4-584-922-**04** (1)

SONY

Video Projector

Operating Instructions

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

VPL-VW5000 ES

4K SXRD Silicon X-tal Reflective Display HDMI

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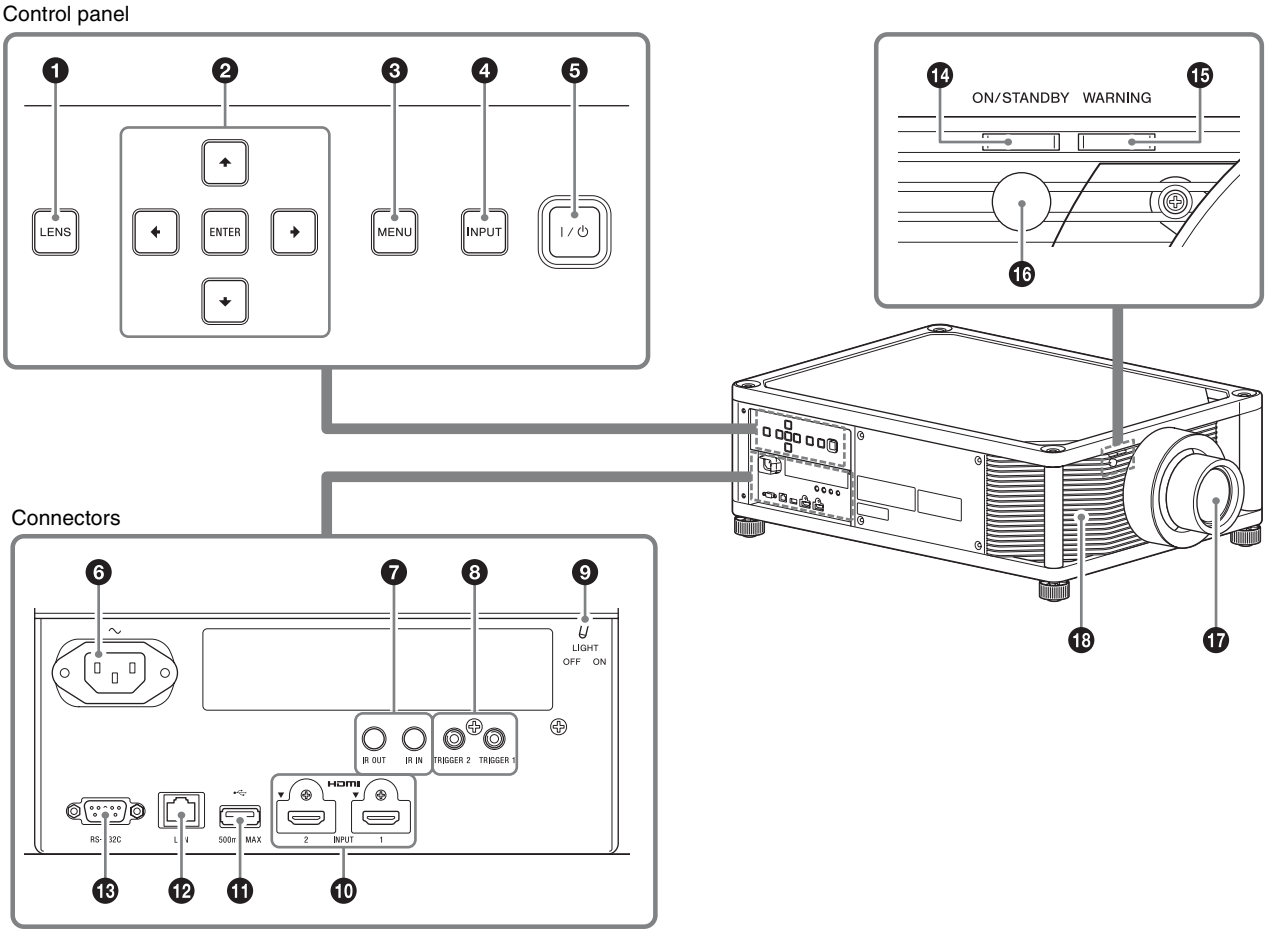
Location of Controls

Front/Right Side

The buttons on the control panel function the same as those on the remote control.



Control panel

❶ **LENS button (page 6)**

❷ **↑/↓/←/→ (arrow)/ENTER button (page 17)**

❸ **MENU button (page 17)**

❹ **INPUT button (page 12)**

❺ **I/⏻ (On/Standby) button (page 7)**

Connectors

❻ **~ AC IN socket (page 7)**

❼ **IR IN/IR OUT connector**
IR IN: Inputs the signals to control the projector. When connecting to the IR IN connector, the remote control detector does not work with the remote control.
IR OUT: Outputs the control signals received at the projector to the connected devices. When operating the projector with the remote control, the connected devices can also be operated.

❽ **TRIGGER 1/TRIGGER 2 connector (page 31)**

❾ **Connector light switch**
Turns on/off the connector lights.

❿ **HDMI 1/HDMI 2 connector (page 10)**

⓫ **USB connector (page 41)**

⓬ **LAN connector (page 35)**

⓭ **REMOTE connector**
Connects to a computer, etc. for remote control.

Indicators and remote control detector

⓮ **ON/STANDBY indicator (page 39)**

⓯ **WARNING indicator (page 39)**

⓰ **Remote control detector (page 6)**

Others

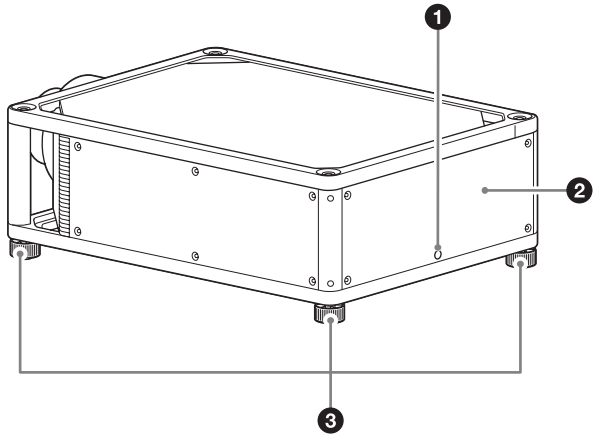
⓱ **Lens**

⓲ **Ventilation holes (intake)**

Note

If you look through the projection lens while the unit is projecting, the light may damage your eyes. Take special caution when using the unit around children.

