighter.	When the lamp is dimmed for a long time, brightness may increase temporarily, but this is not malfunction.	–
	When the "Lamp Mode" is set to "Auto," the luminance of the lamp changes according to the input image.	32
The image is not clear.	Check if the projector is in focus.	21
	The picture will not be clear if condensation has accumulated on the lens. In this case, let the projector sit for about two hours with the power on.	–
The image is noisy.	Check if the connecting cable is connected to the external equipment properly.	15
The remote commander does not work.	Check if the batteries are installed correctly.	–
	Check if the batteries are not exhausted.	–
The fan is noisy.	The sound from the fan is often greater than normal to cool the lamp, etc. in the following cases. • "Lamp Mode" is set to "High." • The unit is used at a high altitude. "High Altitude Mode" is set to "On." • The unit is used in the location where the temperature is high.	32, 34
	If the ventilation holes are blocked, the internal temperature of the projector rises and the fan noise becomes larger.	11, 11

Others

Replacing the Lamp

Replace the lamp with a new one if a message displayed on the projected image (page 57).
Use an LMP-E212 projector lamp (not supplied) for replacement.

Caution

- The lamp remains hot after the projector is turned off. **If you touch the lamp, you may burn your finger. When you replace the lamp, wait for at least an hour after turning off the projector for the lamp to cool sufficiently.**
- Do not allow any metallic or inflammable objects into the lamp replacement slot after removing the lamp, otherwise it may cause electrical shock or fire. Do not put your hands into the slot.

Notes

- **If the lamp breaks, contact qualified Sony personnel. Do not replace the lamp yourself.**
- When removing the lamp, be sure to pull it out straight, by holding the designated location. If you touch a part of the lamp other than the designated location, you may be burned or injured. If you pull out the lamp while the projector is tilted, the pieces may scatter if the lamp breaks any may cause injury.

1 Turn off the projector, and disconnect the AC power cord from a wall outlet.

2 When the lamp has cooled sufficiently, open the lamp cover by loosening 1 screw.
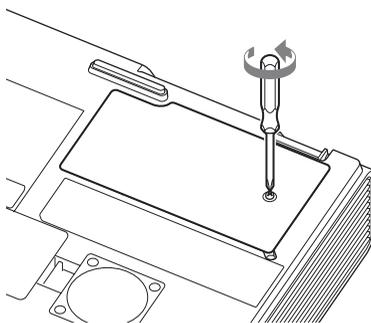
3 Loosen the 2 screws on the lamp then pull out the lamp by its grab.

Grab
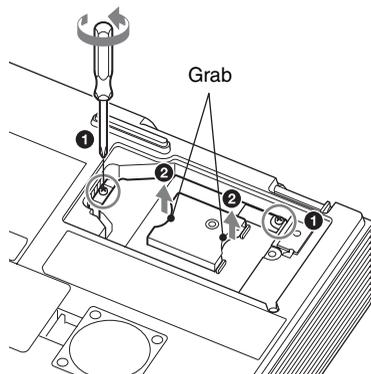
4 Insert the new lamp all the way in until it is securely in place. Tighten the 2 screws.
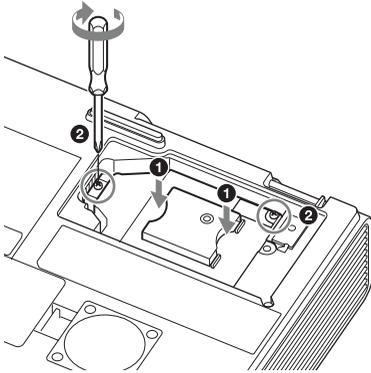
Note

The power will not turn on if the lamp is not secured properly.

5 Close the lamp cover and tighten the 1 screw.
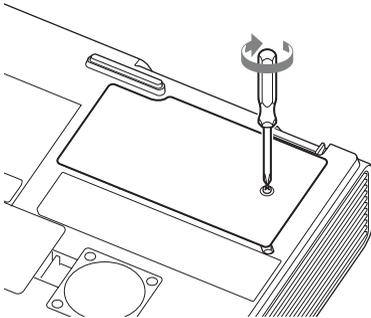
6 Connect the AC power cord to a wall outlet and turn on the projector.

