

Video Projector

Operating Instructions

Before operating the unit, please read this manual and supplied Quick Reference Manual thoroughly and retain them for future reference.

VPL-HW40ES

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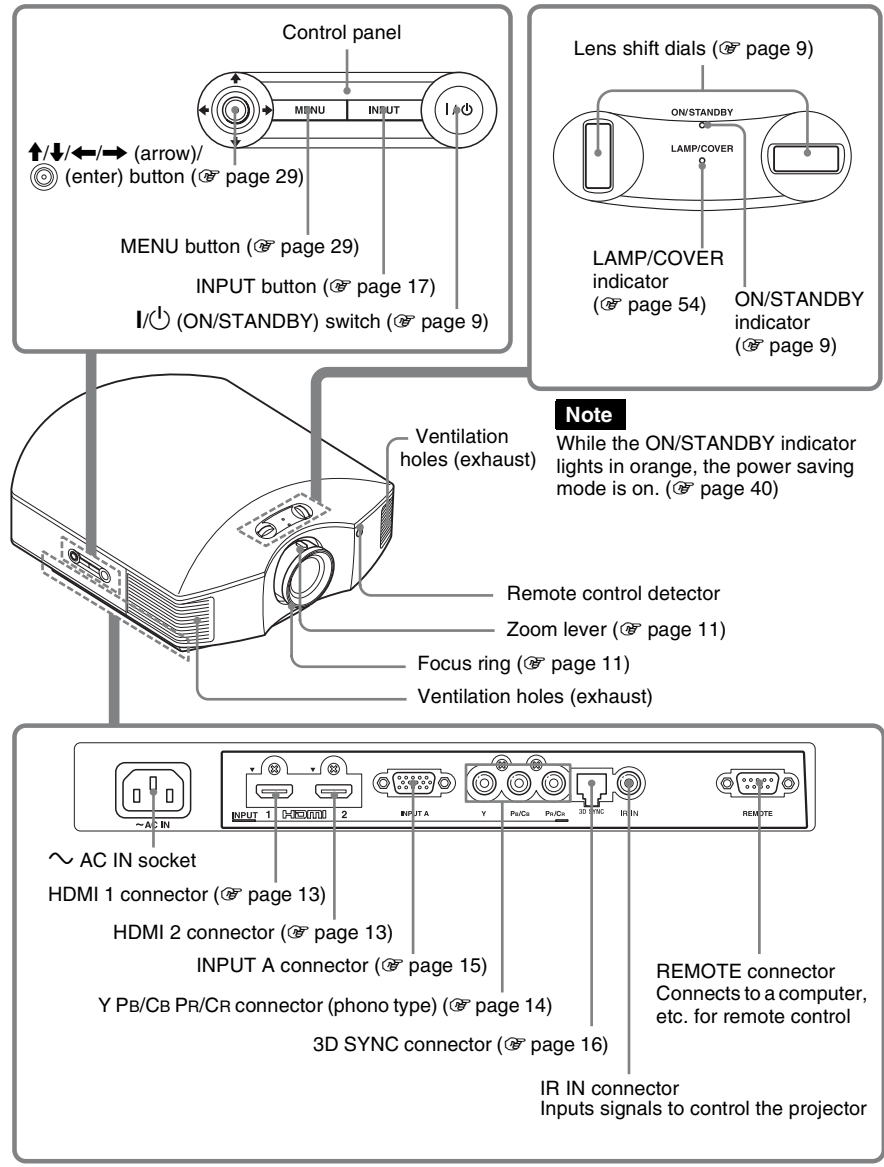
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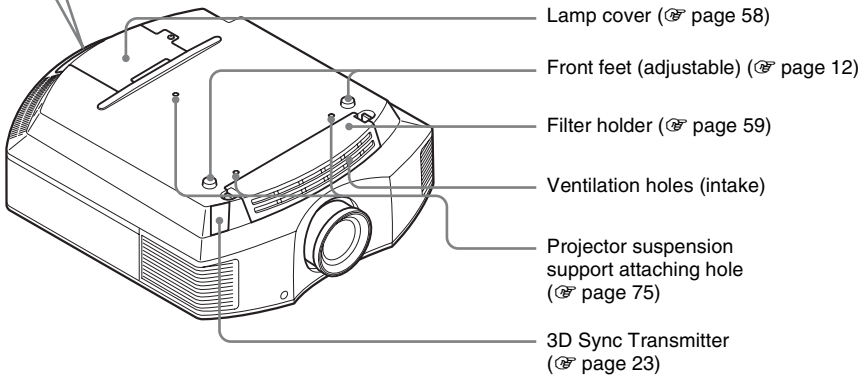
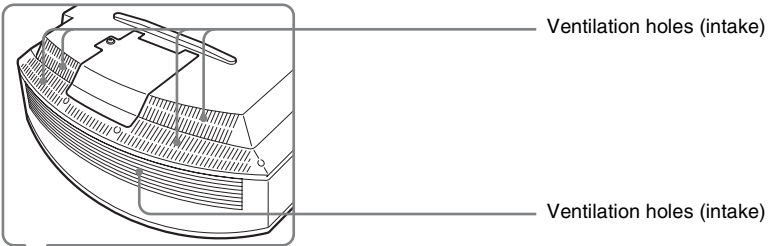
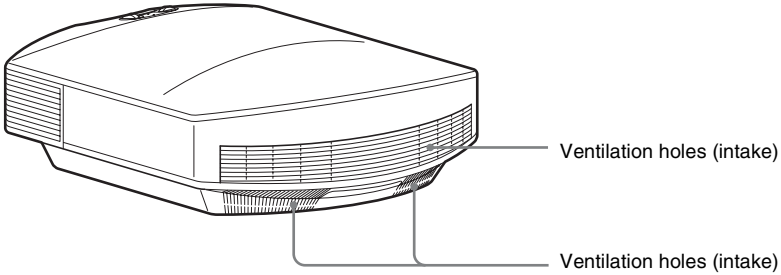
Location of Controls

Front/Right Side

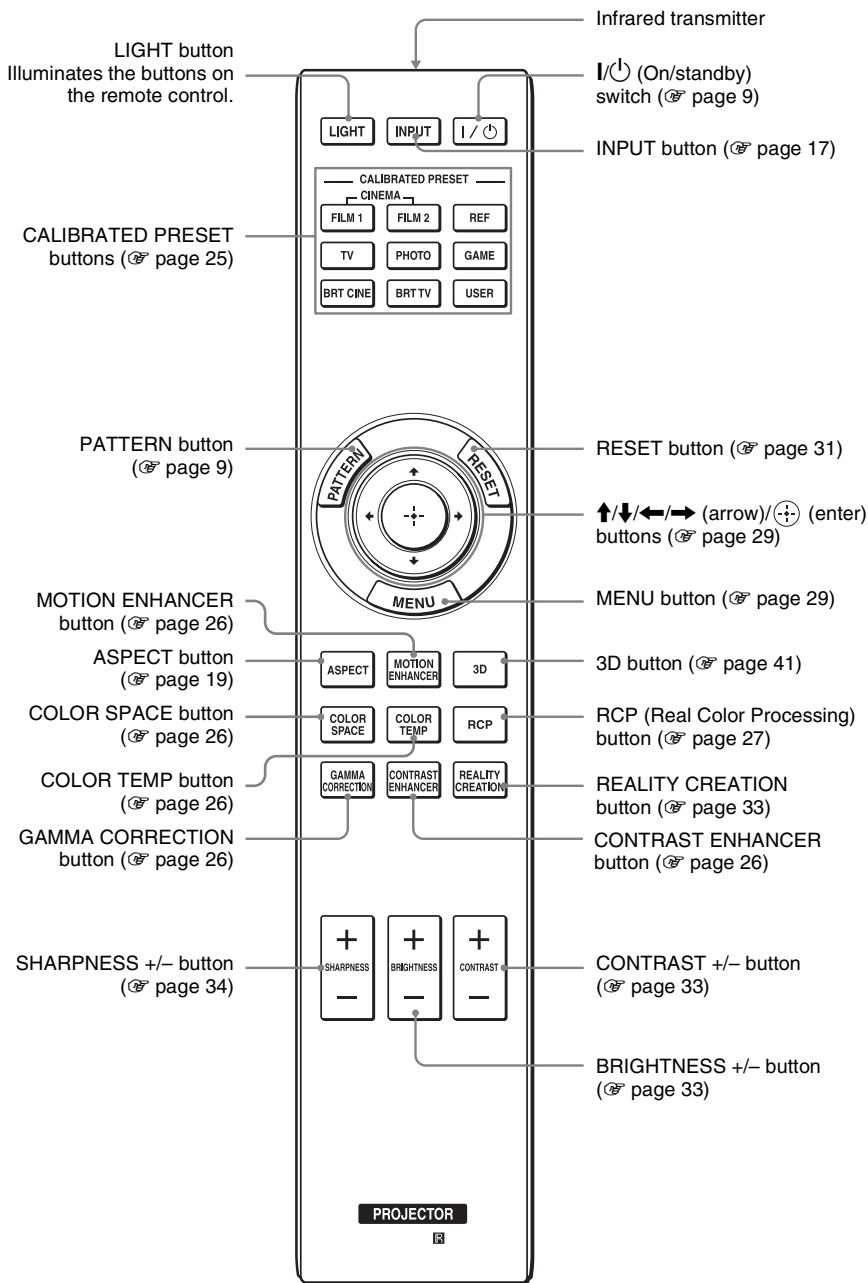
You can use the buttons on the control panel with the same names as those on the remote control to operate the projector.



Rear/Bottom



Remote Control



Connections and Preparations

This section describes how to install the projector and screen, how to connect the equipment from which you want to project the picture, etc.

Preparation 1: Installing the Projector

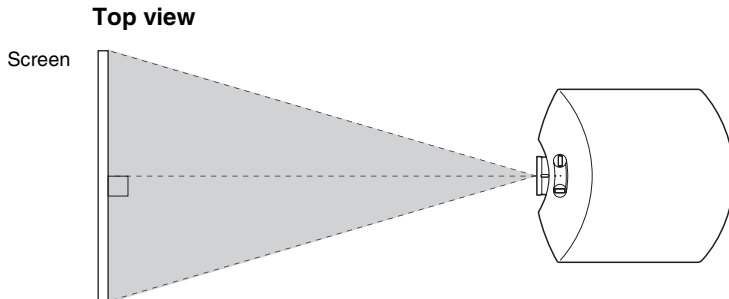
The projector displays pictures output from a VCR or other device.

The lens shift allows you to have broader options for placing the projector and viewing pictures easily.

Installing the Unit

The installation distance between the unit and a screen varies depending on the size of the screen or whether or not you use the lens shift features. Install this unit so that it fits the size of your screen. For details on the distance between the unit and the screen (the projection distance) and the size of projected video, see “Projection Distance and Lens Shift Range” (📖 page 73).

1 Position the unit so that the lens is parallel to the screen.



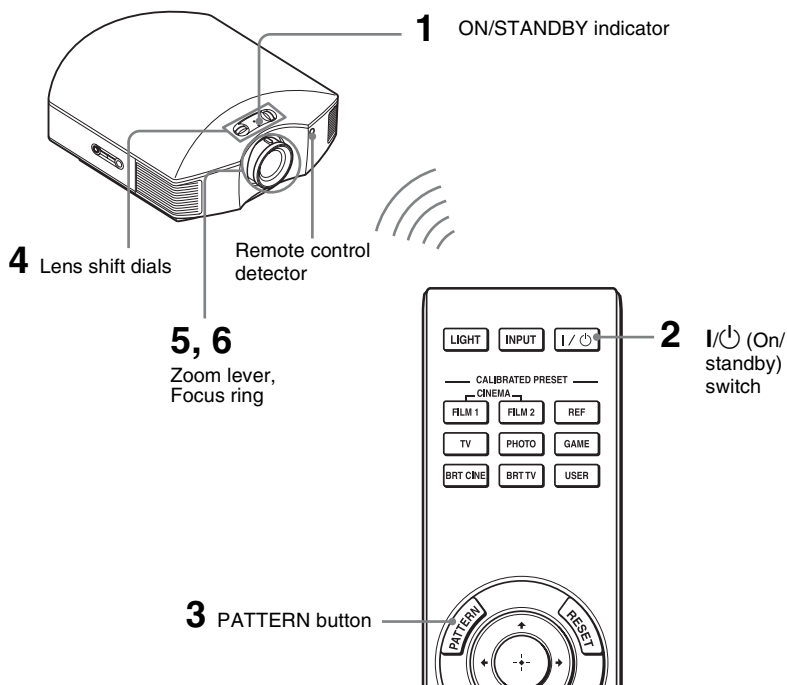
2 Project an image on the screen and adjust the picture so that it fits the screen. (📖 page 8)

Note

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 projector or the zooming magnifications. This is not a malfunction of the projector.

Preparation 2: Adjusting the Picture Position

Project an image on the screen and then adjust the picture position.



Tip

The I/⏻ (ON/STANDBY), INPUT, MENU, and ↑/↓/←/→/⊙ (joystick) buttons on the side panel of the projector function the same as those on the remote control.

Note

Depending on the installation location of the projector, you may not control it with the remote control. In this case, point the remote control to the screen instead of the projector.

1 After connecting the AC cord to the projector, plug the AC cord into a wall outlet.

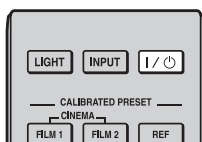
The ON/STANDBY indicator lights in red and the projector goes into standby mode.

ON/STANDBY



Lights in red.

2 Press the I/⏻ (ON/STANDBY) switch to turn on the projector.



The ON/STANDBY indicator flashes in green, and then lights in green.

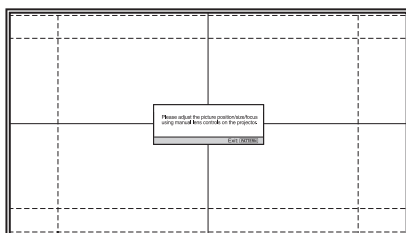
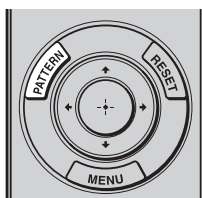
ON/STANDBY



Flashes in green for a while (tens of seconds) and then lights in green.

3 Display a test signal for performing adjustments.

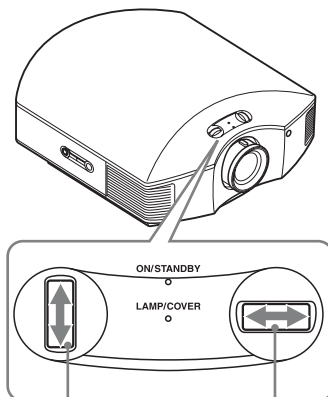
Press the PATTERN button on the remote control to display the test signal.



Tip

Press the PATTERN button to clear the test signal display.

4 Move both lens shift dials to adjust the picture position.



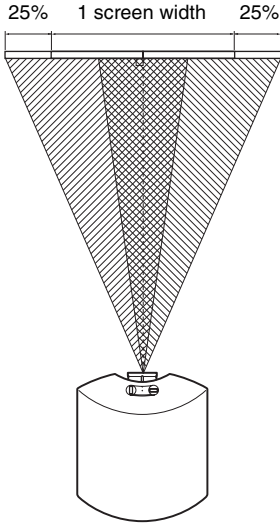
To adjust the vertical position

To adjust the horizontal position

To adjust the horizontal position

Turn the lens shift dial right or left.