Rear/Bottom

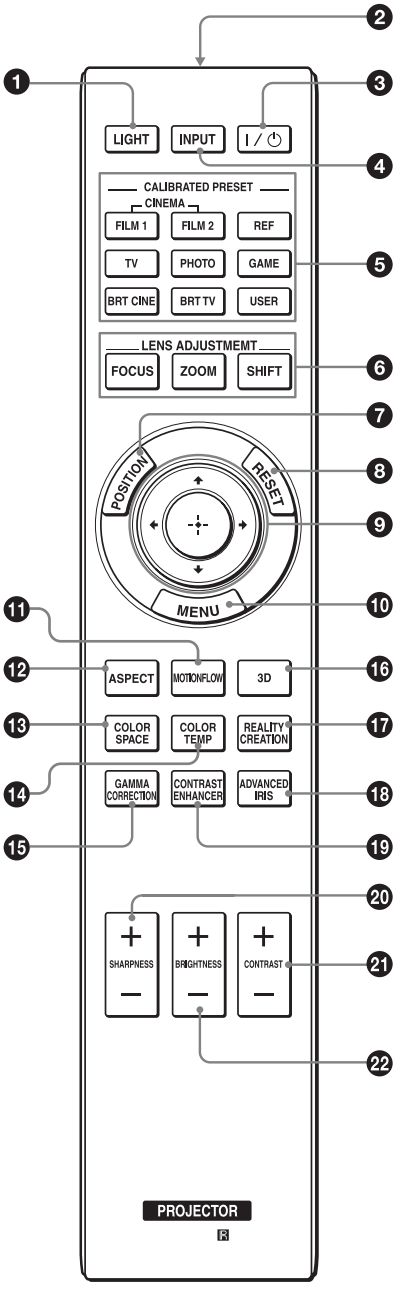


❶ **Remote control detector (page 6)**

❷ **Ventilation holes (exhaust)**

❸ **Feet (adjustable) (page 9)**

Remote Control



❶ **LIGHT button**
Illuminates the buttons on the remote control.

❷ **Infrared transmitter**

❸ **I/⏻ (On/Standby) button (page 7)**

❹ **INPUT button (page 12)**

❺ **CALIBRATED PRESET buttons (page 16)**

❻ **LENS ADJUSTMENT buttons (page 7)**

❼ **POSITION button (page 13)**

❽ **RESET button (page 18)**

❾ **↑/↓/←/→ (arrow)/ ⊕ (enter) buttons (page 17)**

❿ **MENU button (page 17)**

⓫ **MOTIONFLOW button (page 20)**

⓬ **ASPECT button (page 14)**

⓭ **COLOR SPACE button (page 22)**

⓮ **COLOR TEMP button (page 20)**

⓯ **GAMMA CORRECTION button (page 21)**

⓰ **3D button (page 12)**

⓱ **REALITY CREATION button (page 19)**

⓲ **ADVANCED IRIS button**
This function is not provided in this projector.

⓳ **CONTRAST ENHANCER button (page 20)**

⓴ **SHARPNESS button (page 20)**

㉑ **CONTRAST button (page 20)**

㉒ **BRIGHTNESS button (page 20)**

Connections and Preparations

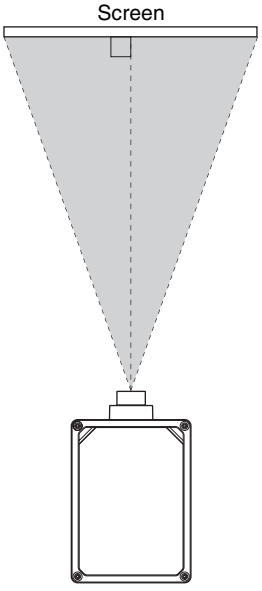
This section describes how to install the unit and screen, how to connect the equipment from which you want to project the picture, etc.

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 47).

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

Top view



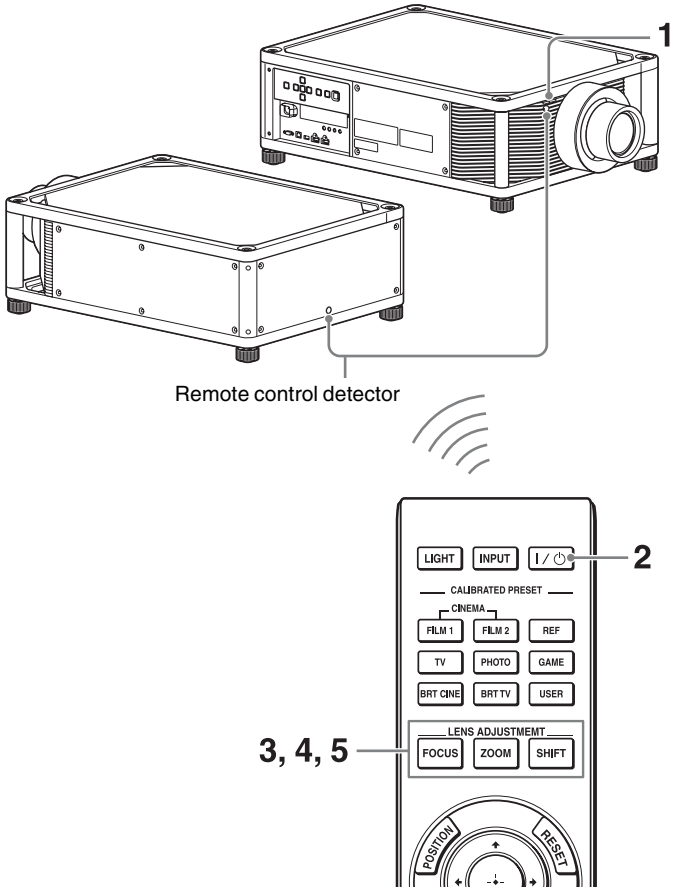
2 Project an image on the screen and adjust the picture so that it fits the screen (page 6).

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

Adjusting the Picture Position

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



Tips

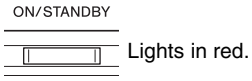
- The I/⏻ (On/Standby), INPUT, MENU, and ↑/↓/←/→/ENTER buttons on the side panel of the unit function the same as those on the remote control. The LENS button functions in the same way as the LENS ADJUSTMENT (FOCUS, ZOOM, SHIFT) buttons of the remote control.
- When adjusting the lens, each time you press the LENS button on the unit, the lens adjustment function switches between “Lens Focus,” “Lens Zoom” and “Lens Shift.”

FOCUS → ZOOM → SHIFT

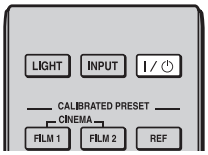
Note

Depending on the installation location of the unit, you may not be able to control it with the remote control. In this case, point the remote control at the remote control detector of the unit or the screen.

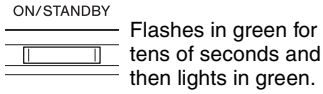
1 After connecting the AC power cord to the unit, plug the AC power cord into a wall outlet.
The ON/STANDBY indicator lights in red and the unit goes into standby mode.