7 Reset the lamp timer for notification of the next replacement time.
Select "Lamp Timer Reset" on the Function menu then press the ENTER key. When a message appears, select "Yes" to reset the lamp timer (page 30).

Caution

For the customers in the U.S.A. and Canada

(Hg) Lamp contains mercury. Dispose according to applicable local, state/province and federal laws. For additional information, see www.sony.com/mercury

Others

Cleaning the Air Filter

When a message appears on the projected image indicating time for a filter cleaning, clean the air filter (pages 56, 57).
If the dust cannot be removed from the air filter even after cleaning, replace the air filter with a new one. For details on a new air filter, consult with qualified Sony personnel.

Caution

If you continue to use the projector even after the message is displayed, dust may accumulate, clogging it. As a result, the temperature may rise inside the unit, leading to a possible malfunction or fire.

1 Turn off the projector, and disconnect the AC power cord from the AC outlet.

2 Slide out and remove the air filter cover from the unit.
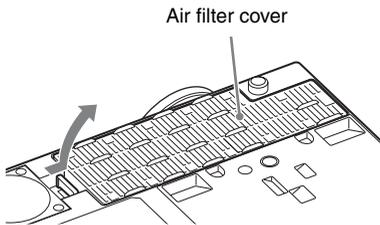
Air filter cover

3 Clean the air filter with a vacuum cleaner.

Pull out and remove the air filter cover, and clean it with a vacuum cleaner.

Claws
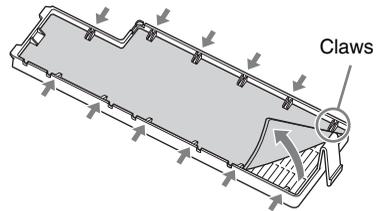
4 Reattach the air filter cover to the unit.

Note

Be sure to attach the air filter cover firmly, otherwise it may cause a malfunction.

Specifications

Items		Descriptions
Projection system		3 LCD system
Display device	Effective display size	0.63 inch (16.0 mm), 3 plate panels, Aspect ratio 4:3
	Effective picture elements	2,359,296 pixels (1024 × 768 pixels, 3 plate panels)
Projection lens	Zoom	Manual zoom: VPL-EX293/EX253 : 1.6 times VPL-EX233: 1.3 times
	Focus	Manual
Light source		High-pressure mercury lamp, 210 W type
Projected image size		40 inches to 300 inches (1.02 m to 7.62 m)
Luminous flux (Brightness)		VPL-EX293: 3800 lm VPL-EX253: 3300 lm VPL-EX233: 2800 lm (when "Lamp Mode" is set to "High")
Applicable scanning frequency[*1]		Horizontal: 14 kHz to 93 kHz, Vertical: 47 Hz to 93 Hz
Resolution[*1]	When a computer signal is input	Maximum display resolution: 1600 × 1200 pixels (resize) Panel display resolution: 1024 × 768 pixels
	When a video signal is input	NTSC, PAL, SECAM, 480/60i, 576/50i, 480/60p, 576/50p, 720/60p, 720/50p, 1080/60i, 1080/50i, 1080/60p, 1080/50p
Color system		NTSC$_{3.58}$, PAL, SECAM, NTSC$_{4.43}$, PAL-M, PAL-N
INPUT OUTPUT (Computer/video)	INPUT A	**RGB/YP$_B$P$_R$ input terminal:** Mini D-sub 15-pin female, G with sync/Y: 1 Vp-p ± 2 dB, sync negative, 75 ohms terminated, RGB/P$_B$P$_R$: 0.7 Vp-p ± 2 dB, 75 ohms terminated, Sync signal: TTL level high impedance, positive/negative
	INPUT B	**RGB input terminal:** Mini D-sub 15-pin female, RGB: 0.7 Vp-p ± 2 dB, 75 ohms terminated, Sync signal: TTL level high impedance, positive/negative
	INPUT C	**HDMI input terminal:** HDMI 19-pin, HDCP
	S VIDEO (SVIDEO IN)	**S video input terminal:** Mini DIN 4-pin, Y: 1 Vp-p ± 2dB, sync negative, 75 ohms terminated, C: (burst signal) 0.286 (NTSC)/0.3 (PAL/SECAM) Vp-p ± 2 dB, 75 ohms terminated
	VIDEO (VIDEO IN)	**Video input terminal:** Pin jack, 1 Vp-p ± 2 dB, sync negative, 75 ohms terminated
	OUTPUT	**MONITOR output terminal:** Mini D-sub 15-pin female, G with sync/Y: 1 Vp-p ± 2 dB, sync negative, 75 ohms terminated, RGB/P$_B$P$_R$: 0.7 Vp-p ± 2 dB, 75 ohms terminated, Sync signal: HD, VD 4 V (open), 1 Vp-p (75 ohms), positive/negative