The picture projected on the screen moves right or left by a maximum of 25% of the screen width from the center of the lens.



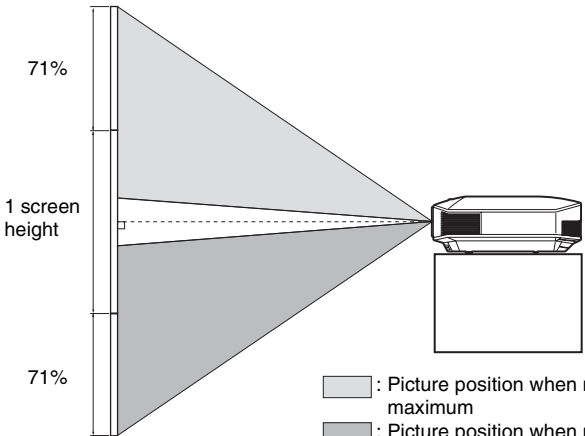
Top view

-  : Picture position when moving the picture to the left at maximum
-  : Picture position when moving the picture to the right at maximum

To adjust the vertical position

Turn the lens shift dial up or down.

The picture projected on the screen moves up or down by a maximum of 71% of the screen height from the center of the lens.

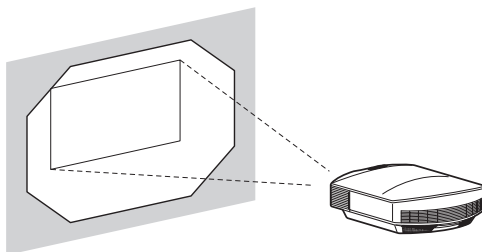
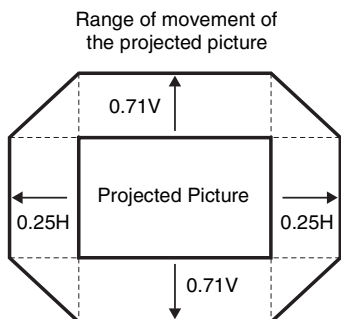


Side view

-  : Picture position when moving the picture upward at maximum
-  : Picture position when moving the picture downward at maximum

Notes

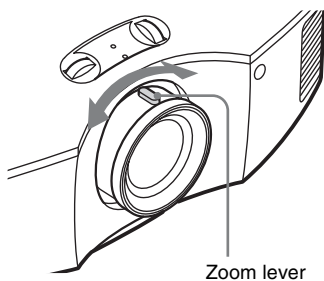
- The range to move the picture projected on the screen can be adjusted only within the octagon area illustrated below. For details, see “Projection Distance and Lens Shift Range” (page 73).



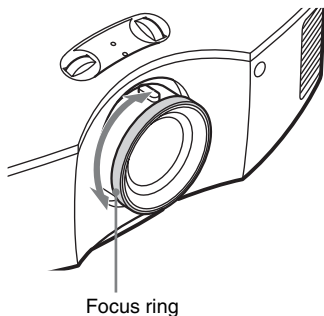
H: Width of the projected picture
V: Height of the projected picture

- When you use both the horizontal and vertical lens shift features at the same time, the distance the picture projected on the screen moves differ depending on how much the lens shift is adjusted.

5 Adjust the picture size using the zoom lever.

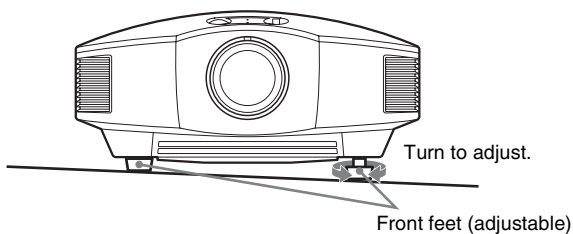


6 Adjust the focus using the focus ring.



To adjust the tilt of the installation surface

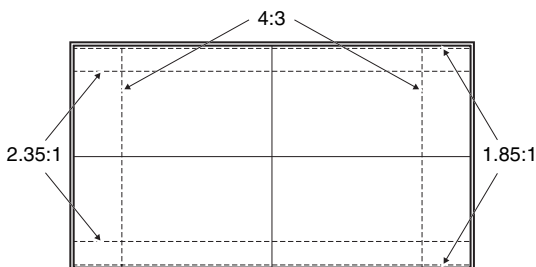
If the projector is installed on an uneven surface, use the front feet (adjustable) to keep the projector level.



Notes

- Pointing the projector at too high or too low of a tilt will result in trapezoidal distortion in the projected image.
- Be careful not to catch your finger when turning the front feet (adjustable).

Lens Focus adjustment window (test pattern)



Preparation 3: Connecting the Projector

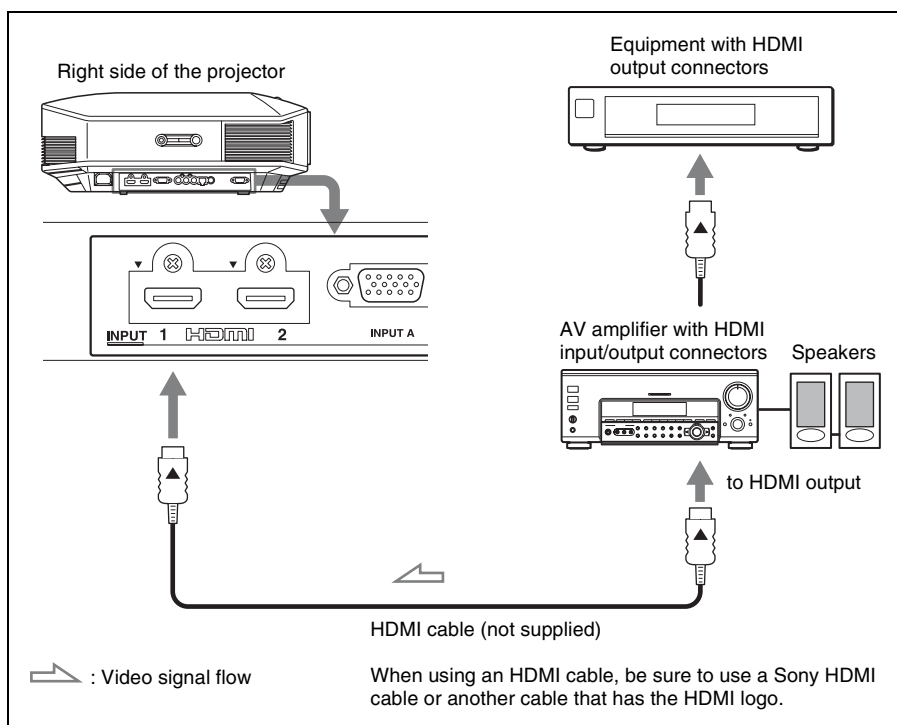
When making connections, be sure to do the following:

- Turn off all equipment before making any connections.
- Use the proper cables for each connection.
- Insert the cable plugs properly; poor connection at the plugs may cause a malfunction or poor picture quality. When pulling out a cable, be sure to pull it out from the plug, not the cable itself.
- Refer to the operating instructions of the connected equipment.

Connecting to a VCR

To connect to equipment with HDMI output connectors

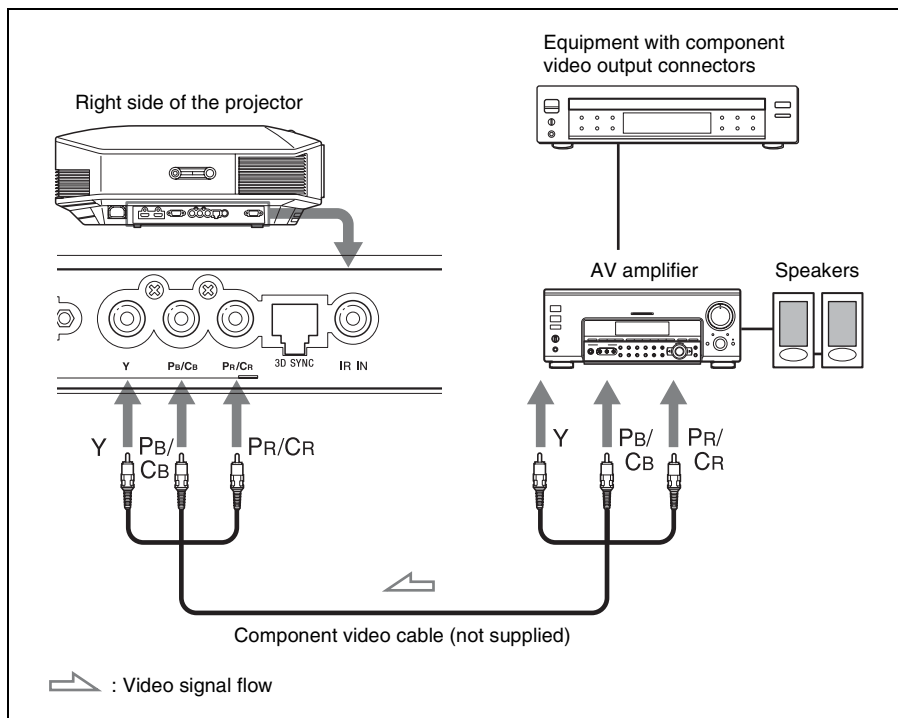
You can enjoy better picture quality by connecting a DVD player/recorder, Blu-ray Disc player/recorder, or PlayStation® equipped with HDMI output to the HDMI input of the projector. Moreover, if you have a Control for HDMI compatible equipment, you can operate the projector synchronizing with the Control for HDMI compatible equipment. For details, see the Function  menu ( page 41) and “About the Control for HDMI” ( page 49).



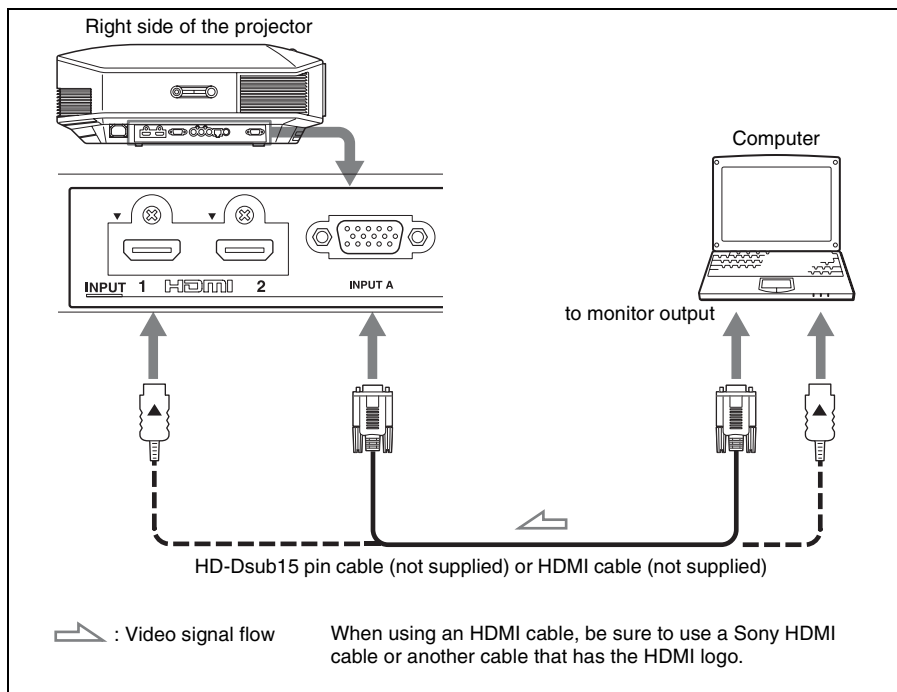
Notes

- Use a high-speed HDMI cable. With a standard HDMI cable, images of 1080p, DeepColor, and 3D video images may not be displayed properly.
- When connecting an HDMI cable to the projector, make sure the ▼ mark on the upper part of the HDMI input of the projector and the ▲ mark on the connector of the cable is set at the same position.
- If the picture from equipment connected to the projector with an HDMI cable is not clear, check the settings of the connected equipment.

To connect to equipment with component video output connectors



Connecting to a Computer

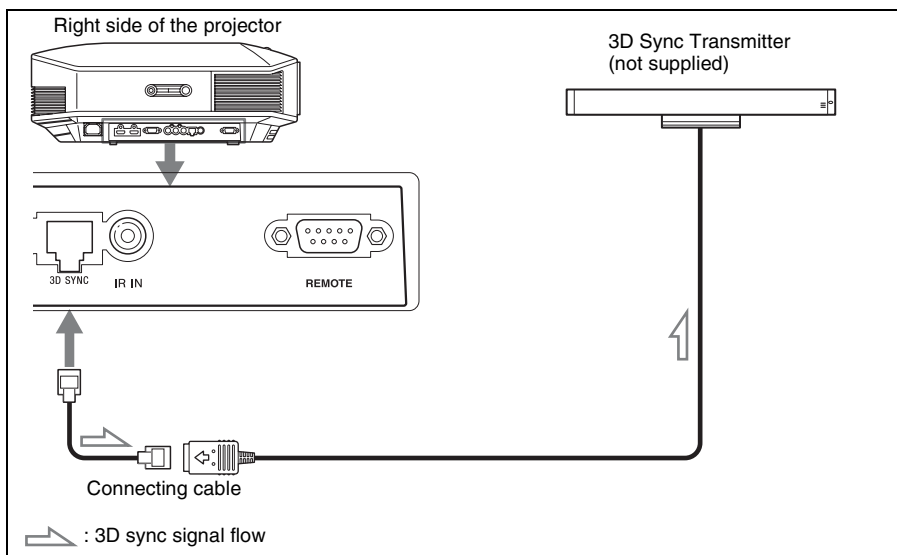


Notes

- Use a high-speed HDMI cable. With a standard HDMI cable, images of 1080p, DeepColor, and 3D video images may not be displayed properly.
- When connecting an HDMI cable to the projector, make sure the ▼ mark on the upper part of the HDMI input of the projector and the ▲ mark on the connector of the cable is set at the same position.
- If you set your computer, such as a notebook type, to output the signal to both computer's display and this equipment, the picture of the equipment may not appear properly. Set your computer to output the signal to only the external monitor.
For details, refer to the computer's operating instructions supplied with your computer. For settings of the computer, consult with the manufacturer of the computer.
- If the picture from equipment connected to the projector with an HDMI cable is not clear, check the settings of the connected equipment.

Connecting to a 3D Sync Transmitter

This unit incorporates a 3D Sync Transmitter. Depending on the installation environment of the unit, the 3D glasses may not receive 3D signals properly from the unit's built-in 3D Sync Transmitter. In this case, connect an optional 3D Sync Transmitter and place it near your viewing position.



Tip

Place the optional 3D Sync Transmitter directly facing the 3D glasses. Also, in order to stabilize operation of the 3D glasses, it is recommended that you place the 3D Sync Transmitter near your viewing position.

CAUTION

Be sure to use straight-type LAN cable of up to 15 m labeled TYPE CM, and do not use an extension cord.