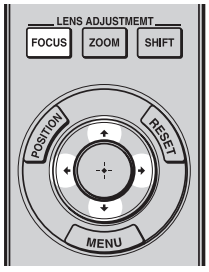
2 Press the I/⏻ (On/Standby) button to turn on the unit.

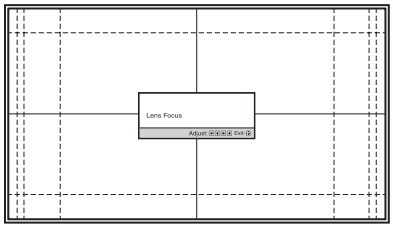


The ON/STANDBY indicator flashes in green, and then lights in green.



3 Adjust the focus.
Press the LENS ADJUSTMENT (FOCUS) button to display the Lens Focus adjustment window (test pattern). Then adjust the focus of the picture by pressing the ↑/↓/←/→ buttons.





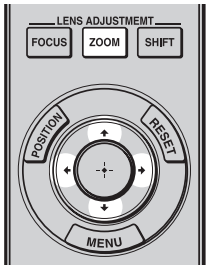
Tips

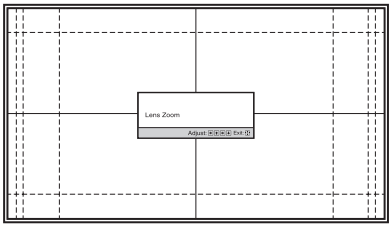
- When “Lens Control” is set to “Off” on the Installation menu, you cannot adjust the focus, the picture size or the proper position by pressing the FOCUS, ZOOM or SHIFT buttons (page 31).
- When “Test Pattern” is set to “Off” on the Function menu, the test pattern is not displayed (page 29).

Note

Adjust the lens by using buttons on the remote control or the control panel of the unit. Never make adjustments by directly turning the lens with your hands, which may cause damage or malfunction to the unit.

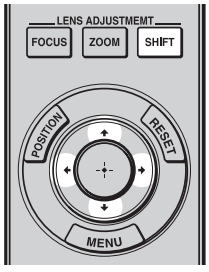
4 Adjust the picture size.
Press the LENS ADJUSTMENT (ZOOM) button to display the Lens Zoom adjustment window (test pattern). Then adjust the size of the picture by pressing the ↑/↓/←/→ buttons.

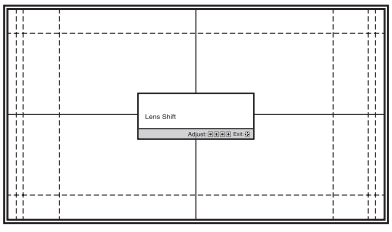




To make the picture larger, press ↑/→.
To make the picture smaller, press ↓/←.

5 Adjust the picture position.
Press the LENS ADJUSTMENT (SHIFT) button to display the Lens Shift adjustment window (test pattern). Then adjust to the proper position of the picture by pressing the ↑/↓/←/→ buttons.





Tips

- Whenever you press the ⊕ button, the test pattern disappears.

- Press the RESET button on the remote control while the Lens Shift adjustment window is displayed, the horizontal position returns to the center of the lens (factory default position). The zoom and focus are not changed.

Note

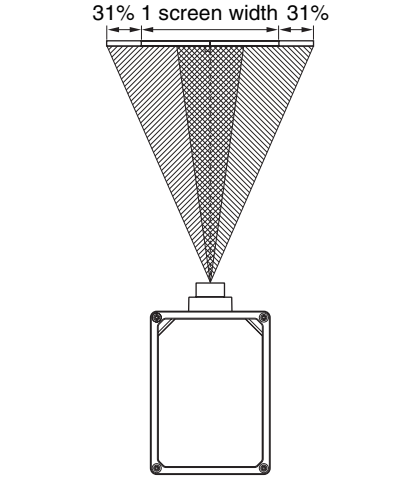
When adjusting the picture position, do not touch the lens unit, otherwise your fingers may be pinched by the moving parts.

To adjust the horizontal position

Press ←/→.

The picture projected on the screen moves right or left by a maximum of 31% of the screen width from the center of the lens.

Top view

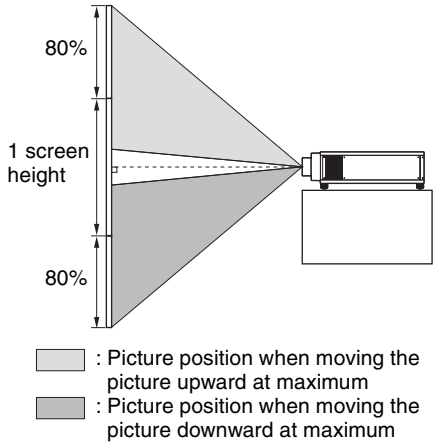


To adjust the vertical position

Press ↑/↓.

The picture projected on the screen moves up or down by a maximum of 80% of the screen height from the center of the lens.

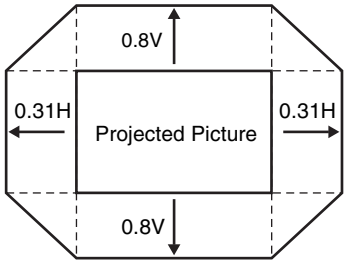
Side view



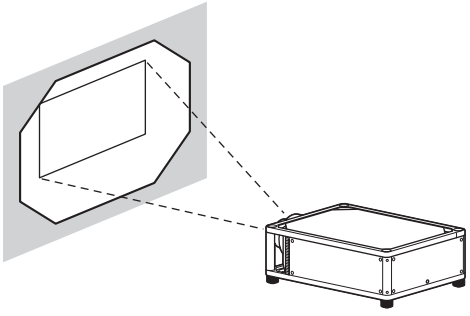
Note

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 47).

Range of movement of the projected picture

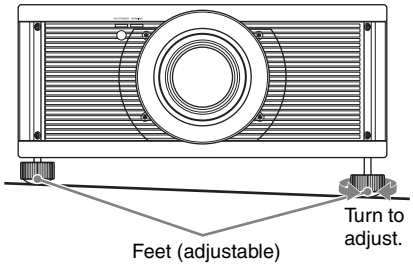


H: Width of the projected picture
V: Height of the projected picture



To adjust the tilt of the installation surface

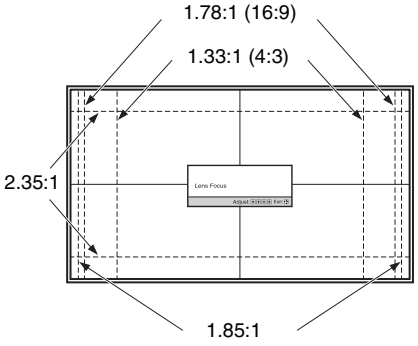
If the unit is installed on an uneven surface, use the feet (adjustable) to keep the unit level.