Items		Descriptions
Other terminals		**RS-232C terminal:** D-Sub 9-pin male
		LAN terminal: RJ45, 10BASE-T/100BASE-TX
		USB terminal: Type A
		USB terminal: Type B
Operating temperature/ Operating humidity		0 °C to 40 °C (32 °F to 104 °F)/35% ~ 85% (no condensation)
Storage temperature/ Storage humidity		–20 °C to +60 °C (–4 °F to 140 °F)/10% to 90% (no condensation)
Power requirements		VPL-EX293/EX253: 100 V to 240 V AC, 3.0 A - 1.3 A, 50/60 Hz VPL-EX233: 100 V to 240 V AC, 2.8 A - 1.2 A, 50/60 Hz
Power consumption		VPL-EX293: **100 V to 120 V AC:** 283 W **220 V to 240 V AC:** 271 W VPL-EX253: **100 V to 120 V AC:** 283 W **220 V to 240 V AC:** 271 W VPL-EX233: **100 V to 120 V AC:** 266 W **220 V to 240 V AC:** 256 W
Power consumption (standby mode)	100 V to 120 V AC	0.5 W (when "Standby Mode" is set to "Low")
	220 V to 240 V AC	0.5 W (when "Standby Mode" is set to "Low")
Power consumption (networked standby mode)	100 V to 120 V AC	5.0 W (LAN) 5.6 W (optional WLAN module) 5.8 W (all terminals and networks connected) (when "Standby Mode" is set to "Standard")
	220 V to 240 V AC	5.3 W (LAN) 5.9 W (optional WLAN module) 6.0 W (all terminals and networks connected) (when "Standby Mode" is set to "Standard")
Heat dissipation		VPL-EX293: **100 V to 120 V AC:** 966 BTU/h **220 V to 240 V AC:** 925 BTU/h VPL-EX253: **100 V to 120 V AC:** 966 BTU/h **220 V to 240 V AC:** 925 BTU/h VPL-EX233: **100 V to 120 V AC:** 908 BTU/h **220 V to 240 V AC:** 874 BTU/h

Items	Descriptions
Standard dimensions (W/H/D)	VPL-EX293/EX253: Approx. 365 × 105.3 × 259.7 mm (14 $^3/_8$ × 4 $^5/_{32}$ × 10 $^7/_{32}$ inches) Approx. 365 × 96.2 × 252 mm (14 $^3/_8$ × 3 $^{25}/_{32}$ × 9 $^{29}/_{32}$ inches) (without projecting parts) VPL-EX233: Approx. 365 × 105.3 × 252.5 mm (14 $^3/_8$ × 4 $^5/_{32}$ × 9 $^{15}/_{16}$ inches) Approx. 365 × 96.2 × 252 mm (14 $^3/_8$ × 3 $^{25}/_{32}$ × 9 $^{29}/_{32}$ inches) (without projecting parts)
Mass	VPL-EX293: Approx.4.0 kg (8.8 lb) VPL-EX253: Approx.3.9 kg (8.6 lb) VPL-EX233: Approx.3.8 kg (8.4 lb)
Supplied accessories	See "Checking the Supplied Accessories" (page 9).
Optional accessories [*2] [*3]	**Projector Lamp LMP-E212 (for replacement)** **USB wireless LAN module IFU-WLM3**

Notes

*1: For details, refer to "Acceptable Input Signals" on page 67.