Notes

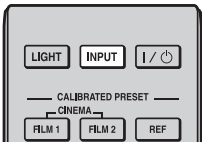
- The 3D SYNC connector is dedicated for the optional 3D Sync Transmitter. Do not connect computers or other network devices, to avoid malfunction.
- You can use a 3D Sync Transmitter separate from this unit, using an optional LAN cable (straight-type).
If the usage environment has interference of a continuous specific frequency, synchronization of 3D image signals and the 3D glasses may be lost. In this case, use a LAN cable labeled Category 7. When watching 3D images in an environment that has even more interference, use the internal transmitter.
- Be sure to use cable of up to 15 m, and do not use an extension cord. Also, keep the LAN cable away from any AC power cords as much as possible.
- Only one 3D Sync Transmitter should be connected to the unit. Connecting multiple 3D Sync Transmitters may cause a malfunction.
- When connected to the 3D Sync Transmitter, the built-in 3D Sync Transmitter feature of the unit will turn off. You cannot use both at the same time.

Projecting

This section describes how to operate the unit to view the picture from the equipment connected to the unit. It also describes how to adjust the quality of the picture to suit your taste.

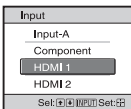
Projecting the Picture

- 1 Power on both the projector and the equipment connected to the unit.
- 2 Press INPUT to display the input palette on the screen.



- 3 Select the equipment from which you want to display images.

Press INPUT repeatedly or press / / (enter) to select the equipment from which to project.



Example: To view the picture from the video equipment connected to the HDMI 1 connector of this unit.

To view the picture from	Press INPUT to display
RGB equipment connected to the INPUT A connector	Input-A
Component equipment connected to the Y Pb/Cb Pr/Cr connector	Component
Equipment connected to the HDMI 1 connector	HDMI 1
Equipment connected to the HDMI 2 connector	HDMI 2

Tips

- When “Auto Input Search” is set to “On” in the Function menu, only input terminals with effective signals are displayed in the input palette.
- When “Status” is set to “Off” in the Setup menu, the input palette does not appear. Press of the INPUT button to switch between input terminals in sequence.
- When the “Control for HDMI” is set to “On” in the Function menu, the input terminal with effective signals is automatically displayed, synchronizing with the operation of the equipment connected to HDMI 1 or HDMI 2 input of the unit. (Only when the connected equipment supports Control for HDMI compatible.)

Turning Off the Power

1 Press the I/⏻ (ON/STANDBY) switch.

A message “POWER OFF?” appears on the screen.

2 Press the I/⏻ (ON/STANDBY) switch again before the message disappears.

The ON/STANDBY indicator flashes in green and the fan continues to run to reduce the internal heat. First, the ON/STANDBY indicator flashes quickly, during which you will not be able to light up the lamp with the I/⏻ (ON/STANDBY) switch.

The fan stops and the ON/STANDBY indicator changes from flashing green to remaining red.

The power is turned off completely, and you can disconnect the power cord.

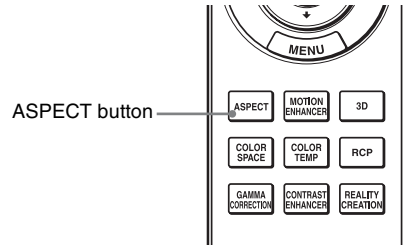
Note

Never disconnect the power cord while the indicator is flashing.

You can turn off the projector by holding the I/⏻ (ON/STANDBY) switch for about 1 second, instead of performing the above steps.

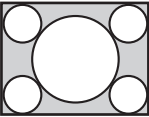
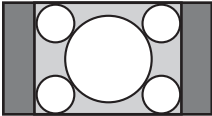
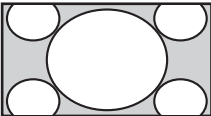
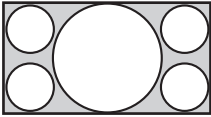
Selecting the Aspect Ratio According to the Video Signal

You can select an aspect ratio best suited for the video signal received.

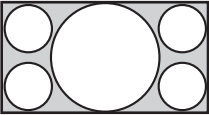
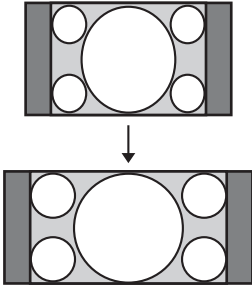
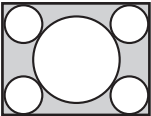
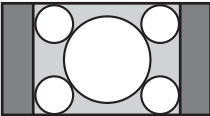
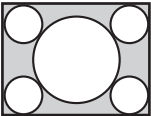
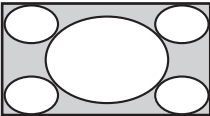


Press ASPECT.

Each time you press the button, you can select the “Aspect” setting. You can also select it using the menu. (📖 page 37)

Original image	Recommended setting and resultant images
 1.33:1 (4:3)  1.33:1 (4:3) with side panels	Wide Zoom (When an SD signal is input) 
 1.33:1 (4:3) letterbox picture	Zoom (When an SD signal is input) 

Original image	Recommended setting and resultant images
1.78:1 (16:9) 1.33:1 (4:3) 1.33:1 (4:3) with side panels	Normal
Squeezed	Stretch
2.35:1	V Stretch When using an anamorphic lens

Original image	Recommended setting and resultant images
 16:9	Squeeze  When using an anamorphic lens
	Normal (When a computer signal is input) 
	Full (When a computer signal is input) 

Notes

- Selectable aspect modes vary depending on the input signal.
- You can adjust the vertical position of the picture with “V Center” and “Vertical Size” in the Screen  menu only when “Aspect” is set to “Zoom.” (☞ page 38)

Notes on switching the “Aspect” setting

- Select the aspect mode taking into account that changing the aspect ratio of the original picture will provide a different look from that of the original image.
- Note that if the unit is used for profit or for public viewing, modifying the original picture by switching the aspect may constitute an infringement of the rights of authors or producers, which are legally protected.

Watching 3D Video Images

You can enjoy powerful 3D video images, such as from 3D games and 3D Blu-ray Discs, using the optional 3D glasses.

1 Turn on the HDMI equipment for 3D compatibility connected to the unit, then play the 3D content.

For details on how to play 3D content, refer to the operating instructions for the connected equipment.

2 Turn on the unit and project the 3D video image onto the screen.

For details on how to project the image, see “Projecting the Picture” (📖 page 17).

3 Turn on the 3D glasses, and then put them on so that they fit comfortably.

For details on how to use the 3D glasses, refer to the operating instructions for the 3D glasses.

Tips

- The factory default setting for “2D-3D Display Sel.” is “Auto.” to allow projecting 3D video images automatically when the projector detects 3D signals.
- To convert 3D video images to 2D video images, set “2D-3D Display Sel.” to “2D” (📖 page 41).

Notes

- It may not be possible to display 3D video image, depending on the type of signal. Set the “2D-3D Display Sel.” to “3D,” and “3D Format” to “Side-by-Side” or “Over-Under” to suit the format of the 3D content you want to watch (📖 page 41).
- Use the 3D glasses within the communication range (📖 page 23).
- You can watch 3D video images only when signals from HDMI input. When connecting 3D equipment such as a 3D game or 3D Blu-ray player to the unit, use an HDMI cable.
- There are differences in perception of 3D video images among individuals.
- When the temperature of the usage environment is low, the 3D effect may be diminished.

Adjusting/Setting the 3D functions using the menu

Press the 3D button on the remote control to adjust the 3D settings in “3D Settings” in the Function  menu. For details, see “3D Settings” (📖 page 41).

Using the Simulated 3D Function

You can convert normal 2D video images to 3D video images.

Tip

For details on how to operate the on-screen menu, see “Operation through the Menu” (📖 page 29).

- 1 Display the Function  menu and select “3D Settings.”**
- 2 Set “2D-3D Display Sel.” to “3D,” then press ➡ to display “3D Format.”**
- 3 Set “3D Format” to “Simulated 3D” (📖 page 41).**

Notes

- “2D-3D Display Sel.” cannot be set to “3D” for some video sources. For available 3D signals, see “Compatible 3D Signals” (📖 page 68).
- The simulated 3D feature may have limited effect, depending on the video source.
- There are differences in perception of 3D video images converted by the simulated 3D function among individuals.

3D glasses communication range

Figures A and B below indicate the communication range of the 3D glasses. If you try to watch 3D video images from a distance greater than the communication range or install the projector outside the communication range, the 3D glasses may not be able to display the images properly. Also, the viable angles and distance vary depending on the screen type, environment of the room, and installation environment of the projector.

Figure A: 3D glasses communication range (distance from the screen)

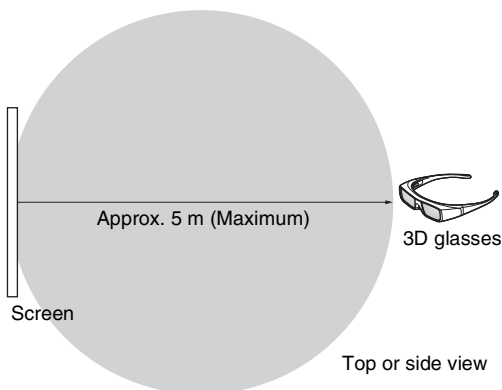
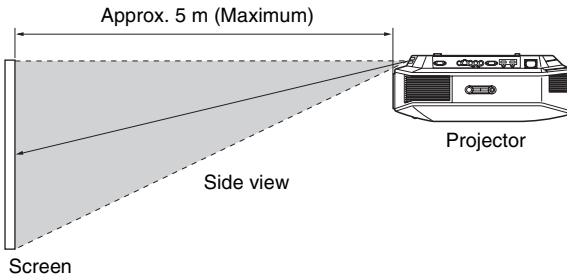


Figure B:3D sync signal communication distance between the projector and screen

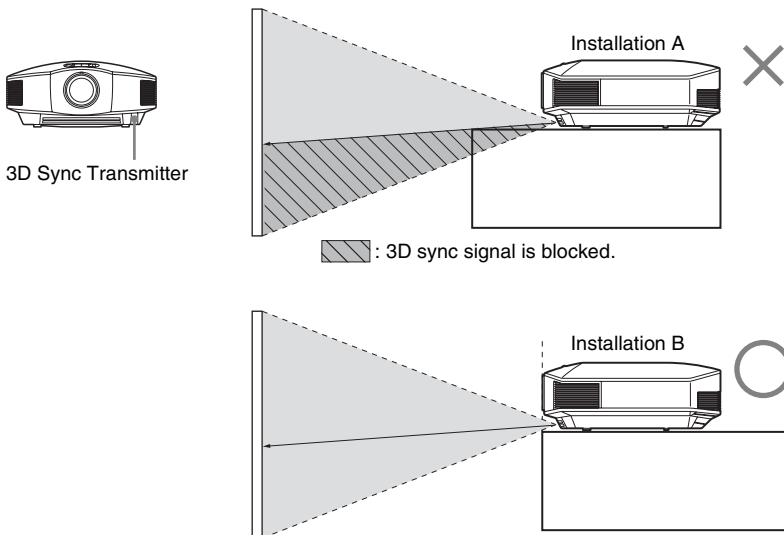


Note

A 3D sync signal is projected towards the screen from 3D Sync Transmitter at the front of this unit. (Figure C)

Installation conditions may prevent 3D sync signals from reaching the screen; for example, an obstruction in front of the unit.

Figure C



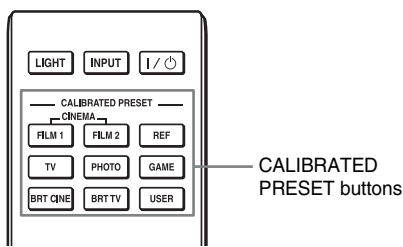
When projecting downward from a unit that is recessed, if the unit is not installed on the ceiling, the signal from the 3D Sync Transmitter may not be projected properly to the screen, and the 3D glasses will not operate normally. (Installation A)
Install the unit with its lens at the edge of, or outside of, the recess (Installation B).
Alternatively, use the optional 3D Sync Transmitter. (☞ page 16)

Selecting the Picture Viewing Mode

You can select the picture viewing mode that best suits the type of video source or room conditions.

You can save and use different preset modes for 2D/3D respectively.

Press one of the CALIBRATED PRESET buttons.

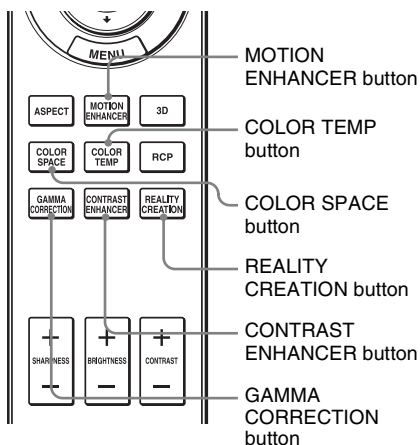


Setting items	Description
CINEMA FILM 1	Picture quality suited to reproducing the highly dynamic and clear images typical of master positive film.
CINEMA FILM 2	Picture quality suited to reproducing the rich tone and color typical of a movie theater.
REF	A picture quality setup suitable for when you want to reproduce faithfully the original image quality, or for enjoying image quality, without any adjustment.
TV	Picture quality suited for watching TV programs, sports, concerts, etc.
PHOTO	Ideal for projecting still images taken with a digital camera.
GAME	Picture quality suited to gaming, with well-modulated colors and fast response.
BRT CINE	Picture quality suited for watching movies in a bright environment, such as a living room.
BRT TV	Picture quality suited for watching TV programs, sports, concerts, and other video images in a bright environment, such as a living room.
USER	Adjusts the picture quality to suit your taste then saves the setting. The factory default setting is the same as “REF.”

Adjusting the Picture Quality

You can easily adjust the picture quality that suits your taste by selecting the adjustment items with the remote control. The adjusted data can be stored in each calibrated preset mode.

Selecting to Directly Adjust the Desired Menu Item



The following menu items can be adjusted by using the buttons on the remote control.

“Motion Enhancer”

“Color Temp.”

“Color Space”

“Contrast Enhancer”

“Reality Creation”

“Gamma Correction”

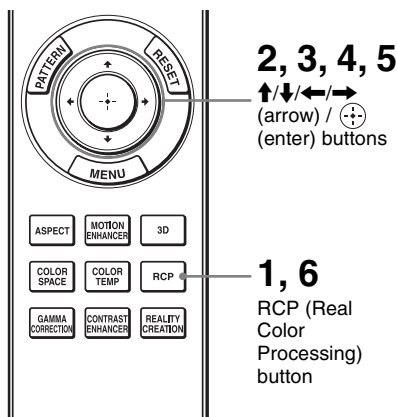
Press the following buttons of the desired menu item repeatedly to adjust the picture quality to suit your taste. For details on each menu item, see the Picture  menu. ( page 32)

Adjusting the Picture Using Real Color Processing

The Real Color Processing (RCP) feature allows you to adjust the color, hue, and brightness of each target of the projected picture you specify independently. You can thus obtain a picture more suitable to your taste.

Tip

Freeze the scene of the video source when you are adjusting the picture using Real Color Processing.