Notes

- If the unit is tilted up or down, the projected image may be trapezoidal.
- Be careful not to catch your finger when turning the feet (adjustable).

Lens adjustment window (test pattern)



The dashed lines show the screen sizes of each aspect ratio.

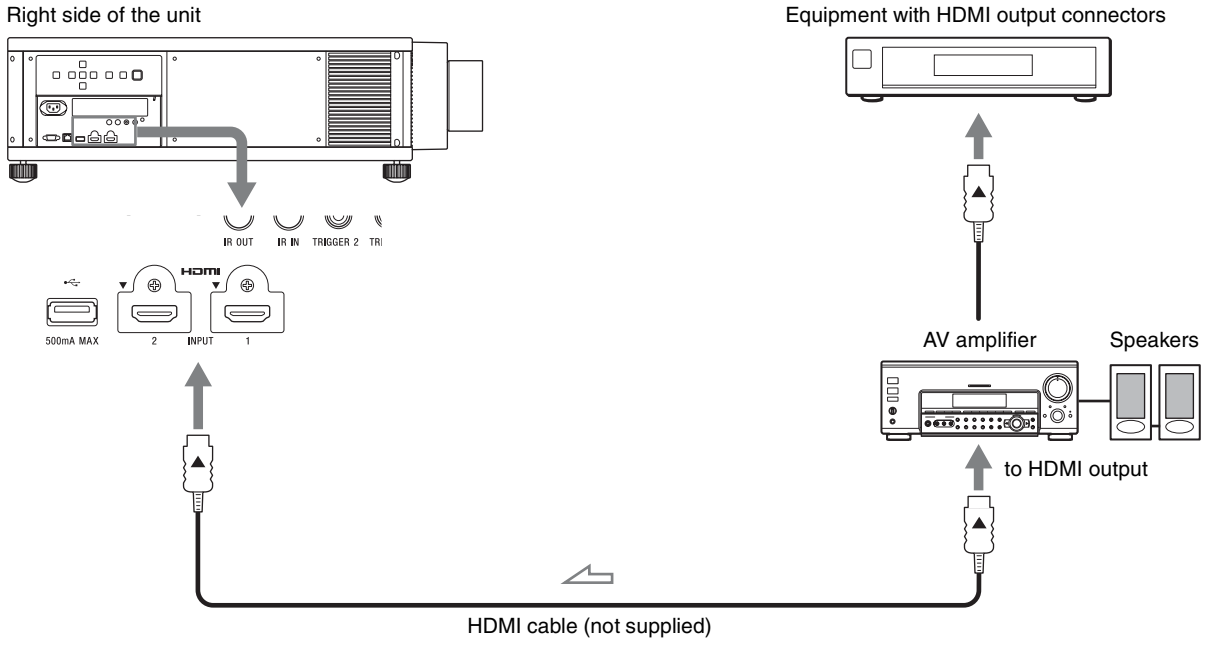
Connecting to Video Equipment or a Computer

You can enjoy high 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 unit.

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.

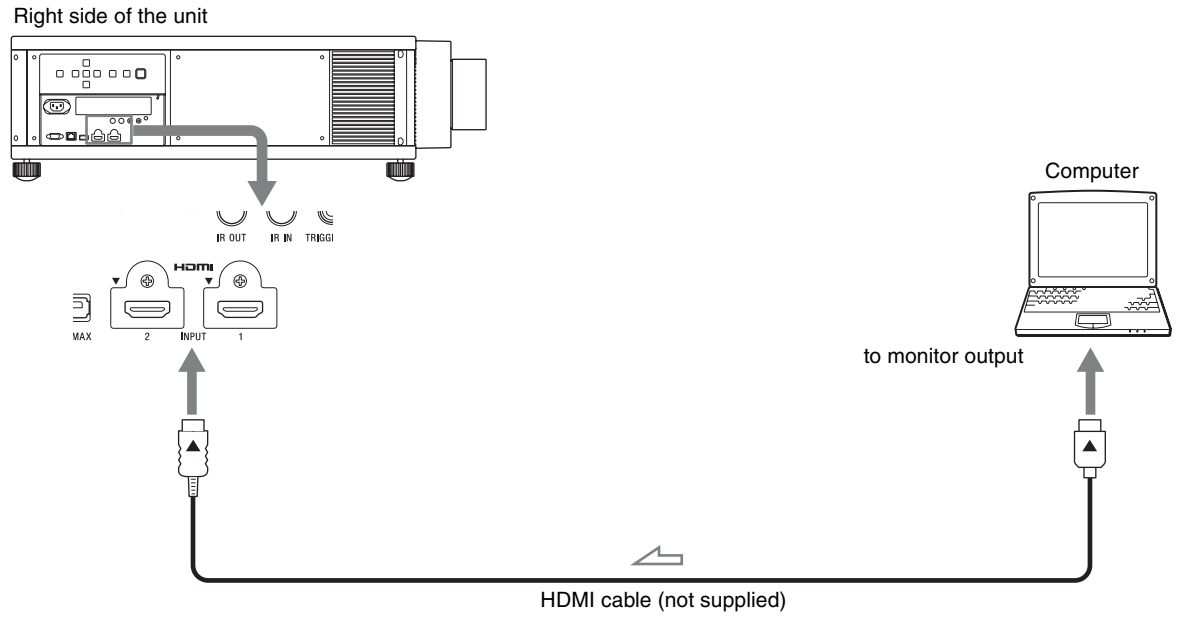
Connecting to a VCR



Notes

- Use a High Speed or Premium High Speed HDMI cable. With a standard HDMI cable, images of 1080p, DeepColor, 3D video and 4K video may not be displayed properly.
- When you want to display a picture in a more detailed HDMI format, use the “Premium High Speed” type.
- When connecting an HDMI cable to the unit, make sure the ▼ mark on the upper part of the HDMI input of the unit and the ▲ mark on the connector of the cable are faced at each other.
- If the picture from equipment connected to the unit with an HDMI cable is not correct, check the settings of the connected equipment.

Connecting to a Computer



: Video signal flow

Use a High Speed or Premium High Speed HDMI cable on which the cable type logo is specified.