*2: Information on accessories in this manual is current as of March 2016.

*3: Not all optional accessories are available in all countries and area. Please check with your local Sony Authorized Dealer.

Design and specifications of the unit, including the optional accessories, are subject to change without notice.

Others

Pin assignment

HDMI terminal (HDMI, female)
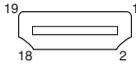
1	T.M.D.S. Data2+	11	T.M.D.S. Clock Shield
2	T.M.D.S. Data2 Shield	12	T.M.D.S. Clock –
3	T.M.D.S. Data2 –	13	N.C.
4	T.M.D.S. Data1+	14	RESERVED (N.C.)
5	T.M.D.S. Data1 Shield	15	SCL
6	T.M.D.S. Data1 –	16	SDA
7	T.M.D.S. Data0+	17	DDC GND
8	T.M.D.S. Data0 Shield	18	+5V Power
9	T.M.D.S. Data0 –	19	Hot Plug Detect
10	T.M.D.S. Clock+		

RGB input terminal (Mini D-sub 15-pin, female)
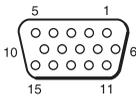
1	Video input (red) R	9	Power supply input for DDC
2	Video input (green) G	10	GND
3	Video input (blue) B	11	GND
4	GND	12	DDC/SDA
5	RESERVE	13	Horizontal sync signal
6	GND (R)	14	Vertical sync signal
7	GND (G)	15	DDC/SCL
8	GND (B)		

RS-232C terminal (D-Sub 9-pin, male)
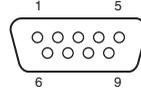
1	NC	6	NC
2	RXDA	7	RTS
3	TXDA	8	CTS
4	DTR	9	NC
5	GND		

USB terminal (Type A, female)
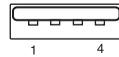
1	V_{BUS} (4.4 - 5.25 V)
2	Data–
3	Data+
4	Ground

USB terminal (Type B, female)

1	VCC (+5 V)
2	Data–
3	Data+
4	Ground

Acceptable Input Signals[*1]

Computer signal

Resolution	fH[kHz]/ fV[Hz]	RGB/ YPBPR	HDMI	RGB
640 × 350	31.5/70	●		●
	37.9/85	●		●
640 × 400	31.5/70	●		●
	37.9/85	●		●
640 × 480	31.5/60	●	●	●
	35.0/67	●		●
	37.9/73	●		●
	37.5/75	●		●
	43.3/85	●		●
800 × 600	35.2/56	●		●
	37.9/60	●	●	●
	48.1/72	●		●
	46.9/75	●		●
	53.7/85	●		●
832 × 624	49.7/75	●		●
1024 × 768	48.4/60	●	●	●
	56.5/70	●		●
	60.0/75	●		●
	68.7/85	●		●
1152 × 864	64.0/70	●		●
	67.5/75	●		●
	77.5/85	●		●
1152 × 900	61.8/66	●		●
1280 × 960	60.0/60	●	●	●
1280 × 1024	64.0/60	●	●	●
	80.0/75	●		●
	91.1/85	●		●
1400 × 1050	65.3/60	●	●	●
1600 × 1200	75.0/60	●	●	●
1280 × 768	47.8/60		●	
1280 × 720	45.0/60	●	●[*2]	●
1920 × 1080	67.5/60		●[*3]	
1366 × 768	47.7/60	●	●	●
1440 × 900	55.9/60	●	●	●