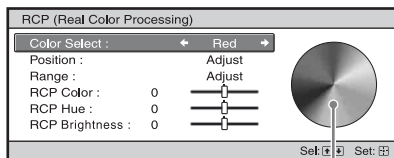


to select the color you want to adjust among “Red,” “Yellow,” “Green,” “Cyan,” “Blue” and “Magenta.”

Only the portions that correspond to the specified color will be colored and the other portions will be displayed in black and white. The reference palette in the RCP window also shows the adjustable colors. Select the desired setting to adjust the color on the projected image using the reference palette as a guide.

- 1 Press RCP on the remote control.
- 2 Press $\uparrow/\downarrow$ to select “User 1,” then press $\rightarrow$.

The RCP (Real Color Processing) window appears.



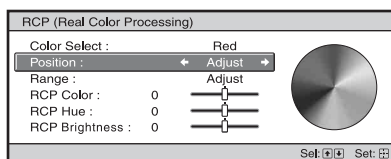
Reference palette

- 3 Select the target color you want to adjust.

Repeat steps 1 and 2 described below to specify the target color.

- 1 Press $\uparrow/\downarrow$ to select “Color Select,” then press $\leftarrow/\rightarrow$

- 2 Press $\uparrow/\downarrow$ to select “Position” or “Range,” and specify it more delicate color position and color range you want to adjust using $\leftarrow/\rightarrow$.



- 4 Adjust the color of the specified portions.

Press $\uparrow/\downarrow$ to select “RCP Color,” “RCP Hue” or “RCP Brightness,” then adjust the color or hue of the portions selected in step 3 to suit your taste using $\leftarrow/\rightarrow$ while watching the projected picture. The picture is returned to normal color during adjustment.

5 After the adjustment is completed, press .

The RCP window disappears and the picture of step 2 returns.

Tip

There are some limitations on selection of position and range.

6 Press RCP.

Using the Menus

This section describes how to make various adjustments and settings using the menus.

Note

The menu displays used for the explanation may be different from the actual menu display.

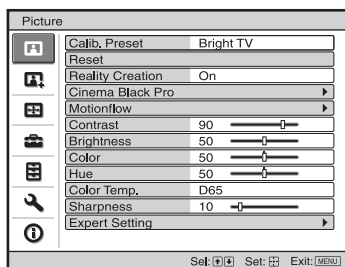
Operation through the Menu

The projector is equipped with an on-screen menu for making various adjustments and settings. Some of the adjustable/setting items are displayed in a pop-up menu, in a setting menu or adjustment menu with no main menu, or in the next menu window. If you select an item name followed by an arrow (▶), the next menu window with setting items appears.

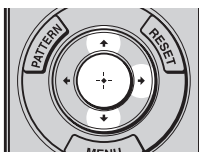
1 Press MENU.



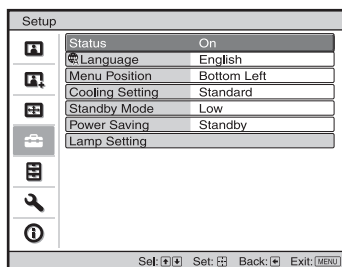
The menu window appears.



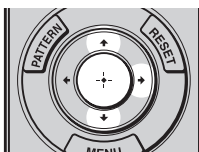
2 Press ↑/↓ to select a menu item, and press → or ◂.



The items that can be set or adjusted with the selected menu appear. The item presently selected is shown in white.



3 Press ↑/↓ to select an item you want to set or adjust and press → or ◂.



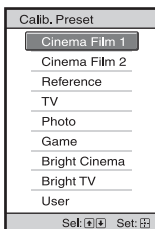
The setting items are displayed in a pop-up menu, in a setting menu, in an adjustment menu or in the next menu window.

Pop-up menu

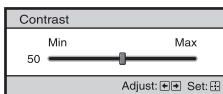
Setting items



Setting menu

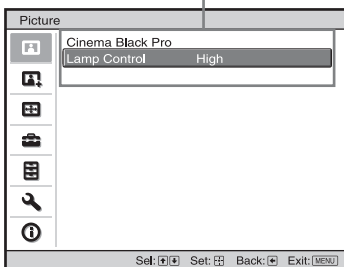


Adjustment menu



Next menu window

Setting items



4 Make the setting or adjustment of an item.

When changing the adjustment level

To increase the value, press $\uparrow/\rightarrow$.

To decrease the value, press $\downarrow/\leftarrow$.

Press $\odot$ to store the setting and restore the original menu screen.

When changing the setting

Press $\uparrow/\downarrow$ to change the setting.

Press $\odot$ to restore the original screen.

You can restore the original menu screen using $\leftarrow$ depending on the selected item.

Items that cannot be adjusted

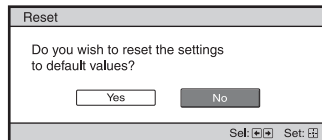
Adjustable items differ depending on the input signal. The items that cannot be adjusted or set do not appear in the menu. (See page 66)

To clear the menu

Press MENU.

To reset the picture that has been adjusted

Select "Reset" from Picture Picture menu.



When the screen display appears, select "Yes" using $\leftarrow$ and press $\odot$.

All of the following settings are reset to its factory preset value.

The settings of "Reality Creation," "Cinema Black Pro," "Motionflow," "Contrast," "Brightness," "Color," "Hue," "Color Temp.," "Sharpness" and "Expert Setting" on the Picture Picture menu

To reset the items that have been adjusted

Select an item in the Menu screen, and display the pop-up menu, the setting menu, and the adjustment menu.

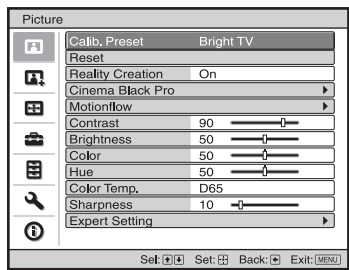
Press RESET on the remote control to reset only the selected settings to its factory preset value.

Note

The RESET button on the remote control is available only when the adjustment menu or the setting menu is selected.

Picture Menu

The Picture menu is used for adjusting the picture.



Note

These items may not be available, depending on the type of input signal. For details, see “Input Signals and Adjustable/Setting Items” (ⓘ page 66).

Item names in brackets represent those printed on the remote control.

Calib. Preset [CALIBRATED PRESET]	You can select the picture viewing mode that best suits the type of video source or the environment. You can save and use different preset modes for 2D/3D respectively. Cinema Film 1: Picture quality suited to reproducing the highly dynamic and clear images typical of master positive film. Cinema Film 2: Picture quality suited to reproducing the rich tone and color typical of a movie theater. Reference: A picture quality setup suitable for when you want to reproduce faithfully the original image quality, or for enjoying image quality, without any adjustment. TV: Picture quality suited for watching TV programs, sports, concerts, etc. Photo: Ideal for projecting still images taken with a digital camera. Game: Picture quality suited to gaming, with well-modulated colors and fast response. Bright Cinema: Picture quality suited for watching movies in a bright environment, such as a living room. Bright TV: Picture quality suited for watching TV programs, sports, concerts, and other video images in a bright environment, such as a living room. User: You can adjust the picture quality to suit your taste, and save the setting. The factory default setting is the same as “Reference.” Tip Any adjustments to picture quality settings are saved for each input.
Reset	Resets all currently selected Calib. Preset mode settings to their default values (ⓘ page 30). Tip Reset does not affect settings saved for the Custom 5 of “Color Temp.” To reset Gain or Bias in Custom 5, use the RESET button on the remote control on the Gain or Bias setting screen.

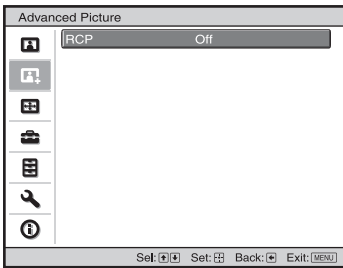
Reality Creation [REALITY CREATION]	Adjusts the detail and noise processing of images. (Super-resolution function) On: Applies detail and noise processing effects. Resolution: When you increase the setting value, the texture and detail of the picture become sharper. Noise Filtering: When you increase the setting value, the noise (picture roughness) becomes less prominent. Test: On/Off: Changes “On” and “Off” at a certain frequency to check the effect of “Reality Creation.” Tip The display position of status during the test works together with the “Menu Position” (ⓘ page 39) setting. Off: The “Reality Creation” function is not applied.
Cinema Black Pro	Lamp Control Switches the lamp output. High: Increases the brightness, and projects brighter images. Low: Decreases the brightness, and enhances blacks by minimizing brightness. Tip Setting “Low” reduces fan noise, while also reducing energy consumption for longer lamp life.
Motionflow	Film Projection Reproduces an image similar to that of projected film. Use this setting as preferred, based on the image content. On: Reduces afterimage. Off: The reduction effect of afterimage is less than the “On” setting. The picture will become brighter.
	Motion Enhancer [MOTION ENHANCER] Reproduces fast-moving pictures smoothly without generating afterimages. High: Select this for picture quality smoother than “Low.” Low: Select this for smooth picture quality. Off: Select this to not apply the motion enhancer function. Tip Certain scenes may contain digital signal artifacts. In this case, set this function to “Off.”
Contrast [CONTRAST]	Adjusts the contrast. Higher values increase the sharpness in images, while lower values decrease the sharpness. You can make adjustments by pressing the CONTRAST +/- on the remote control.
Brightness [BRIGHTNESS]	Adjusts the brightness of the picture. The higher the setting, the brighter the picture. The lower the setting, the darker the picture. You can make adjustments by pressing the BRIGHTNESS +/- on the remote control.
Color	Adjusts the color density. The higher the setting, the greater the intensity. The lower the setting, the lower the intensity.

Hue	Adjusts the color tone. The higher the setting, the more greenish the picture becomes. The lower the setting, the more reddish the picture becomes.
Color Temp. [COLOR TEMP]	Adjusts the color temperature. D93: Equivalent to 9,300 K color temperature normally used in TVs. Gives white colors a blue tint. D75: Equivalent to 7,500 K color temperature used as an ancillary standard illuminant. Gives a neutral tint between “D93” and “D65.” D65: Equivalent to 6,500 K color temperature used as a standard illuminant. Gives white colors a red tint. D55: Equivalent to 5,500 K color temperature used as an ancillary standard illuminant. Gives white colors an even redder tint. Custom 5: Setting that prioritizes brightness. Enables you to adjust, set, and store your favorite color temperature. You can adjust Gain and Bias of RGB.
Sharpness [SHARPNESS]	Sharpens the outline of the picture, or reduces the noise. The higher the setting, the sharper the picture. The lower the setting, the softer the picture, thus reducing the noise. You can make adjustments by pressing the SHARPNESS +/- on the remote control.
Expert Setting	NR (Noise Reduction) Reduces the roughness or noise of the picture. Usually, use to select “Off.” If the picture is rough or noisy, select a setting from among “Low,” “Middle” or “High” according to the input signal source. MPEG NR (MPEG Noise Reduction) Reduces block noise and mosquito noise, in particular in digital signals. Usually, use to select “Off.” If the picture is rough or noisy, select a setting from among “Low,” “Middle” or “High” according to the input signal source. Film Mode According to the film source you have selected, make a setting for playback. Auto 1: Suitable for reproducing the original picture movement. Normally, set this to “Auto 1.” Auto 2: Reproduces a 2-3 or 2-2 Pull-Down format video signal, such as film sources, in a smooth picture movement. When a video signal other than 2-3 or 2-2 Pull-Down format is input, the picture is played back in progressive format. Off: Plays back the picture in progressive format without detecting video signals automatically. Contrast Enhancer [CONTRAST ENHANCER] Corrects the level of bright and dark parts automatically to optimize contrast according to a scene. Increases image sharpness and makes image dynamic. High/Middle/Low: You can adjust the contrast enhancer. Off: The contrast enhancer function is not applied.

Expert Setting	Gamma Correction [GAMMA CORRECTION] Adjusts the response characteristics of the tone of the picture. Select a favorite tone from 6 options. 2.0: Bright Produces a brighter picture overall. 2.2 ↓ 2.4: Dark Produces a darker picture overall. Gamma 8: Increases the sharpness in images. Select this when you watch in a bright environment, such as a living room. Gamma 9: Produces a brighter picture than Gamma 8. Gamma 10: Increases the sharpness in images. Select this when you watch TV programs, etc., in a bright environment, such as a living room. Off: Gamma Correction is not applied.
	x.v.Color Set this item when playing back an x.v.Color video signal. Set this item to “On” when connecting the unit with equipment that supports x.v.Color and playing back an x.v.Color video signal. For details on x.v.Color, see “About the x.v.Color” (📖 page 50). Tip Setting x.v.Color to “On” disables gamma adjustment.
	Color Space [COLOR SPACE] Converts the color space. BT.709: An ITU-R BT.709 color space, which is used for high-definition television broadcast or Blu-ray Disc. The color space is equivalent to sRGB. Color Space 1: The color space suited for watching TV programs and video images, such as sport, concerts, etc. Color Space 2: The color space suited for watching TV programs, sport, concerts, and other video images in a bright environment, such as a living room. Color Space 3: The color space suited for watching movies.

Advanced Picture Menu

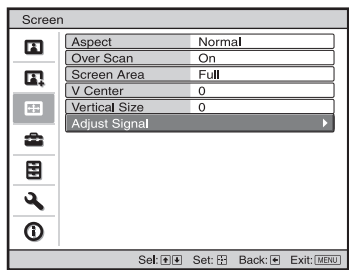
The Advanced Picture is used for adjusting the picture more.



RCP (Real Color Processing)	You can adjust the color, hue, and brightness of each selected portion of the picture independently. User 1: You can adjust the picture using Real Color Processing and store the settings. Once the settings are stored, you can view the picture with the adjusted picture quality. Off: Cancels this feature. For details, see “Adjusting the Picture Using Real Color Processing”. (page 27)
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Screen Menu

The Screen menu is used to adjust the input signal. You can adjust the size of the picture, and select aspect mode, etc.



Note

These items may not be available, depending on the type of input signal. For details, see “Input Signals and Adjustable/Setting Items” (⌘ page 66).

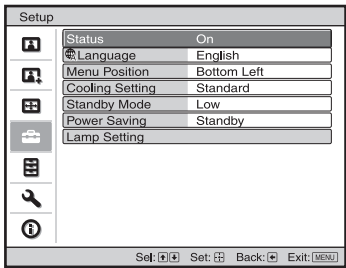
Item names in brackets represent those printed on the remote control.