Notes

- Use a High Speed or Premium High Speed HDMI cable. With a standard HDMI cable, images of 1080p, DeepColor, 3D video and 4K video may not be displayed properly.
- When you want to display a picture in a more detailed HDMI format, use the “Premium High Speed” type.
- When connecting an HDMI cable to the unit, make sure the ▼ mark on the upper part of the HDMI input of the unit and the ▲ mark on the connector of the cable are faced at each other.
- If the picture from equipment connected to the unit with an HDMI cable is not correct, check the settings of the connected equipment.
- 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.

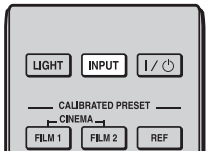
Projecting

This section describes how to operate the unit to view a picture from the equipment connected to the unit. It also describes how to switch the screen size according to the picture.

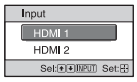
Projecting the Picture

1 Turn on both the unit and the equipment connected to the unit.

2 Press INPUT to display the input palette on the projection surface.



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.

Tips

- When "Status" is set to "Off" on the Setup menu, the input palette does not appear. Press the INPUT button to switch between input terminals sequentially.
- You can change the language for the menu and on-screen displays in "Language" on the Setup menu (page 26).

Turning Off the Power

1 Press the I/⏻ (On/Standby) button.
The message "POWER OFF?" appears.

2 Press the I/⏻ (On/Standby) button again before the message disappears.
The ON/STANDBY indicator flashes in green and the fan continues to run to reduce the internal heat.

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

You can disconnect the AC power cord.

Note

Never disconnect the AC power cord while the unit is turned on.

You can turn off the unit by holding the I/⏻ (On/Standby) button for about 1 second, instead of performing the above steps.

Watching 3D Video Images

You can enjoy powerful 3D video images, such as from 3D games and 3D Blu-ray Discs, using the optional Active 3D Glasses (TDG-BT500A).

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.
For details on how to project the image, see "Projecting the Picture" (page 12).

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, see "Using the 3D Glasses" (page 12).

Tip

The factory default setting for "2D-3D Display Sel." is "Auto" to allow projecting 3D video images automatically when the unit detects 3D signals.

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 28).
- Use the 3D glasses within the communication range (page 13).
- 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

You can adjust/set the 3D functions by pressing the 3D button on the remote control or with the "3D Settings" of the Function menu. For details, see "3D Settings" (page 28).

Using the 3D Glasses

1 Turn on the 3D glasses, and register them on the unit.
For details on how to register the 3D glasses, refer to the operating instructions supplied with the 3D glasses.

2 Put on the 3D glasses.

Precautions for use

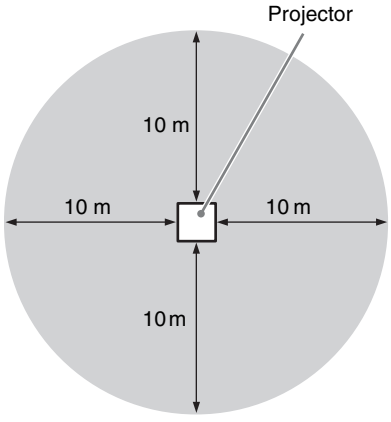
Misoperation may occur if:

- The viewing position is too far from the projector
- There are other communication devices, such as a wireless LAN (IEEE802.11 b/g/n) or a microwave with a bandwidth of 2.4 GHz, near the unit

3D glasses communication range

The following figure indicates 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 unit outside the communication range, the 3D glasses may not be able to display the images properly. Also, the distance varies depending on the environment of the room and installation environment of the unit.

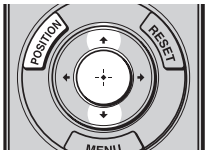
Top or side view



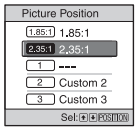
Using the Picture Position

You can store up to five combinations of lens settings (focus, picture size, picture position), aspect ratio, and blanking. These settings can be recalled.

1 Press POSITION.



The Picture Position selecting palette is displayed.

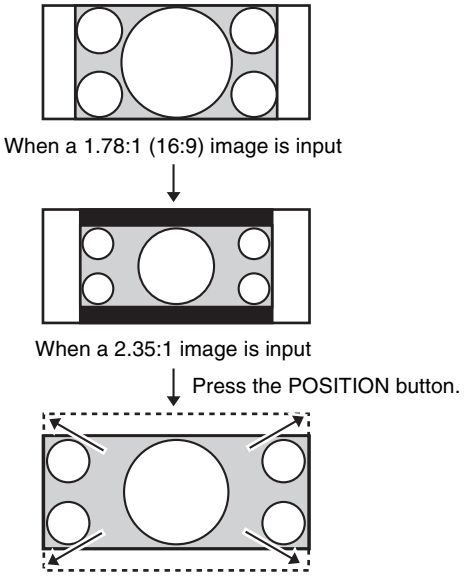


2 Press POSITION repeatedly, or press ↑/↓/⊕ to select the position.

The settings of the position selected is recalled.
Store or delete lens settings (focus, picture size, picture position) in the “Picture Position” of the Screen menu (page 24).
Adjust the aspect ratio or blanking in the “Aspect” (page 25) or “Blanking” (page 25) of the Screen menu.
The position where the lens settings are not stored is displayed as “---.”

Image of the lens moving

In the example below, the images with aspect ratio of 1.78:1 (16:9) and 2.35:1 are projected on a 2.35:1 screen.



Notes

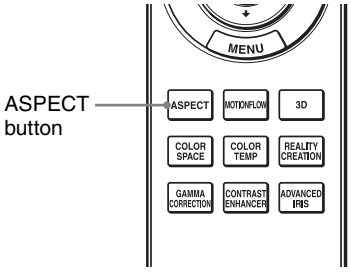
- After you have selected and confirmed the lens position, the lens starts to move. Do not touch, or place anything near, the lens, otherwise it may cause injury or a malfunction.
- If you press any button on the remote control or the unit while the lens is moving, the lens stops. In this case, select the lens position again or adjust the lens manually.
- The Picture Position function is not guaranteed to reproduce the lens settings precisely.
- When you use the subtended screen angle of two or more aspects using lens zoom, install the unit within the specified parameters referring to “Projection distance” (page 48). With some setting positions, the range of lens shift may be restricted, even though the unit is installed within the specified parameters.