Resolution	fH[kHz]/ fV[Hz]	RGB/ YPBPR	HDMI	RGB
1280 × 800	49.7/60	●	●	●

Digital TV signal[*4]

Signal	fV[Hz]	RGB/ YPBPR	HDMI
480i	60	●	●
576i	50	●	●
480p	60	●	●
576p	50	●	●
1080i	60	●	●
1080i	50	●	●
720p	60	●	●
720p	50	●	●
1080p	60		●
1080p	50		●

Analog TV signal

Signal	fV[Hz]	VIDEO/S VIDEO
NTSC	60	●
PAL/SECAM	50	●

Notes

*1: • When a signal other than the signals listed in table is input, the picture may not be displayed properly.
   • An input signal meant for screen resolution different from that of the panel will not be displayed in its original resolution. Text and lines may be uneven.
*2: This is identified as a movie delivery signal of 720/60p.
*3: This is identified as a movie delivery signal of 1080/60p.
*4: Only G with sync/Y is supported.

Projection Distance

The projection distance is the distance between the front of the lens and the surface of the projected image. The following describes the projection distance and height from the center of the lens to edge of screen by each projected screen size. Height H is the height from the bottom of the projected image (top for ceiling mount) to A (determined by drawing a perpendicular line from the center of the lens to projected image surface).

Floor Installation
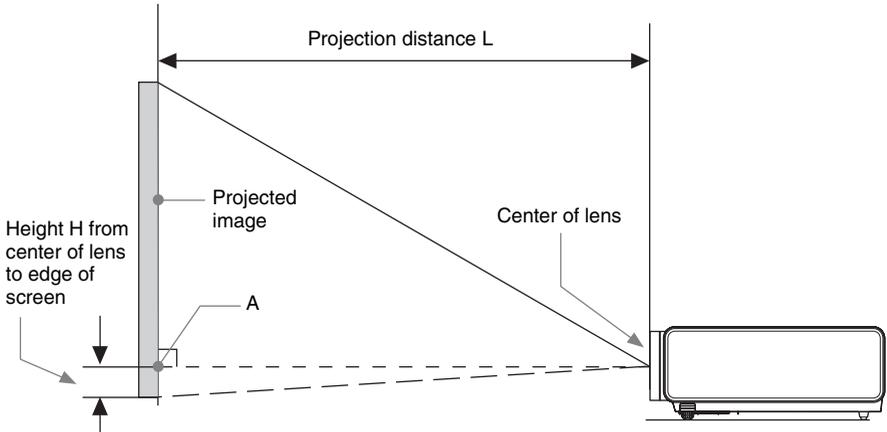
* The number will be minus when the bottom of the projected image is lower than A.

Projection distance table (VPL-EX293/EX253)

Unit: m (inches)

Projected image size		Projection Distance L	Height H from center of lens to edge of screen	
Diagonal D	Width × Height		Minimum Projection Distance L	Maximum Projection Distance L
80 inch (2.03m)	1.63 × 1.22 (64 × 48)	2.29-3.68 (90-145)	-0.20 (-8)	-0.20 (-8)
100 inch (2.54m)	2.03 × 1.52 (80 × 60)	2.87-4.61 (113-181)	-0.25 (-10)	-0.25 (-10)
120 inch (3.05m)	2.44 × 1.83 (96 × 72)	3.45-5.54 (136-218)	-0.30 (-12)	-0.30 (-12)
150 inch (3.81m)	3.05 × 2.29 (120 × 90)	4.32-6.94 (170-273)	-0.38 (-15)	-0.38 (-15)
200 inch (5.08m)	4.06 × 3.05 (160 × 120)	5.77-9.26 (227-364)	-0.51 (-20)	-0.51 (-20)

Projection distance formula (VPL-EX293/EX253)

D: Projected image size (Diagonal)
H: Height H from center of lens to edge of screen

Expression#1(Projection distance L)   Unit: m (inches)