Aspect [ASPECT]	Sets the aspect ratio of the picture to be displayed for the current input signal. (⌘ page 19) Wide Zoom: A 4:3 aspect ratio picture is projected naturally to fill the screen. The upper and lower portions of the picture are cropped. Zoom: A 4:3 aspect ratio picture is enlarged vertically and horizontally in the same ratio to fill the screen. The upper and lower portions are cropped. This mode is suitable to view a letterbox picture. If a movie subtitle, etc., at the bottom of the picture cannot be seen, it can be displayed by adjusting “Vertical Size” or “V Center.” (⌘ page 38) Normal: Displays a picture on the whole of the screen, maintaining the aspect ratio of the input picture. This is suitable for 16:9 or 4:3 pictures. Stretch: A picture squeezed to 4:3 is displayed in 16:9 aspect ratio. V Stretch: A 2.35:1 picture is displayed after having been changed to 16:9. This is the most suitable mode when using a commercially available anamorphic lens. Squeeze: Displays in its original aspect ratio when a 16:9 or 4:3 picture is viewed using a commercially available anamorphic lens. Full: Displays an original picture on the whole of the screen. Only when a computer signal is input. Notes • When a computer signal is input, you can only select “Normal” and “Full.” • When the input is a 3D signal or when “2D-3D Display Sel.” in the Function  menu is set to “3D”, you can only select “Normal” or “Squeeze.”
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Over Scan	Hides the edges of the picture. On: The edges of the input picture are not displayed. Select this setting when noise appears along the edge of the picture. Off: Projects the whole of the input picture. Tip To display the displayable region within the four directions of the screen, refer to “Blanking” on the Installation  menu ( page 45).
Screen Area	Selects the size of the picture when a Hi-Vision picture is overscanned. Full: Expands the picture on the whole of the screen. Through: Does not expand the picture on the whole of the screen.
V Center	Adjust the whole picture by moving up and down on the screen. As the selected number increases, the screen moves up, and as the selected number decreases, the screen moves down.
Vertical Size	Reduces or enlarges the picture vertically. The screen is enlarged as the setting increases and reduced as the setting decreases. If the subtitle of a movie, etc. cannot be seen, use this together with “V Center”.
Adjust Signal	You can adjust the input signal. APA: Adjusts “Phase”, “Pitch”, and “Shift” automatically to a position that suits the image signal for pictures from a computer. Phase: Adjusts the dot phase and the phase of computer signal of pictures from a computer. Adjusts the picture to the point where it looks clearest. Pitch: Adjusts the horizontal size of the picture from a computer. As the number increases, the picture becomes wider, and as the number decreases, the picture becomes narrower. Adjust the setting to match the number of dots of the input signal. Shift: Adjusts the position of the picture. H: As the setting for H (horizontal) increases, the picture moves to the right, and as the setting decreases, the picture moves to the left. Use  /  to adjust the horizontal position. V: As the setting for V (vertical) increases, the picture moves up, and as the setting decreases, the picture moves down. Use  /  to adjust the vertical position.

Setup Menu

The Setup menu is used to change the factory preset settings, etc.



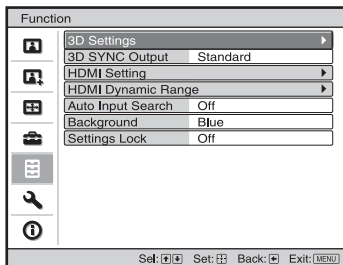
Status	Sets whether or not the on-screen display is displayed. Set to “Off” to turn off the on-screen displays except for certain menus, message when turning off the power, and warning messages.
Language	Selects the language used in the menu and on-screen displays. Available languages are: English, Dutch, French, Italian, German, Spanish, Portuguese, Russian, Swedish, Norwegian, Japanese, Chinese (Simplified Chinese), Chinese (Traditional Chinese), Korean, Thai and Arabic.
Menu Position	You can change the position to display the menu on the upper screen. Bottom Left: Displays the menu on the bottom left area of the screen. Center: Displays the menu on the center of the screen.
Cooling Setting	Use this item when using the projector at high altitudes. High: Use this setting when using the projector at an altitude of 1,500 m (approx. 4,900 ft) or higher. Standard: Use this setting when using the projector at normal altitudes. Note When this item is set to “High”, the fan noise becomes slightly louder since the number of fan rotations increase.
Standby Mode	Lowers the power consumption in standby. When set to “Standard”, the power consumption in standby becomes normal. When set to “Low”, the power consumption in standby is lowered. Note When this item is set to “Low”, the “PJ Auto Power On” function is disabled (The function is set to “Off” and does not appear in the menu.). (ⓘ page 42)

Power Saving	Sets the power saving mode. Lamp Cutoff: The lamp turns off automatically and power consumption is reduced if no signal is input for 10 minutes. If signal is resumed, or any button on the control panel or remote control is pressed, the lamp will light again. In Lamp Cutoff, the ON/STANDBY indicator lights in orange. (☞ page 4) Standby: The power will be turned off automatically and the projector goes to Standby mode if no signal is input for 10 minutes. Off: The Power Saving mode is released.
Lamp Setting	When replacing the lamps, set the desired lamp setting. (☞ page 59)

Function Menu

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

The 3D Settings menu can be displayed by pressing the 3D button on the remote control.



3D Settings

You can change the settings of the 3D function.

2D-3D Display Sel.: For Switching the video images to “2D” or “3D.”

Auto: Displays 3D video images when HDMI signals with 3D information are input. Displays 2D video images when other signals are input.

3D: Displays 3D video images according to the 3D system selected in “3D Format.” However, when HDMI signals with 3D information are input the projector, displays 3D video images according to the 3D system of the HDMI signals with 3D information.

2D: Displays 2D video images.

* The 3D information is additional information to discriminate 3D. Some HDMI signals have additional information to discriminate 3D and some HDMI signals have none.

3D Format: You can select this item by pressing  on the remote control when setting “2D-3D Display Sel.” to “3D.” Set the 3D system when the input HDMI signals do not include 3D information.

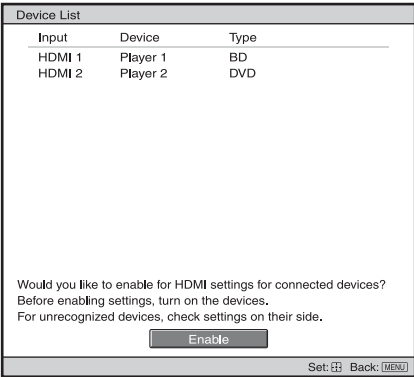
Simulated 3D: Converts 2D video images to 3D video images. The setting can be made only for input the HD signals.

- The simulated 3D feature may have limited effect, depending on the video source.
- There are differences in perception of 3D video images among individuals.

Side-by-Side: Displays 3D images as received (before conversion to sequential) in left-right split-screen format.

Over-Under: Displays 3D images as received (before conversion to sequential) in top-bottom split-screen format.

3D Settings	3D Glasses Bri'ness: For adjusting the brightness of the picture when watching 3D video images using the 3D glasses. You can select the brightness from among "Min," "1," "2," "3," and "Max." 3D Depth Adjust: For adjusting the depth of the 3D video images on the screen. The setting can be made only when a 3D Format other than "Simulated 3D" is selected. Depth - 2 - 1 0 + 1 + 2 Front ← Normal → Depth We recommended that "3D Depth Adjust" be set to "0." The 3D video images may be difficult to perceive, depending on the setting of "3D Depth Adjust." Simulated 3D Effect: For adjusting the 3D effect when 2D content is converted to 3D video images. You can select the effect from among "High," "Middle," and "Low." Notes • The menu display has a ghost while a 3D video image is displayed and is best viewed with the 3D glasses. • We recommended that the screen size be 100 to 120 inches. If you watch 3D video images on a screen larger than 120 inches, the 3D effect may be diminished.
3D SYNC Output	Switches the output of the 3D SYNC connector. Standard: This output is suitable for the built-in 3D Sync Transmitter and external 3D Sync Transmitter TMR-PJ2 (not supplied). This mode is the default setting. Option: Select this mode when connecting a transmitter other than TMR-PJ2. Note When you select "Option", use the conversion cable. The availability of compatible transmitters varies, depending on the country/region.
HDMI Setting	You can change the settings of the Control for HDMI function. Control for HDMI: Selects the function whether to turn the Control for HDMI function effective when the HDMI 1 and HDMI 2 connectors are connected to a Control for HDMI compatible equipment. When set to "On", the following are available. • The operation of the projector and the connected Control for HDMI compatible equipment will synchronize with each other. • The Control for HDMI setting of Sony equipment (AV amplifier, video, etc.), which is compatible with "Control for HDMI - Easy Setting"*, will also be effective. Device Auto Power Off: Sets whether to also turn the power of the connected Control for HDMI compatible equipment off when you turn the power of the projector off. When set to "On", the equipment will synchronize and turn off when the power of the projector turns. PJ Auto Power On: Select whether to link the power of the projector to the Control for HDMI compatible equipment. When set to "On", the power of the projector will automatically turn on when the power of the connected equipment is turned on or when making operations such as playback.

HDMI Setting	Note To enable this function, set “Standby Mode” (ⓘ page 39) in the Setup  menu to “Standard”, and then set “PJ Auto Power On” to “On”. For details, see “About the Control for HDMI” (ⓘ page 49). Device List: Lists all the Control for HDMI compatible equipment connected to the projector. When “Enable” is selected, the Control for HDMI setting of Sony equipment (AV amplifier, video, etc.), which is compatible with “Control for HDMI - Easy Setting”, will also be effective.  * “Control for HDMI - Easy Setting” is a function that makes the Control for HDMI setting of equipment connected to HDMI input of the projector effective as well when the Control for HDMI setting of the projector is effective. This function is only available between compatible Sony equipment, and some equipment may not be compatible. Although some non-Sony equipment may be compatible, operation is not guaranteed for such equipment.
HDMI Dynamic Range	Set the video input level of HDMI 1 and HDMI 2 connectors. Auto: Sets the video input level automatically. Limited: The video input level is set for signals of 16-235. Full: The video input level is set for signals of 0-255. Note If the video output setting of the connected HDMI device is not set correctly, light and dark parts of the video may appear too light or too dark.
Auto Input Search	Hides input terminals that do not have signal input. When set to “On”, terminals without input signals do not appear on the input palette that appears when you press INPUT. To display all input terminals, set this to “Off”. (ⓘ page 17)
Background	Selects the background color of the screen when no signal is input. You can select “Black” or “Blue”.
Settings Lock	Locks menu item settings to prevent operational error. (ⓘ page 44) Off: Cancels the Settings Lock. Level A: Clears the display of 19 items from the menu. Level B: In addition to Level A, clears the display of a further 16 items.

Items Locked by Settings Lock

Level A, B

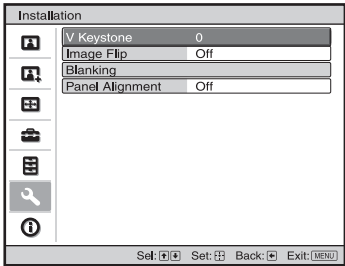
Picture menu	
	• Reset • Reality Creation • Lamp Control • Film Projection • Motion Enhancer • Contrast • Brightness • Color • Hue • Color Temp. • Sharpness • NR • MPEG NR • Film Mode • Contrast Enhancer • Gamma Correction • x.v.Color • Color Space
Advanced Picture menu	
	• RCP

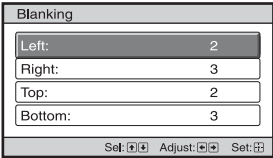
Level B

Setup menu	
	• Status • Language • Menu Position • Cooling Setting • Standby Mode • Power Saving • Lamp Setting
Function menu	
	• 3D SYNC Output • HDMI Setting • HDMI Dynamic Range • Auto Input Search • Background
Installation menu	
	• V Keystone • Image Flip • Blanking • Panel Alignment

Installation Menu

The Installation menu is used for changing the installation settings.



V Keystone	Corrects the vertical trapezoidal distortion of the picture. When the bottom of the trapezoid is longer than the top (): Sets a lower value (– direction). When the top of the trapezoid is longer than the bottom (): Sets a higher value (+ direction). Note Depending on the picture position adjusted with the lens shift feature, the aspect ratio of the picture may change from the original or picture distortion may occur with V Keystone adjustment.
Image Flip	Flips the picture on the screen horizontally and/or vertically. Off: The picture does not flip. HV: Flips the picture horizontally and vertically. H: Flips the picture horizontally. V: Flips the picture vertically. Use this item for installation for the backside projection or ceiling installation.
Blanking	This feature allows you to adjust the displayable region within the four directions of the screen. Select the edge to adjust by highlighting Left, Right, Top, or Bottom using the  /  buttons. Adjust the amount of blanking using the  /  buttons.  The screenshot shows the 'Blanking' menu with four input fields: - Left: 2 - Right: 3 - Top: 2 - Bottom: 3 At the bottom, there are navigation buttons: Set, Adjust, and Set. Note When both the “Blanking” and the “V Keystone” are adjusted at the same time, the “Blanking” cannot be adjusted correctly. When using the “Blanking”, make sure that you set the “V Keystone” to “0”.

Panel Alignment

This feature allows you to adjust the gaps in the color of characters or the picture.

When set to “On”, the “Adjust Color” and the “Pattern Color” can be assigned and adjusted.

Adjust Item: Selects how to make adjustments from below.

Shift: Shifts the whole picture and makes adjustments.

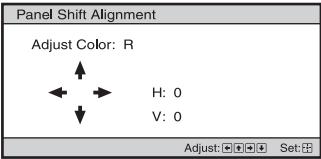
Zone: Selects the desired range and makes adjustments.

Adjust Color: Assigns the desired color to adjust the gaps in color. Select “R” (Red) or “B” (Blue) to make adjustments based on “G” (Green).

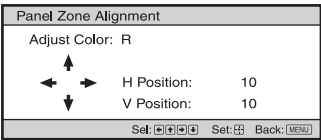
Pattern Color: Select “R/G” (Red and Green) or “R/G/B” (White, all colors) when “Adjust Color” is “R” (Red). Select “B/G” (Blue and Green) or “R/G/B” (White, all colors) when the “Adjust Color” is “B” (Blue).

Adjust: The shift adjustment and zone adjustment of the color selected in “Adjust Color” can be made with ←/→, ↑/↓ buttons.

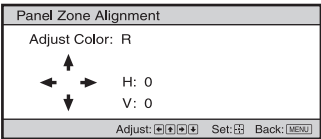
When “Shift” is selected: Assign the settings of the horizontal direction (H) with ←/→ buttons and the vertical direction (V) with ↑/↓ buttons on the shift adjustment screen.



When “Zone” is selected: Select the position to adjust with ←/→ buttons for the horizontal position (H position) and ↑/↓ buttons for the vertical position (V position), then press Ⓢ.



Set the amount to adjust with ←/→ buttons for the horizontal direction (H direction) and with ↑/↓ buttons for the vertical direction (V direction). You can select the position to adjust again by pressing Ⓢ.



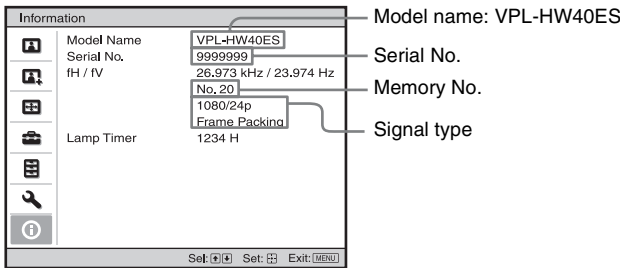
Reset: Returns to the factory settings.

Note

Depending on the adjustments made above, colors may become uneven or the resolution may change.

Information Menu

The Information menu displays the model name, serial number, the horizontal and vertical frequencies of the input signal and the cumulated hours of usage of the lamp.



Model name	Displays the model name (VPL-HW40ES).
Serial No.	Displays the serial number.
fH (horizontal frequency)	Displays the horizontal frequency of the input signal.
fV (vertical frequency)	Displays the vertical frequency of the input signal.
Memory No.	Displays the preset memory number of the input signal.
Signal type	Displays the type of the input signal. When input signals with 3D information are input, the type of input signals and the 3D format are displayed.
Lamp Timer	Indicates how long the lamp has been turned on (total usage).