Selecting the Aspect Ratio According to the Video Signal

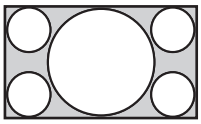
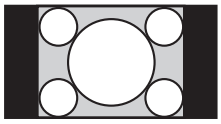
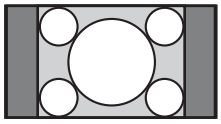
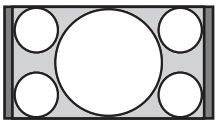
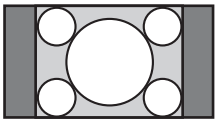
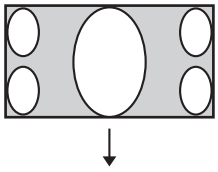
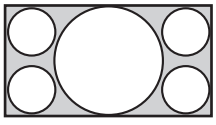
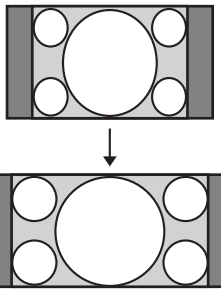
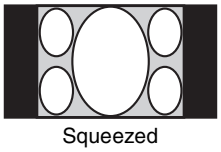
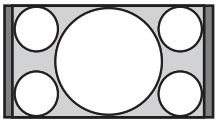
You can select an aspect ratio best suited for the video signal received.

Press ASPECT.

Each time you press the button, you can select the “Aspect” setting. You can also select it using the menu (page 25).



Original image (for 16:9 display)	Recommended setting and resultant images
1.85:1 Squeezed 1.85:1	1.85:1 Zoom
2.35:1 Squeezed 2.35:1	2.35:1 Zoom

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

Note

Selectable aspect modes vary depending on the input signal (page 45).

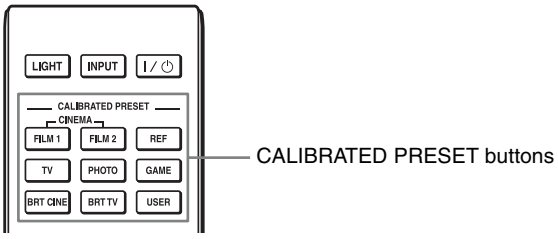
Notes on switching the “Aspect” setting

- 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.

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, based on the Cinema Film 1.
CINEMA DIGITAL *1	Picture quality suited to reproducing digital cinema-like images resembling DCI specifications (page 41).
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, and other video images.
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.
BRT TV	Picture quality suited for watching TV programs, sports, concerts, and other video images in a bright environment.
USER1, USER2, USER3 *2	Adjusts the picture quality to suit your taste then saves the setting. The factory default setting is the same as “REF.”

*1: The CINEMA DIGITAL mode is not available on the remote control.
*2: The USER1 mode is selected by pressing the USER button. The USER2 mode and USER3 mode are not available on the remote control.

Using the Menus

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

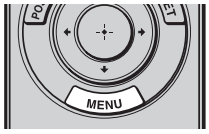
Note

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

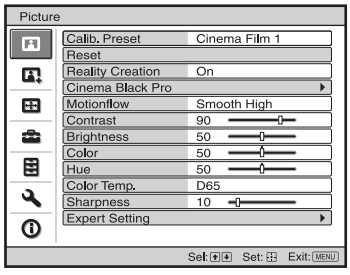
Operation through the Menus

The unit is equipped with an on-screen menu for making various adjustments and settings. If you select an item name followed by an arrow (▶), the next menu window with setting items appears.

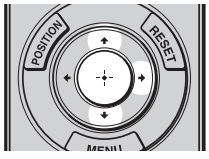
1 Press MENU.



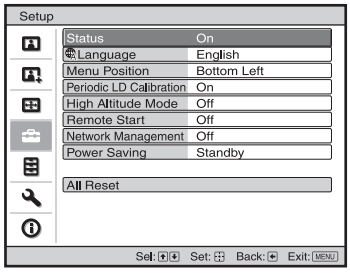
The menu window appears.



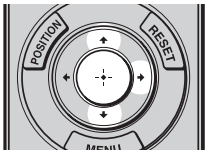
2 Press ↑/↓ to select a menu item, and press → or ⊕.



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

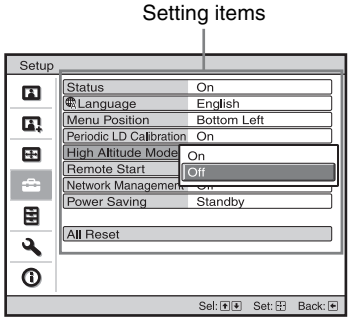


3 Press ↑/↓ to select an item you want to set or adjust and press → or ⊕.

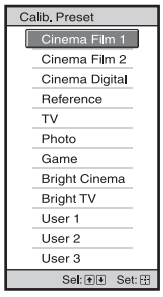


The setting items are displayed in a pop-up menu, in a setting menu, in an adjustment menu or in the next menu window.

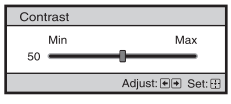
Pop-up menu



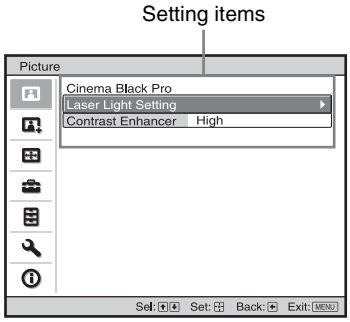
Setting menu



Adjustment menu



Next menu window



4 Make the setting or adjustment of an item.

When changing the adjustment level

To increase the value, press ↑/→.
To decrease the value, press ↓/←.
Press ⊕ to store the setting and restore the original menu screen.

When changing the setting

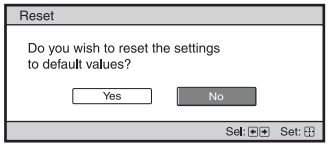
Press ↑/↓ to change the setting.
Press ⊕ to restore the original screen.
You can restore the original screen using ← depending on the selected item.

To clear the menu

Press MENU.

To reset the picture that has been adjusted

Select “Reset” from the Picture menu.



When the screen display appears, select “Yes” using ← and press ⊕.
All of the following settings are reset to its factory preset value:
“Reality Creation,” “Cinema Black Pro,” “Motionflow,” “Contrast,” “Brightness,” “Color,” “Hue,” “Color Temp.,” “Sharpness,” and “Expert Setting” on the Picture menu

To reset the items that have been adjusted

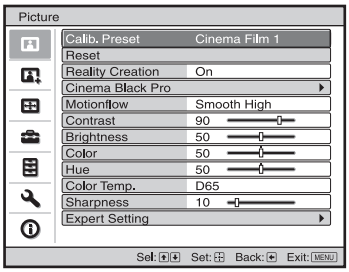
Select an item in the menu screen, and display the pop-up menu, the setting menu, or the adjustment menu.
Press RESET on the remote control to reset only the selected settings to its factory preset value.

Note

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

Picture Menu

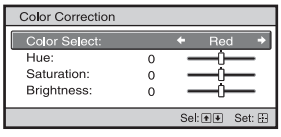
The Picture menu is used for adjusting the picture.