Minimum Projection Distance L	Maximum Projection Distance L
$L=0.028965 \times D-0.0315$ ($L=1.140341 \times D-1.2418$)	$L=0.046521 \times D-0.0363$ ($L=1.831537 \times D-1.4310$)

Expression#2(Height H from center of lens to edge of screen)

Height H from center of lens to edge of screen	
Minimum Projection Distance L	Maximum Projection Distance L
$H=-0.00254 \times D$ ($H=-0.10000 \times D$)	$H=-0.00254 \times D$ ($H=-0.10000 \times D$)

Projection distance table (VPL-EX233)

Unit: m (inches)

Projected image size		Projection Distance L	Height H from center of lens to edge of screen	
Diagonal D	Width × Height		Minimum Projection Distance L	Maximum Projection Distance L
80 inch (2.03m)	1.63 × 1.22 (64 × 48)	2.24-2.92 (89-115)	-0.20 (-8)	-0.20 (-8)
100 inch (2.54m)	2.03 × 1.52 (80 × 60)	2.81-3.66 (111-144)	-0.25 (-10)	-0.25 (-10)
120 inch (3.05m)	2.44 × 1.83 (96 × 72)	3.38-4.40 (133-173)	-0.30 (-12)	-0.30 (-12)
150 inch (3.81m)	3.05 × 2.29 (120 × 90)	4.23-5.51 (167-217)	-0.38 (-15)	-0.38 (-15)
200 inch (5.08m)	4.06 × 3.05 (160 × 120)	5.65-7.36 (223-290)	-0.51 (-20)	-0.51 (-20)

Projection distance formula (VPL-EX233)

D: Projected image size (Diagonal)
H: Height H from center of lens to edge of screen

Expression#1(Projection distance L)   Unit: m (inches)

Minimum Projection Distance L	Maximum Projection Distance L
L=0.028353 × D-0.0294 (L=1.116279 × D-1.1560)	L=0.036975 × D-0.0282 (L=1.455727 × D-1.1109)

Expression#2(Height H from center of lens to edge of screen)

Height H from center of lens to edge of screen	
Minimum Projection Distance L	Maximum Projection Distance L
H=-0.00254 × D (H=-0.10000 × D)	H=-0.00254 × D (H=-0.10000 × D)

Ceiling Installation
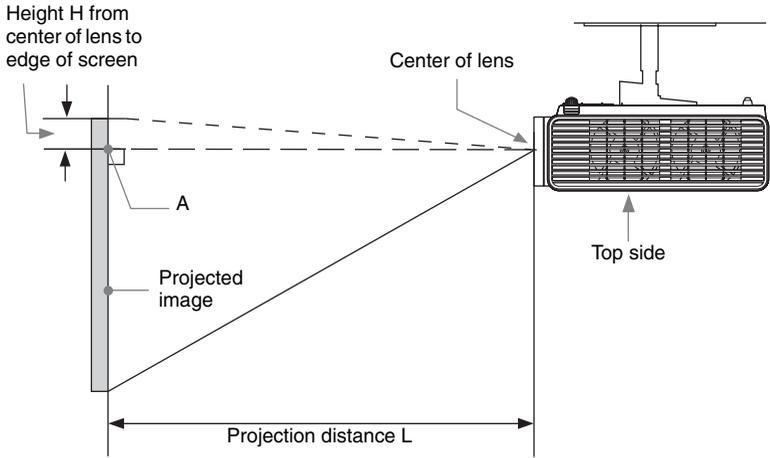
* The number will be minus when the top of the projected image is higher than A.