Notes

- fH (horizontal frequency) and fV (vertical frequency) may not be displayed depending on the input signal used on the projector.
- You cannot change the displays listed above.

About the Preset Memory No.

This unit has default image data to adjust preset data for input signals appropriately according to the signals shown in “Preset Signals” (🔍 page 64) (the preset memory). When the preset signal is input, the projector automatically detects the signal type and recalls the data for the signal from the preset memory to adjust it to an optimum picture. The memory number and signal type of that signal are displayed in the Information ⓘ menu.

You can also adjust the preset data through the Screen ⏏ menu.

This projector also contains 20 different user memories beside the preset memories used for inputting analog computer signals. You can save input signals that have not been preset on these user memories.

When an unpreset signal is input for the first time, a memory number is displayed as 0.

When you adjust the data of the signal in the Screen ⏏ menu, it will be registered to the projector. If more than 20 user memories are registered, the newest memory always overwrites the oldest one.

See the chart on page 64 to find if the signal is registered to the preset memory.

Note

When the aspect ratio of input signal does not match the screen size, a part of the screen is displayed in black.

This section describes about the other functions, how to solve the problems, how to replace the lamp and air filter, etc.

About the Control for HDMI

What is the Control for HDMI?

Control for HDMI is an HDMI standard mutual control function which uses the HDMI CEC (Consumer Electronics Control) specification. By connecting a variety of Control for HDMI compatible equipment such as a hard disk Blu-ray Disc player, a DVD player/recorder, an AV amplifier, etc. to a Control for HDMI compatible TV or a projector with an HDMI cable, the equipment connected will synchronize with the TV or the projector when either is operated.

Using the Control for HDMI function

- Connect and assign the settings of each equipment appropriately.
- Do not turn off the main power of the equipment.
- Set the input setting of the projector to the HDMI input which the equipment is connected.
- Check if the picture from the equipment appears appropriately on the projector.

Connecting a Control for HDMI compatible equipment

Use an HDMI cable to connect the projector and the Control for HDMI compatible equipment. Use a cable that has acquired the HDMI logo.

Setting the Control for HDMI

Be sure to assign the appropriate connections for both the projector and the Control for HDMI compatible equipment

connected to the projector. For settings of the projector, see page 42. For settings of the Control for HDMI compatible equipment connected to the projector, refer to its operational instructions. When equipment that is compatible with the “Control for HDMI - Easy Setting” is connected to the HDMI input of the projector, if you turn the Control for HDMI function setting of the projector on, the Control for HDMI function setting of the connected equipment will also turn on.

What you can do with the Control for HDMI

- By turning on or playing back the connected equipment, the projector will turn on and the input setting will switch to the terminal of the connected equipment automatically.
- By turning the power of the projector off, the power of the connected equipment will also turn off automatically.
- By changing the language setting of the projector, the language setting of the connected equipment will also change to the same language automatically.

Notes

- The available functions of the Control for HDMI differ depending on each equipment. Refer to the operating instruction of each equipment.
- Some synchronization may be available with equipment of other brands with similar functions, but it is not guaranteed.

About the x.v.Color

- “x.v.Color” is a promotion name given to the products that have the capability to realize a wide color space based on the xvYCC specifications and is a trademark of Sony Corporation.
- xvYCC is an international standard of the technical specifications of the extended-gamut color space for video signals. The color gamut of xvYCC is wider than the one of sRGB that is used with the current television system.

About the simulated 3D feature

- Use the simulated 3D function taking into account that the picture will provide a different look from the original images, because this function converts the video images.
- Note that if the projector is used for profit or for public viewing, displaying 2D video images as 3D video images by converting to the simulated 3D may constitute an infringement of the rights of authors or producers, which are legally protected.

Troubleshooting

If the projector appears to be operating erratically, try to diagnose and correct the problem using the following instructions. If the problem persists, consult with qualified Sony personnel.

Power

Symptom	Cause and Remedy
The power is not turned on.	→ The power may not turn on if you turn the power off with I/⏻ (ON/STANDBY) switch and turn it on again in a short time. After about 1 minute, turn the power on. → Close the lamp cover securely, then tighten the screws securely. (🔧 page 58) → Close the filter holder securely. (🔧 page 59) → Check warning indicators. (🔧 page 54)
The power is suddenly turned off.	→ Check that “Power Saving” in the Setup  menu is set to “Standby.” (🔧 page 40) → Set “Power Saving” to “Off.”

Picture

Symptom	Cause and Remedy
No picture.	→ Check that the proper connections have been made. (🔧 page 13) → Select the input source correctly using the INPUT button. (🔧 page 17) → Set the computer signal to output from an external monitor. → Set the computer signal to output only to an external monitor.
The picture has ghosts.	→ Video images are displayed in 3D. Watch the 3D video images using the 3D glasses, or set “2D-3D Display Sel.” to “2D” (🔧 page 41).
The bright area of the picture may become unclear or texts may become faded. (When HDMI video signal is input)	→ Switch the RGB output level of the connected equipment, or switch the HDMI Dynamic Range of the unit (🔧 page 43).
The texts may become faded when connected with a computer. (When computer signal is input)	→ This symptom may occur when a signal other than those of HDMI standard is input. Adjust “Sharpness” in the Picture  menu, or set “HDMI Dynamic Range” to “Limited” in the Function  menu. (🔧 pages 34, 43)
The picture is too dark.	→ Adjust the “Contrast” or “Brightness” of the Picture  menu properly. (🔧 page 33)
The picture is not clear.	→ Adjust the focus. (🔧 page 11) → Condensation has accumulated on the lens. Leave the projector for about 2 hours with the power on.

Symptom	Cause and Remedy
The picture flickers.	→ For pictures from a computer, activate “APA” and adjust the current input signal. → Adjust “Phase” for “Adjust Signal” in the Screen  menu properly. (ⓘ page 38)
The color of characters or the picture is not appropriate.	→ Select the desired color registration in “Panel Alignment” of Installation  menu (ⓘ page 46).
Image is left on the screen. (image retention)	→ When High contrast non-moving images are displayed for a long period of time, there may be some image retention on the screen. This is only a temporary condition. Turning off the power for a while will eliminate the retained image.

On-screen display

Symptom	Cause and Remedy
On-screen display does not appear.	→ Set “Status” in the Setup  menu to “On.” (ⓘ page 39) → Check if the ON/STANDBY indicator should light in green. The ON/STANDBY indicator flashes while the projector is starting up. Avoid using the projector until the indicator light up in green.
The model name does not disappear from the screen. Or else, the demo mode is displayed continuously.	→ The display mode of the projector may be set at the time of purchase. Consult with your local dealer or qualified Sony personnel.
Input terminals do not appear.	→ Set “Auto Input Search” in the Function  menu to “Off”. (ⓘ page 43)

Remote control

Symptom	Cause and Remedy
The remote control does not work.	→ Batteries could be weak. Replace them with new batteries. → Insert the batteries with the correct polarities. → If there is a fluorescent lamp near the remote control detector, the projector may work improperly or inadvertently. → Confirm the position of the remote control detector on the projector. (ⓘ page 4) → If you use the optional 3D Sync Transmitter and point it to the remote control detector of the unit, the remote control may not work properly.

3D video images

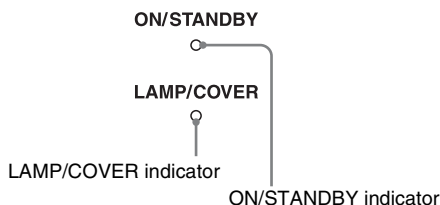
Symptom	Cause and Remedy
The video image does not seem like 3D video images.	→ Check if the 3D glasses are turned on. → Make sure that the battery in the 3D glasses is charged. → Check if the input source is HDMI. → Set “2D-3D Display Sel.” to “Auto” or “3D” (☞ page 41). → Check if the input signals are compatible 3D signals (☞ page 68). → If no 3D signal is input from the 3D equipment connected to the projector, restarting the connected 3D equipment may solve the problem. → When the viewing or projector position is too far from the screen, the 3D glasses may not be able to display the images properly (☞ page 23). → If you use the optional 3D Sync Transmitter, check that it is placed within the specified range (☞ page 16). → The screen size is not appropriate. Set the zooming magnification to low or watch the image from farther away from the screen (☞ page 74).

Others

Symptom	Cause and Remedy
The fan is noisy.	→ Check the setting of “Cooling Setting” in the Setup  menu. (☞ page 39) → Make sure that the room temperature is not too high. → Check the installation conditions. The number of fan rotation increases to maintain the product reliability of the projector’s components in a room, where the temperature is higher than normal. The fan noise becomes slightly louder. The approximate normal temperature is 25°C.
The lens shift cannot be adjusted.	→ The lens shift cannot be adjusted over the range of movement. Adjust the lens shift within the range of movement (☞ page 11).
The projector and connected equipment turn On/Off, play back, and operate at the same time.	→ “Control for HDMI”, “Device Auto Power Off”, and “PJ Auto Power ON” are set to “On”. Set them to “Off”. For details, see “HDMI Setting” (☞ page 42).

Warning Indicators

The ON/STANDBY or LAMP/COVER indicator lights up or flashes if there is any trouble with your projector.



Symptom	Cause and Remedy
LAMP/COVER flashes in red. (A repetition rate of 2 flashes)	→ Close the lamp cover securely, then tighten the screws securely. (☞ page 58) → Close the filter holder securely. (☞ page 59)
LAMP/COVER flashes in red. (A repetition rate of 3 flashes)	→ The lamp has reached the end of its useful lifespan. Replace the lamp. (☞ page 57) → The lamp has reached a high temperature. Wait until the lamp cools, and then turn on the power again.
ON/STANDBY flashes in red. (A repetition rate of 4 flashes)	→ The fan is broken. Consult with qualified Sony personnel.
ON/STANDBY flashes in red. (A repetition rate of 2 flashes)	→ The internal temperature is unusually high. Check to ensure that if nothing is blocking the ventilation holes or whether or not the projector is being used at high altitudes.
ON/STANDBY flashes in red. (A repetition rate of 6 flashes)	→ Press the I/⏻ (ON/STANDBY) switch to turn on the projector. If the power is not turned on, disconnect the AC power cord, then confirm the ON/STANDBY lamp is turned off. After about 10 seconds, reconnect the AC power cord and turn on the power again. If the indicators still light up, the electrical system has a problem. Consult with qualified Sony personnel.

Note

When a warning indicator other than the above starts flashing, and the symptom persists even after carrying out the above methods, consult with qualified Sony personnel.

Message Lists

Warning messages

Message	Cause and Remedy
High temp.! Lamp off in 1 min.	→ Turn off the power. → Check to ensure that nothing is blocking the ventilation holes.
Frequency is out of range!	→ Frequency is out of range. Input a signal that is within the acceptable frequency range of the projector. (🔗 page 64)
Please replace the Lamp/Filter.	→ It is time to replace the lamp. Replace the lamp. (🔗 page 57) → Also, replace the air filter too. Restart cleaning the ventilation holes (intake). (🔗 page 57) - If this message appears again after you replace the lamp and filter, the lamp replacement process is not complete. Check the lamp replacement process. (🔗 page 57) Note To clear this message, press any button either on the remote control or the control panel of the projector once.
Please clean the filter.	→ It is time to clean the air filter. Clean the air filter. (🔗 page 60) Note To clear this message, press any button either on the remote control or the control panel of the projector once.
Please clean the filter. Have you finished? Yes No	→ It is time to clean the air filter. Clean the air filter. (🔗 page 60) → If you cleaned the air filter, select “Yes.” If you did not clean the air filter, select “No.”
Projector temperature is high. Cooling Setting should be “High” if projector is being used at high altitude.	→ Check to ensure that the ventilation holes on the unit are not covered. (🔗 page 4) → When using the projector at high altitude, set the Cooling Setting to “High”. (🔗 page 39) Note When temperature inside the projector remains high, the Cooling Setting is switched to “High” in 1 minute, then the fan speed increases.
Power Saving Mode is set. Projector lamp will automatically cutoff in 1 minute.	→ “Power Saving” is set to “Lamp Cutoff.” (🔗 page 40) Note If no signal is input, the lamp turns off after 1 minute.
Power Saving Mode is set. Projector will automatically enter Standby Mode in 1 minute.	→ “Power Saving” is set to “Standby.” (🔗 page 40) Note If no signal is input, the power turns off after 1 minute, and the projector goes into standby mode.

Caution messages

Message	Cause and Remedy
x 	→ No signal is input in the selected input. Check connections. ( page 13)
Not applicable!	→ Press the appropriate button. → The operation to be activated by the button is currently prohibited.
Settings Lock enabled.	→ “Settings Lock” is set to “Level A” or “Level B.” ( page 43)

Replacing the Lamp and the Air Filter and Cleaning the Ventilation Holes (intake)

Tools you need to get started:

- **Projector Lamp LMP-H202 (optional)**
- **Standard Phillips screwdriver**
- **Cloth (for scratch protection)**

The lamp used for the light source has a certain lifespan. When the lamp dims, the color balance of the picture becomes strange, or “Please replace the Lamp/Filter.” appears on the screen, the lamp may be exhausted. Replace the lamp with a new one without delay.

Use an LMP-H202 Projector Lamp as the replacement lamp.

The air filter is supplied with the LMP-H202 Projector Lamp. When you replace the lamp, it is also time to replace the air filter.

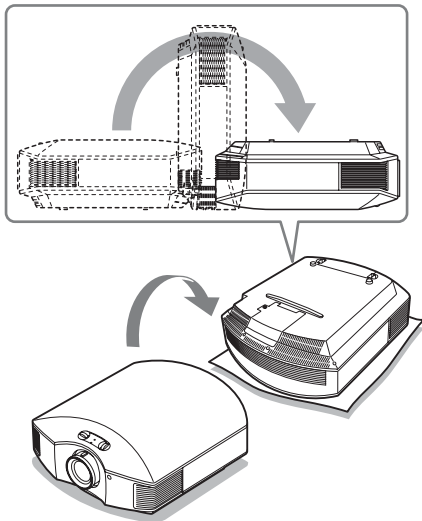
Whenever you replace the lamp, be sure to replace the air filter with a new one. Also clean the ventilation holes (intake).

Caution

- The lamp remains hot after the projector is turned off with the I/⏻ (ON/STANDBY) switch. If you touch the lamp, you may burn your fingers. When you replace the lamp, wait for at least 1 hour for the lamp to cool.
- Do not touch the surface of the lens. If you touch it, wipe off the fingerprints with a soft cloth.
- Pay special attention to replacing the lamp when the projector is installed on the ceiling.
- When removing the lamp unit, make sure it remains horizontal, then pull straight up. Do not tilt the lamp unit. If you pull out the lamp unit while tilted and if the lamp breaks, the pieces may scatter, causing injury.
- When you remove the air filter, be careful not to let any dust fall into the projector.
- Replacing the air filter is crucial to maintain the good performance of the projector or to prevent malfunction to it. When a warning

message for replacing the air filter appears, replace the air filter immediately.