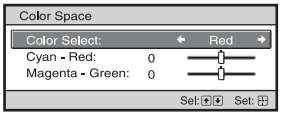


Item names in brackets represent those printed on the remote control.

Setting items	Description
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, based on the Cinema Film 1. **Cinema Digital:** Picture quality suited to reproducing digital cinema-like images resembling DCI specifications (page 41). **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, and other video images. **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. **Bright TV:** Picture quality suited for watching TV programs, sports, concerts, and other video images in a bright environment. **User 1, User 2, User 3:** 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 18). **Tip** Reset does not affect settings saved for the Custom 1 to 5 items of “Color Temp.”
Reality Creation [REALITY CREATION]	Adjusts the detail and noise processing of images. (Super-resolution function) **On:** Adjusts the settings of “Reality Creation.” **Database:** Select “Normal” or “Mastered in 4K.” “Mastered in 4K” provides image quality suitable for Blu-ray Disc™ “Mastered in 4K” releasing from Sony Pictures Home Entertainment. **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” setting (page 26). **Off:** The “Reality Creation” function is not applied.

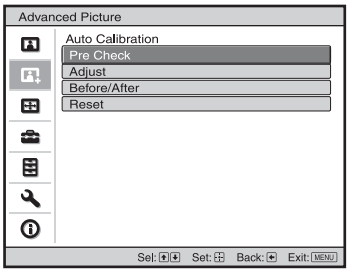
Setting items	Description
Cinema Black Pro	
Laser Light Setting	**Dynamic Control:** Adjusts the range of movement of the laser light control. **Full:** Automatically optimizes the laser light control and signal processing according to the brightness level of the input source. This results in a bright and high contrast image. **Limited:** Suppresses the movement and brightness of the laser light control, making the picture quality suitable for viewing in a dark room. **Off:** The "Dynamic Control" function is not applied. **Output:** The higher the setting, the brighter the picture. The lower the setting, the darker the picture. **Tip** Adjust "Output" according to the brightness of the picture.
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.
Motionflow [MOTIONFLOW]	**Impulse:** Reproduces original picture quality. Provides cinema-like picture, which may flicker. **Combination:** Reduces motion blur while maintaining brightness for high-speed picture content. **Smooth High:** Provides smoother picture movement; especially effective for film-based content. **Smooth Low:** Provides smoother picture movement for standard use. **True Cinema:** Images, such as a movie created in 24 frames per second, are reproduced at the original framerate. **Off:** The "Motionflow" function is not applied. **Tips** • Select "Off" if the selected "Smooth High," "Smooth Low," "Impulse," "Combination," or "True Cinema" results in a distorted picture. • When selecting "Impulse," the picture becomes dark. Also, it may flicker. • Depending on the picture content, you may not see the effect visually even if you have changed the settings. • Only "Off" or "Impulse" is available when a signal with a resolution of 4096 × 2160 is input.
Contrast [CONTRAST]	Adjusts the contrast. Higher values increase the sharpness in images, while lower values decrease the sharpness. When the HDR signal is input with "HDR10," "HLG," or "Auto" set for "HDR," "Contrast(HDR)" appears instead of "Contrast."
Brightness [BRIGHTNESS]	Adjusts the brightness of the picture. The higher the setting, the brighter the picture. The lower the setting, the darker the picture.
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. **DCI:** DCI specification (page 41) color temperature. **D55:** Equivalent to 5,500 K color temperature used as an ancillary standard illuminant. Gives white colors an even redder tint. **Custom 1 to 5:** Enables you to adjust, set, and store your favorite color temperature. The factory default settings are as follows. **Custom 1:** Same as the "D93" color temperature setting. **Custom 2:** Same as the "D75" color temperature setting. **Custom 3:** Same as the "D65" color temperature setting. **Custom 4:** Same as the "DCI" color temperature setting. **Custom 5:** Setting that prioritizes brightness. **Tip** You can adjust each item to a color temperature according to your preference.
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.

Setting items	Description
Expert Setting	
NR (Noise Reduction)	Reduces the roughness or noise of the picture. **Auto:** Detects the noise level to reduce the roughness or noise of the picture automatically. **High/Middle/Low:** Select a setting according to the roughness or noise of the input signal source. **Off:** The NR (noise reduction) function is not applied. **Tip** The noise level may not be detected accurately with "Auto" depending on the input signal source. If the picture is unacceptable with "Auto," select a setting from among "High," "Middle," "Low" or "Off."
MPEG NR (MPEG Noise Reduction)	Reduces block noise and mosquito noise, particularly in digital signals. **Auto:** Detects the noise level to reduce the block noise and mosquito noise of the picture automatically. **High/Middle/Low:** Select a setting according to the block noise and mosquito noise of the input signal source. **Off:** The MPEG NR (MPEG noise reduction) function is not applied. **Tip** The noise level may not be detected accurately with "Auto" depending on the input signal source. If the picture is unacceptable with "Auto," select a setting from among "High," "Middle," "Low" or "Off."
Smooth Gradation	Smooths the gradation of the flat parts of images. **High/Middle/Low:** You can adjust the smooth gradation effect. **Off:** The smooth gradation function is not applied. **Tip** This item is not available for 3D signals.
Film Mode	According to the film source you have selected, make a setting for playback. **Auto:** Suitable for reproducing the original picture movement. Normally, set this to "Auto." **Off:** Plays back the picture in progressive format without detecting video signals automatically. **Tip** This item is compatible with a 1080i signal only.
Gamma Correction [GAMMA CORRECTION]	Adjusts the response characteristics of the tone of the picture. Select a favorite tone from 10 options. **1.8:** Bright Produces a brighter picture overall. **2.0** **2.1** **2.2** **2.4** **2.6:** Dark Produces a darker picture overall. **Gamma 7:** Simulates the gamma curve of film. **Gamma 8:** Increases the sharpness in images. Select this when you watch in a bright environment. **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. **Off:** The "Gamma Correction" function is not applied.
Color Correction	**On:** Adjusts Hue, Saturation and Brightness of the selected colors. Repeat steps ① and ② described below to specify the target color. ① Press ↑/↓ to select "Color Select," then press ←/→ to select the color you want to adjust among "Red," "Yellow," "Green," "Cyan," "Blue," and "Magenta."  ② Press ↑/↓ to select "Hue," "Saturation" or "Brightness," then adjust them to suit your taste using ←/→ while watching the projected picture. **Off:** The "Color Correction" effect is not applied.
Clear White	Emphasizes vivid whites. **High/Low:** You can adjust the "Clear White" effect. **Off:** The "Clear White" effect is not applied.