Others

Projection distance table (VPL-EX293/EX253)

Unit: m (inches)

Projected image size		Projection Distance L	Height H from center of lens to edge of screen	
Diagonal D	Width × Height		Minimum Projection Distance L	Maximum Projection Distance L
80 inch (2.03m)	1.63 × 1.22 (64 × 48)	2.29-3.68 (90-145)	-0.20 (-8)	-0.20 (-8)
100 inch (2.54m)	2.03 × 1.52 (80 × 60)	2.87-4.61 (113-181)	-0.25 (-10)	-0.25 (-10)
120 inch (3.05m)	2.44 × 1.83 (96 × 72)	3.45-5.54 (136-218)	-0.30 (-12)	-0.30 (-12)
150 inch (3.81m)	3.05 × 2.29 (120 × 90)	4.32-6.94 (170-273)	-0.38 (-15)	-0.38 (-15)
200 inch (5.08m)	4.06 × 3.05 (160 × 120)	5.77-9.26 (227-364)	-0.51 (-20)	-0.51 (-20)

Projection distance formula (VPL-EX293/EX253)

D: Projected image size (Diagonal)
H: Height H from center of lens to edge of screen

Expression#1(Projection distance L)   Unit: m (inches)

Minimum Projection Distance L	Maximum Projection Distance L
$L = 0.028965 \times D - 0.0315$ ($L = 1.140341 \times D - 1.2418$)	$L = 0.046521 \times D - 0.0363$ ($L = 1.831537 \times D - 1.4310$)

Expression#2(Height H from center of lens to edge of screen)

Height H from center of lens to edge of screen	
Minimum Projection Distance L	Maximum Projection Distance L
$H = -0.00254 \times D$ ($H = -0.10000 \times D$)	$H = -0.00254 \times D$ ($H = -0.10000 \times D$)

Note
For ceiling installation, consult with a ceiling mount manufacturer, and use a ceiling mount specified for use with this projector by the manufacturer.

Projection distance table (VPL-EX233)

Unit: m (inches)

Projected image size		Projection Distance L	Height H from center of lens to edge of screen	
Diagonal D	Width × Height		Minimum Projection Distance L	Maximum Projection Distance L
80 inch (2.03m)	1.63 × 1.22 (64 × 48)	2.24-2.92 (89-115)	-0.20 (-8)	-0.20 (-8)
100 inch (2.54m)	2.03 × 1.52 (80 × 60)	2.81-3.66 (111-144)	-0.25 (-10)	-0.25 (-10)
120 inch (3.05m)	2.44 × 1.83 (96 × 72)	3.38-4.40 (133-173)	-0.30 (-12)	-0.30 (-12)
150 inch (3.81m)	3.05 × 2.29 (120 × 90)	4.23-5.51 (167-217)	-0.38 (-15)	-0.38 (-15)
200 inch (5.08m)	4.06 × 3.05 (160 × 120)	5.65-7.36 (223-290)	-0.51 (-20)	-0.51 (-20)

Projection distance formula (VPL-EX233)

D: Projected image size (Diagonal)
H: Height H from center of lens to edge of screen

Expression#1(Projection distance L)   Unit: m (inches)

Minimum Projection Distance L	Maximum Projection Distance L
$L=0.028353 \times D-0.0294$ $(L=1.116279 \times D-1.1560)$	$L=0.036975 \times D-0.0282$ $(L=1.455727 \times D-1.1109)$

Expression#2(Height H from center of lens to edge of screen)

Height H from center of lens to edge of screen	
Minimum Projection Distance L	Maximum Projection Distance L
$H=-0.00254 \times D$ $(H=-0.10000 \times D)$	$H=-0.00254 \times D$ $(H=-0.10000 \times D)$

Note

For ceiling installation, consult with a ceiling mount manufacturer, and use a ceiling mount specified for use with this projector by the manufacturer.