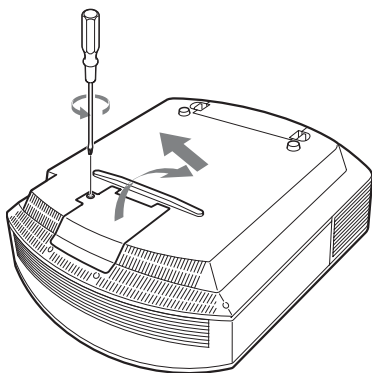
- 1 Turn off the projector and unplug the AC power cord.
- 2 When setting the projector on a flat surface such as a desk etc., put a cloth to prevent the surface from being scratched. Reverse the projector as illustrated, then place it on the cloth.



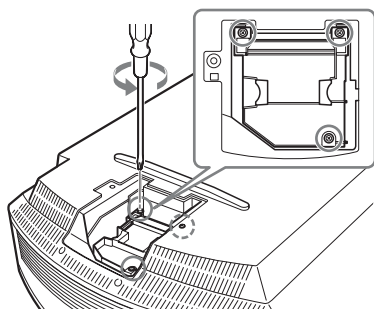
Notes

- When the lamp is damaged the broken pieces of the lamp may become scattered, if you do not reverse the projector. This may cause injury.
- Be sure that the projector is placed on a stable surface.

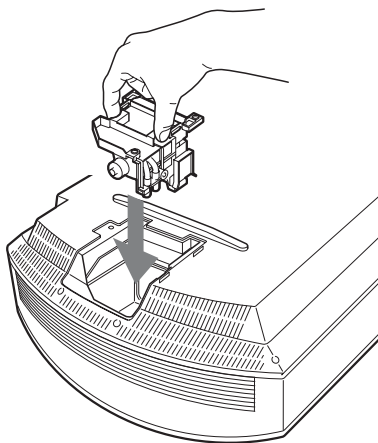
- 3** Loosen the screw on the lamp cover with a Philips screwdriver, and then open the lamp cover.



- 4** Loosen the 3 screws on the lamp with the Phillips screwdriver. Hold up the handle, then pull the lamp straight out.



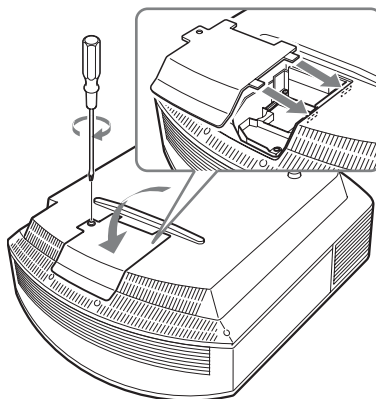
- 5** Hold the handle of the new lamp and push it in securely until it reaches the end, and then tighten the 3 screws.



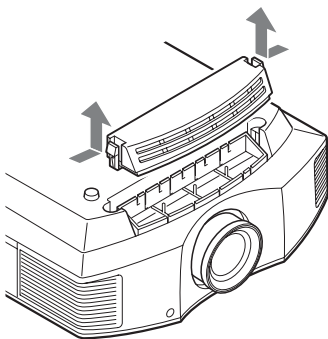
Note

Be careful not to touch the optical block inside the unit.

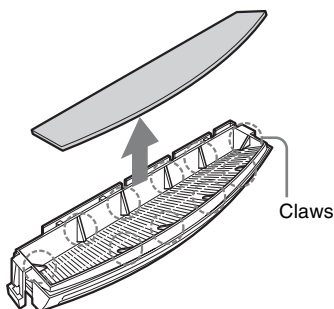
- 6** Close the lamp cover, then tighten the screws.



7 Remove the filter holder.



8 Remove the air filter.



9 Attach the new air filter so that it fits into each claws (10 positions) on the filter holder.

Note

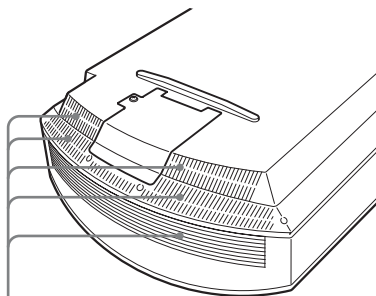
Attach the air filter aligning it with the shape of the filter holder.
Also, do not touch the fan after removing the air filter that is set deep inside the projector.

10 Attach the filter holder.

Note

The projector will not turn on unless the filter holder is securely closed.

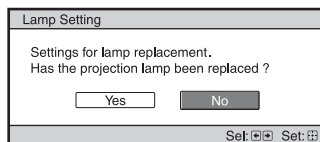
11 Wipe dust off the ventilation holes (intake) with a soft cloth.



Ventilation holes (intake)

12 Place the project back on its original position.

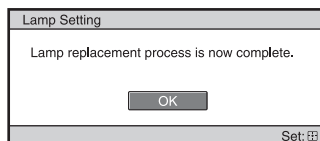
13 Turn on the projector, then select the desired setting item on the Setup menu. The menu screen below will be appeared.



Tip

If "Settings Lock" is set to "Level B," set to "Off" once.

14 Select "Yes".



Caution

Do not put your hands into the lamp replacement slot, and do not allow any liquid or other objects into the slot to avoid electrical shock or fire.

Notes

- Be sure to use an LMP-H202 Projector Lamp for replacement. If you use lamps other than the LMP-H202, the projector may malfunction.
- Be sure to turn off the projector and unplug the power cord before replacing the lamp, then check the ON/STANDBY lamp has already been turned off.
- The projector will not turn on unless the lamp is securely installed in place.
- The projector will not turn on unless the lamp cover is securely closed.
- To cancel a message displayed on the screen, press either the button on the remote control or the one on the control panel on the projector.

Note

The lamp contains mercury. The disposal rules for used fluorescent tubes depend on where you live. Follow the waste disposal policy in your area.

Disposal of the used lamp

For the customers in the USA

Lamp in this product contains mercury. Disposal of these materials may be regulated due to environmental considerations. For disposal or recycling information, please contact your local authorities or the Telecommunications Industry Association (www.eiae.org).

Cleaning the Air Filter

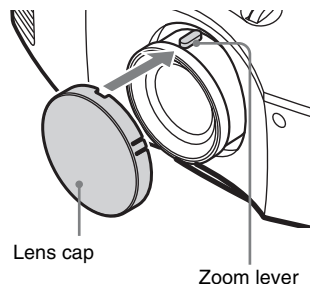
When “Please clean the filter.” appears on the screen, you should clean the air filter. The air filter should be cleaned every 1,500 hours. This value varies depending on the environment or how the projector is used. 1,500 hours are approximate. After washing the air filter with a mild detergent solution, dry it in a shaded place.

Notes

- When you clean the air filter, make sure you do not damage it.
For details on how to attach and remove the air filter, see “Replacing the Lamp and the Air Filter and Cleaning the Ventilation Holes (intake)” Steps 7 to 10. (Ⓔ page 59)
- When you remove the air filter, be careful not to let any dust fall into the projector.
- Cleaning the air filter is crucial to maintain the good performance of the projector or to prevent malfunction to it. When a warning message for cleaning the air filter appears, clean the air filter immediately.

Fitting the Lens Cap

When fitting the lens cap onto the lens, position the lens cap so that the concave on the side of the lens cap will fit the zoom lever, as shown in the illustration.



Cleaning

Cleaning the lens

The lens surface is especially treated to reduce reflection of light.

As incorrect maintenance may impair the performance of the projector, take care with respect to the following:

- Wipe the lens gently with a soft cloth such as a cleaning cloth or glass cleaning cloth.
- Stubborn stains may be removed with a soft cloth such as a cleaning cloth or glass cleaning cloth lightly dampened with water.
- Never use solvent such as alcohol, benzene or thinner, or acid, alkaline or abrasive detergent, or chemical cleaning cloth, as they will damage the lens surface.

Cleaning the cabinet

- To remove dust from the cabinet, wipe gently with a soft cloth. If dust is persistent, wipe with a soft cloth slightly moistened with a diluted mild detergent solution.
- Never use any type of abrasive pad, alkaline/acid cleaner, scouring powder, or volatile solvent, such as alcohol, benzene, thinner or insecticide.
- Using such materials or maintaining prolonged contact with rubber or vinyl materials may result in damage to the screen surface and cabinet material.

Specifications

Item		Description
Display system		SXRD panel, 1 lens, projection system
Display device	Size of effective display area	0.61-inch (15.4 mm) SXRD panel
	Number of pixels	6,220,800 pixels (2,073,600 pixels × 3)
Projection lens		1.6 times zoom lens (manual) f=18.7 mm to 29.7 mm F2.52 to F3.02
Light source		Ultra High Pressure Lamp 200 W type
Screen size		40 inches to 300 inches (1,016 mm to 7,620 mm) (measured diagonally)
Acceptable video signals		480/60i, 576/50i, 480/60p, 576/50p, 720/60p, 720/50p, 1080/60i, 1080/50i, The following items are available for digital signal (HDMI input) only: 1080/60p, 1080/50p, 1080/24p
Acceptable computer signals		fH: 19 kHz to 72 kHz fV: 48 Hz to 92 Hz Maximum resolution 1,920 × 1,080 (HDMI input only) For details, see “Preset Signals”. (☞ page 64)
Video signal inputs	HDMI (2 inputs), HDCP compliant	Digital RGB/Y Pb/Cb Pr/Cr
	Y Pb/Cb Pr/Cr	Component: phono type Y with Sync: 1 Vp-p±2 dB sync negative (75 ohms terminated) Pb/Cb: 0.7 Vp-p±2 dB (75 ohms terminated) Pr/Cr: 0.7 Vp-p±2 dB (75 ohms terminated)
	INPUT A	HD D-sub 15-pin Analog RGB: R: 0.7 Vp-p±2 dB (75 ohms terminated) G: 0.7 Vp-p±2 dB (75 ohms terminated) G with sync/Y: 1 Vp-p±2 dB sync negative (75 ohms terminated) B: 0.7 Vp-p±2 dB (75 ohms terminated) SYNC/HD: Composite sync input: TTL level, positive/negative Horizontal sync input: TTL level, positive/negative VD: Vertical sync input: TTL level, positive/negative
Other inputs/outputs	REMOTE	RS-232C: D-sub 9-pin (female)
	IR IN	Minijack
	3D SYNC	RJ45 connector
Outside dimensions (w/h/d)		407.4 mm × 179.2 mm × 463.9 mm (16 ¹ / ₈ × 7 ¹ / ₈ × 18 ³ / ₈ inches)
Mass		Approx. 10 kg (22 lb 1 oz)

Item	Description
Power requirements	AC 100 V to 240 V, 3.0 A to 1.3 A, 50/60 Hz
Power consumption	Max. 300 W
Standby power	8 W (when “Standby Mode” is set to “Standard”) / 0.5 W (when “Standby Mode” is set to “Low”)
Operating temperature	5°C to 35°C (41°F to 95°F)
Operating humidity	35% to 85% (no condensation)
Storage temperature	–20°C to +60°C (–4°F to +140°F)
Storage humidity	10% to 90%
Supplied accessories	See “Checking the Supplied Accessories” in the supplied Quick Reference Manual.
Optional accessories	Projector Lamp: LMP-H202 (for replacement)
	Projector Suspension Support: PSS-H10
	3D glasses: TDG-PJ1
	3D Sync Transmitter: TMR-PJ2

Notes

- The values for mass and dimensions are approximate.
- Not all optional accessories are available in all countries and area. Please check with your local Sony Authorized Dealer.
- Information on accessories in this manual is current as of February 2014.

Design and specifications of this unit and its optional accessories are subject to change without notice.

Preset Signals

The following table shows the signals and video formats which you can project using this unit.

When a signal other than the preset signal shown below is input, the picture may not be displayed properly.

Preset memory no.	Preset signal (resolution)		fH (kHz)	fV (Hz)	Sync	Pitch (H Size)
3	480/60i	480/60i (720 × 480i)	15.734	59.940	SonG/Y or composite sync	—
4	576/50i	576/50i (720 × 576i)	15.625	50.000	SonG/Y or composite sync /composite video	—
5	480/60p	480/60p (Progressive NTSC) (720 × 480p)	31.470	60.000	SonG/Y	—
6	576/50p	576/50p (Progressive PAL) (720 × 576p)	31.250	50.000	SonG/Y	—
7	1080/60i	1080/60i (1920 × 1080i)	33.750	60.000	SonG/Y	—
8	1080/50i	1080/50i (1920 × 1080i)	28.130	50.000	SonG/Y	—
10	720/60p	720/60p (1280 × 720p)	45.000	60.000	SonG/Y	—
11	720/50p	720/50p (1280 × 720p)	37.500	50.000	SonG/Y	—
12	1080/60p	1080/60p (1920 × 1080p)	67.500	60.000	—	—
13	1080/50p	1080/50p (1920 × 1080p)	56.260	50.000	—	—
14	1080/24p	1080/24p (1920 × 1080p)	26.973	23.976	—	—
18	720/60p (Frame packing)	720/60p (1280 × 720p)	90.000	60.000	—	—
19	720/50p (Frame packing)	720/50p (1280 × 720p)	75.000	50.000	—	—
20	1080/24p (Frame packing)	1080/24p (1920 × 1080p)	53.946	23.976	—	—

Preset memory no.	Preset signal (resolution)		fH (kHz)	fV (Hz)	Sync	Pitch (H Size)
26	640 × 480	VESA 60	31.469	59.940	H-neg, V-neg	800
28		VESA 72	37.861	72.809	H-neg, V-neg	832
29		VESA 75 (IBM M3)	37.500	75.000	H-neg, V-neg	840
30		VESA 85 (IBM M4)	43.269	85.008	H-neg, V-neg	832
31	800 × 600	VESA 56	35.156	56.250	H-pos, V-pos	1024
32		VESA 60	37.879	60.317	H-pos, V-pos	1056
33		VESA 72	48.077	72.188	H-pos, V-pos	1040
34		VESA 75 (IBM M5)	46.875	75.000	H-pos, V-pos	1056
35		VESA 85	53.674	85.061	H-pos, V-pos	1048
37	1024 × 768	VESA 60	48.363	60.004	H-neg, V-neg	1344
38		VESA 70	56.476	70.069	H-neg, V-neg	1328
39		VESA 75	60.023	75.029	H-pos, V-pos	1312
45	1280 × 960	VESA 60	60.000	60.000	H-pos, V-pos	1800
47	1280 × 1024	VESA 60	63.974	60.013	H-pos, V-pos	1696
50	1400 × 1050	SXGA +	65.317	59.978	H-neg, V-pos	1864
55	1280 × 768	1280 × 768/60	47.776	59.870	H-neg, V-pos	1664
56	1280 × 720	1280 × 720/60	44.772	59.855	H-neg, V-pos	1664

Preset memory numbers for each input signal

Analog signal

Signal	Preset memory number
Component signal (Y Pb/Cb Pr/Cr connectors)	3 to 8, 10, 11
Computer signal (INPUT A connector)	26, 28 to 35, 37 to 39, 55, 56

Digital signal

Signal	Preset memory number
Component signal (HDMI 1, 2 connectors)	3 to 8, 10 to 14, 18 to 20
Video GBR signal (HDMI 1, 2 connectors)	3 to 8, 10 to 14, 18 to 20
Computer signal (HDMI 1, 2 connectors)	10 to 13*, 26, 32, 37, 45, 47, 50, 55

* Some digital signals input from computers may be displayed as preset memory number of Component or Video GBR signal.

Input Signals and Adjustable/Setting Items

The items in the menus available to adjust differ depending on the input signal. The following tables indicate them.

The items that cannot be adjusted are not displayed in the menu.

Picture menu

Item	Input signal		
	Component signal	Video GBR signal	Computer signal
Reality Creation	●	●	—
Lamp Control	●	●	●
Film Projection	●	●	—
Motion Enhancer	●	●	—
Contrast	●	●	●
Brightness	●	●	●
Color	●	●	—
Hue	●	●	—
Color Temp.	●	●	●
Sharpness	●	●	—
NR	●	●	—
MPEG NR	●	●	●
Film Mode	● (excluding preset memory number 14)	● (excluding preset memory number 14)	—
Contrast Enhancer	●	●	—
Gamma Correction *1	●	●	●
x.v.Color	●	—	—
Color Space	●	●	●
RCP	●	●	●

● : Adjustable/can be set

— : Not adjustable/cannot be set

Screen menu

Item	Input signal		
	Component signal	Video GBR signal	Computer signal
Aspect	●	●	● *3
Over Scan	●	●	—
Screen Area *2	● (preset memory numbers 7, 8, 12, 13, 14 only)	● (preset memory numbers 7, 8, 12, 13, 14 only)	—
V Center *4	●	●	—
Vertical Size *4	●	●	—
APA	—	—	● *5
Phase	—	—	● *5
Pitch	—	—	● *5
Shift	● *5	● *5	●

● : Adjustable/can be set

— : Not adjustable/cannot be set

*1: The setting can be made only when “x.v.Color” is set to “Off”.

*2: The setting can be made only when “Over Scan” is set to “On” and “Aspect” is set to “Normal” in the Screen  menu.

*3: If the input signal is from a computer, the setting cannot be made when the aspect ratio is 16:9 or wider (fixed at “Normal”).

*4: The setting can be made only when “Zoom” is selected in “Aspect”.

*5: The setting can be made only for analog signal.

Note

When connecting a cable such as an HDMI cable, etc., check the type of the signal in the Information  menu ( page 47) and Digital signal ( page 65), and check items that are adjustable/can be set.

Compatible 3D Signals

The projector accepts the following types of 3D signals.

Resolution	3D signal format
720/60, 50P 1080/24P	Side-by-Side format
	Over-Under format*
	Frame packing*
1080/60, 50i	Side-by-Side format*
1080/60, 50P	Side-by-Side format
	Over-Under format

*: Mandatory 3D format of the HDMI standards.

3D Signals and Adjustable/Setting Items

Some items on the menus may not be available to adjust/set, depending on the 3D signals. The items that cannot be adjusted are not displayed on the menu. The following tables indicate those items.

Item	3D signals			
	720/60, 50P	1080/60, 50i	1080/24P	1080/60, 50P
Lamp Control	— (fixed at “High”)	— (fixed at “High”)	— (fixed at “High”)	— (fixed at “High”)
Film Projection *	—	—	—	—
Motion Enhancer	—	—	●	—
NR	—	—	—	—
Film Mode	—	—	—	—
x.v.Color	—	—	● (component signal only)	—
Over Scan	—	—	—	—
Screen Area	— (fixed at “Full”)	— (fixed at “Full”)	— (fixed at “Full”)	— (fixed at “Full”)
V Keystone	— (fixed at “0”)	— (fixed at “0”)	●	— (fixed at “0”)

●: Adjustable/can be set

—: Not Adjustable/cannot be set

*: The setting can be made for 2D display.

When the projector is set to convert 2D video images to 3D video images, some items on the menus may be not available to adjust/set, depending on the “3D Format” settings on the Function  menu. The items that cannot be adjusted are not displayed on the menu. The following tables indicate these items.

Item	3D format		
	Over-Under	Side-by-Side	Simulated 3D
Lamp Control	—	—	—
Film Projection	—	—	—
Motion Enhancer	● (preset memory number 14 only)	● (preset memory number 14 only)	●
NR	—	—	●
MPEG NR	●	●	●
Film Mode	—	—	—
x.v.Color	● (preset memory number 14 only)	● (preset memory number 14 only)	●
Over Scan	—	—	—
Screen Area	—	—	—
V Keystone	● (preset memory number 14 only)	—	—

Aspect Mode

Selectable items vary depending on the type of input signal or 3D format.

For details, see the tables below. Items that cannot be selected are not displayed in the menu.

2D

Acceptable signals	1920 × 1080 1280 × 720	720 × 480 720 × 576	1280 × 720	Others
Preset memory number (📖 page 64)	7, 8, 10 to 14	3 to 6	56	26, 28 to 35, 37 to 39, 55
Normal	●	●	● * ¹	●
Full	—	—	—	●
V Stretch	●	●	—	—
Squeeze	●	●	—	—
Stretch	—	●	—	—
Zoom	—	●	—	—
Wide Zoom	●	●	—	—

*¹: Not displayed in the menu as fixed at Normal.

3D

Acceptable signals	1920 × 1080, 1280 × 720			
3D format	Side-by-Side	Over-Under	Frame packing	Simulated 3D
Preset memory number (📖 page 64)	7, 8, 10 to 14	10 to 14	18 to 20	7, 8, 10 to 14
Normal	●	●	●	●
Full	—	—	—	—
V Stretch	—	—	—	●
Squeeze	●	●	●	●
Stretch	—	—	—	—
Zoom	—	—	—	—
Wide Zoom	—	—	—	●

Storage Conditions of Adjustable/Setting Items

Each adjustable/setting item is individually stored for each input connector, image display (2D/3D), or preset signal. For further details, see the tables below.

Preset memory numbers for each input signal

Input	Preset memory numbers
Input-A	26, 28 to 35, 37 to 39, 55, 56
Component	3 to 8, 10, 11
HDMI 1 (2D)	3 to 8, 10 to 14, 18 to 20, 26, 32, 37, 45, 47, 50, 55
HDMI 2 (2D)	
HDMI 1 (3D)	7, 8, 10 to 14, 18 to 20
HDMI 2 (3D)	

Picture menu

Item	Storage conditions
Calib. Preset	For each input connector and preset signal
Reset	For each input connector and Calib. Preset
Reality Creation	
Lamp Control	
Film Projection	
Motion Enhancer	
Contrast	
Brightness	
Color	
Hue	
Color Temp.	
D93-D55	
Custom 5	
Gain R	For Color Temp., Custom 5.
Gain G	
Gain B	
Bias R	
Bias G	
Bias B	

Item	Storage conditions
Sharpness	For each input connector, image display (2D/3D) and Calib. Preset
NR	
MPEG NR	
Film Mode	
Contrast Enhancer	
Gamma Correction	
x.v.Color	
Color Space	

Advanced Picture menu

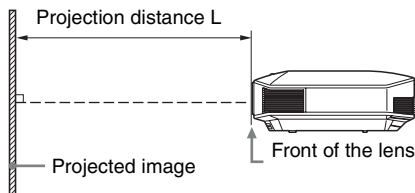
Item	Storage conditions
RCP: Position	For RCP User 1.
RCP: Range	
RCP Color	
RCP Hue	
RCP Brightness	

Screen menu

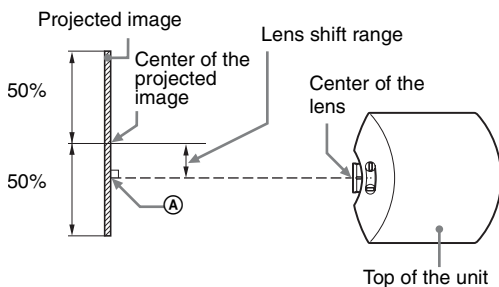
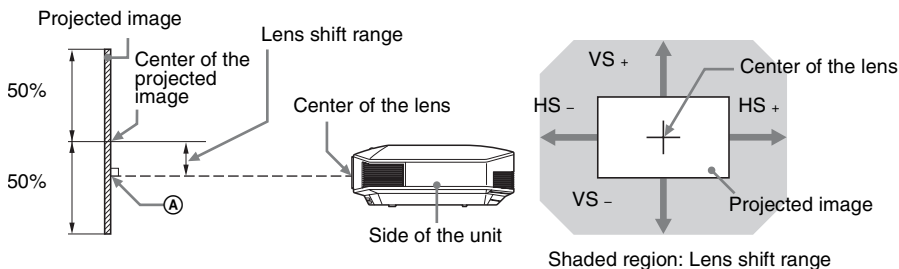
Item	Storage condition
Over Scan	For each input connector and preset signal
V Center	For each input connector
Vertical Size	For each input connector
Adjust Signal: Phase (Analog PC signal)	For each input connector and preset signal
Adjust Signal: Pitch (Analog PC signal)	For each input connector and preset signal
Adjust Signal: Shift (All analog signals)	For each input connector and preset signal

Projection Distance and Lens Shift Range

The projection distance refers to the distance between the front of the lens and the projected surface.

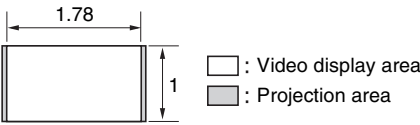


The lens shift range represents the distance in percent (%) by which the lens can be shifted from the center of the projected image. The lens shift range is regarded as 0% when the point **A** in the illustration (point where a line drawn from the center of the lens and the projected image cross at right angles) is aligned with the center of the projected image and full width or full height of the projected image is regarded as 100%.



- VS +: Vertical lens shift range (up) [%]
- VS -: Vertical lens shift range (down) [%]
- HS +: Horizontal lens shift range (right) [%]
- HS -: Horizontal lens shift range (left) [%]

When projecting in 1.78:1 (16:9) format



Projection distance

Unit: m (inches)

Projection image size		Projection distance L
Diagonal	Width × Height	
80" (2.03 m)	1.77 × 1.00 (70 × 39)	2.40 – 3.83 (95 – 150)
100" (2.54 m)	2.21 × 1.25 (87 × 49)	3.00 – 4.79 (119 – 188)
120" (3.05 m)	2.66 × 1.49 (105 × 59)	3.61 – 5.76 (142 – 226)
150" (3.81 m)	3.32 × 1.87 (131 × 74)	4.52 – 7.20 (178 – 283)
200" (5.08 m)	4.43 × 2.49 (174 × 98)	6.04 – 9.61 (238 – 378)

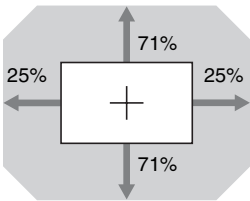
Projection distance formula

D: Projected image size (Diagonal)

Unit: m (inches)

Projection distance L (minimal length)	Projection distance L (maximal length)
$L = 0.030349 \times D - 0.0354$ ($L = 1.194837 \times D - 1.3915$)	$L = 0.048191 \times D - 0.0212$ ($L = 1.897302 \times D - 0.8329$)

Lens shift range



$$VS + = VS - = 71 - 2.840 \times (HS + \text{or } HS -) [\%]$$
$$HS + = HS - = 25 - 0.352 \times (VS + \text{or } VS -) [\%]$$

Attaching the PSS-H10 projector suspension support

For details on installation on a ceiling, refer to the Installation manual for Dealers of the PSS-H10. Make sure to consult with a qualified Sony personnel for installation. The installation measurements are shown below when installing the projector on a ceiling using the PSS-H10.

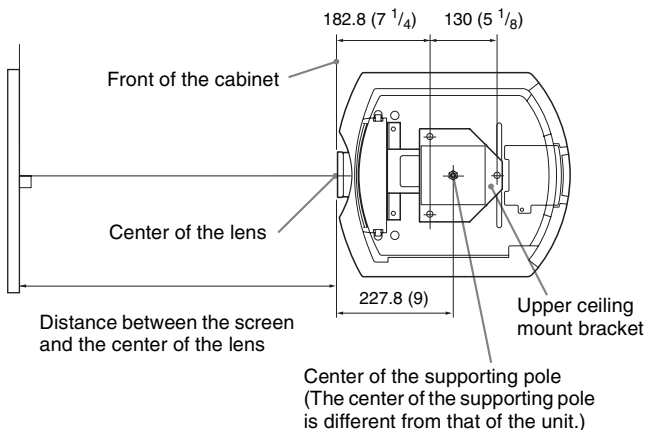
To dealers

Use the Sony PSS-H10 Projector Suspension Support, and take measures to prevent falling using wire, etc.

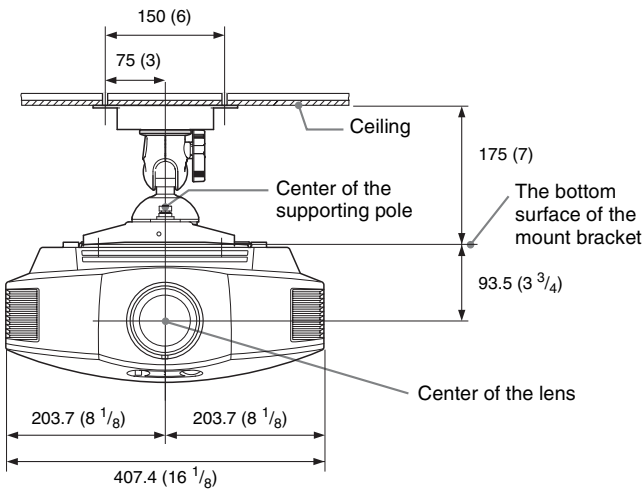
For details, refer to the installation manual for dealers of the PSS-H10.

Top view

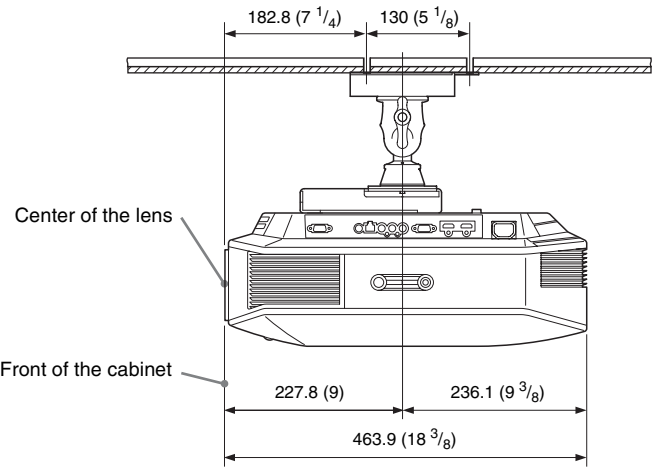
Install the projector so that the center of the lens is parallel to the center of the screen.



Front view



Side view



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Trademark Information

- “PlayStation” is a registered trademark of Sony Computer Entertainment Inc.
- The terms HDMI and HDMI High-Definition Multimedia Interface, and the HDMI Logo are trademarks or registered trademarks of HDMI Licensing LLC in the United States and other countries.
- “Blu-ray” and “Blu-ray Disc” are trademarks of Blu-ray Disc Association.

Control for HDMI is an HDMI standard mutual control function which uses the HDMI CEC (Consumer Electronics Control) specification.

This projector supports DeepColor, x.v.Color, LipSync, 3D signal and computer input signal of HDMI standards. It also supports HDCP.