Others

Dimensions

Top (VPL-EX293/EX253)

365 (14 $^3/_8$)

85 (3 $^{11}/_{32}$)

18.1 ($^{23}/_{32}$)

10.4 ($^{13}/_{32}$)

Center of Lens

252 (9 $^{29}/_{32}$)

Unit: mm (inches)

Top (VPL-EX233)

365 (14 $^3/_8$)

85 (3 $^{11}/_{32}$)

Center of Lens

0.5 ($^1/_{32}$)

24.7 ($^{31}/_{32}$)

24.2 ($^{15}/_{16}$)

252 (9 $^{29}/_{32}$)

Unit: mm (inches)

Front

Center of Lens

44.3 (1 $^3/_4$)

96.2 (3 $^{25}/_{32}$)

105.3 (4 $^5/_{32}$)

Unit: mm (inches)

Others

Dimensions | 75

Bottom (VPL-EX293/EX253)

233.5 (9 3/16) 38.5 (1 17/32)

221.6 (8 23/32)

Center of Lens

0.8 (1/32)

27.5 (1 3/32)

14 (9/16)

14 (9/16)

46.3 (1 13/16)

27.5 (1 3/32)

102.5 (4 1/32)

207 (8 5/32)

228 (8 31/32)

Holes for ceiling mount (M4, Depth 8 (5/16))

31.8 (1 1/4)   31.8 (1 1/4)   13.5 (17/32)   45.3 (1 25/32)   57.4 (2 1/4)

97.5 (3 27/32)

Unit: mm (inches)

Bottom (VPL-EX233)

233.5 (9 $^3/_{16}$)   38.5 (1 $^{17}/_{32}$)

221.6 (8 $^{23}/_{32}$)

27.5 (1 $^3/_{32}$)

14 ($^9/_{16}$)

0.8 ($^1/_{32}$)

Center of Lens

14 ($^9/_{16}$)

46.3 (1 $^{13}/_{16}$)

27.5 (1 $^3/_{32}$)

102.5 (4 $^1/_{32}$)

207 (8 $^5/_{32}$)

228 (8 $^{31}/_{32}$)

Holes for ceiling mount (M4, Depth 8 ($^5/_{16}$))

31.8 (1 $^1/_4$)   31.8 (1 $^1/_4$)   45.3 (1 $^{25}/_{32}$)   57.4 (2 $^1/_4$)

13.5 ($^{17}/_{32}$)

97.5 (3 $^{27}/_{32}$)

Unit: mm (inches)

Others

Dimensions | 77
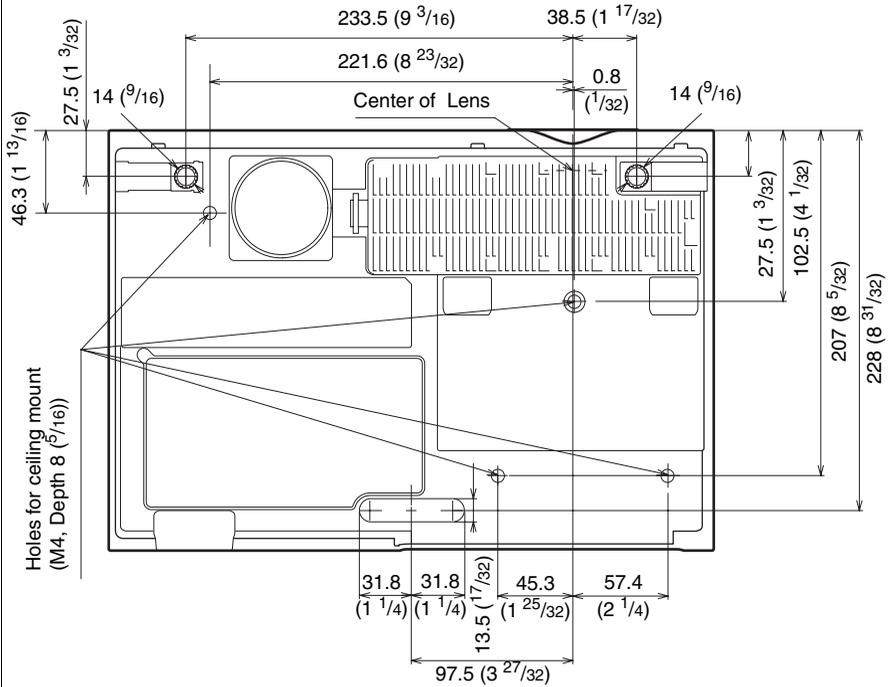
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