Setting items	Description
x.v.Color	Set this item when connecting the unit with equipment that supports x.v.Color and playing back an x.v.Color video signal. **On:** You can play back an x.v.Color video signal. **Off:** The "x.v.Color" function is not applied. For details on x.v.Color, see "About x.v.Color" (page 41). **Tip** Setting x.v.Color to "On" disables gamma adjustment.
HDR	Sets how to play back HDR content. **Auto:** Distinguishes HDR content automatically and applies the optimal picture quality. When an input signal supports BT.2020, then "BT.2020" or "Color Space 2" is selectable for "Color Space". When a signal other than BT.2020 is input, then any mode other than "BT.2020" and "Color Space 2" is selectable. ("BT.2020" and "Color Space 2" are not available in this case.) **HDR10:** Set when playing back HDR10-compatible content. **HLG:** Set when playing back HLG-compatible content. **Off:** Set when playing back content other than HDR content. All of the modes of "Color Space" are selectable when "HDR10," "HLG," or "Off" is selected. **Note** If the setting is not correct for the input content, the bright and dark areas of the video may appear too bright or too dark.
Color Space [COLOR SPACE]	Converts the color space. **BT.709:** An ITU-R BT.709 color space. The color space is equivalent to sRGB. **BT.2020:** An approximated ITU-R BT.2020 color space which has a wider range of color reproduction than BT.709. Use this setting when playing back HDR content. **DCI:** A color space based on the DCI specification (page 41). **Adobe RGB:** An approximated Adobe RGB color space, which has a wider range of color reproduction than sRGB, and suited for displaying an image recorded in Adobe RGB specification. **Color Space 1:** The color space suited for video images. **Color Space 2:** A color space suited for watching HDR content in a bright space. **Color Space 3:** A color space suited for watching movies or video images in a bright space. **Custom 1, Custom 2:** You can adjust the color space setting.  **Tip** You can adjust each item to a color space according to your preference. **Note** When "HDR" is set to "Auto," the selectable mode changes according to the signal type (page 22).
Input Lag Reduction	Reduces the delay of the display for a video. **On:** Shortens the time to display the input video image; effective for increasing the performance of the display reaction speed when using an external controller, etc. **Off:** Turns the Input Lag Reduction function off. **Tip** When "Input Lag Reduction" is set to "On," the following items cannot be set: "Combination," "Smooth High," "Smooth Low," and "True Cinema" of "Motionflow"

Advanced Picture Menu

You can adjust the gaps in color that have occurred after a long period of use.



Setting items	Description
Auto Calibration	**Pre Check:** Checks the color difference against the factory default settings, before calibration starts. **Adjust:** Performs Auto Calibration. **Before/After:** Toggles the factory default settings and the setting after the calibration at a certain frequency. You can check the effect of the calibration by monitoring the actual image. **Reset:** Resets the calibration results, and returns to the factory default settings.

Notes

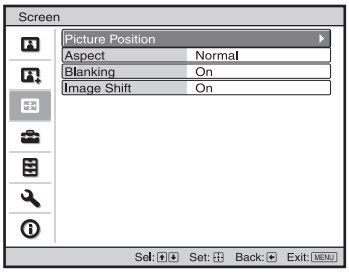
- Auto Calibration results in relatively coarse calibration. The color settings are not guaranteed to be the same as the factory default values.
- The colors are projected automatically while performing “Pre Check” or “Adjust.” A similar phenomenon may occur infrequently while the power is off to adjust the unit. Both cases are not a malfunction.
- Do not turn off the power or operate the remote control or control panel during “Pre Check” or “Adjust,” as the process may be canceled.

Tips

- dE is an indicator of changing color. The smaller the value of dE, the fewer the changes caused by the color.
- Perform the calibration after the power has been on for more than 30 minutes.
- It takes a few minutes for “Pre Check” or “Adjust” to complete.
- When “Pre Check” or “Adjust” starts, the screen position may shift as the lens returns to its factory default position. After completion, the screen returns to its previous position automatically.
- If the environment, such as the brightness of the room, changes while performing “Pre Check” or “Adjust”, measurement may be affected.
- If the “Pre Check” or “Adjust” function fails, try it again.

Screen Menu

You can set the picture size, aspect mode, etc.

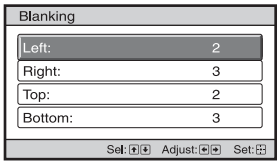


Note

These items may not be available, depending on the type of input signal. For details, see “Input Signals and Adjustment/Setting Items” (page 44).

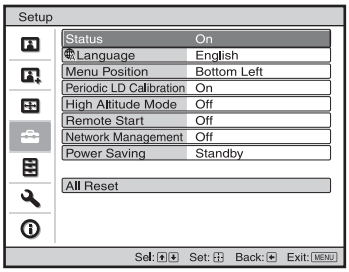
Item names in brackets represent those printed on the remote control.

Setting items	Description
Picture Position [POSITION]	You can store up to five combinations of lens settings, aspect ratio, and blanking. After setting the lens (focus, picture size, picture position), select from “1.85:1,” “2.35:1,” “Custom 1,” “Custom 2,” or “Custom 3” depending on the subtended screen angle, and after confirming, continue by selecting “Save,” “Delete,” or “Select.” **Save:** Stores the current lens settings (focus, picture size, picture position) in the selected position. If a setting is already stored in that position, it is overwritten. **Delete:** Deletes the stored setting. After the setting is deleted, “1.85:1,” “2.35:1,” “Custom 1,” “Custom 2,” or “Custom 3” in the display change to “---.” **Select:** Recalls the settings of the selected position. **Tips** • The optimal aspect ratio is preset for each picture position. The aspect ratio can be changed and saved for each picture position. • When saving the Picture Position, temporarily move the picture from the saving point down 5 cm or more, then move the picture up again and save. This improves the precision of the Picture Position when calling it. **Notes** • After you have selected and confirmed the lens position, the lens starts to move. Do not touch the lens and the area around the lens, otherwise it may cause injury or a malfunction. • If you press any button on the remote control or the unit while the lens is moving, the lens stops. In this case, select the lens position again or adjust the lens manually. • When you use a 2.35:1 or a 16:9 subtended angle with the Picture Position function, make sure that the installation position is suitable (page 13). • The Picture Position function is not guaranteed to reproduce the lens settings precisely. • “Picture Position” cannot be set when “Lens Control” is set to “Off.”

Setting items	Description
Aspect [ASPECT]	You can set the aspect ratio of the picture to be displayed for the current input signal (page 14). **1.85:1 Zoom:** A 1.85:1 aspect ratio picture is displayed in its original aspect ratio, enlarged so that black bands do not appear at the top and bottom of the projection surface. **2.35:1 Zoom:** A 2.35:1 aspect ratio picture is displayed in its original aspect ratio, enlarged so that black bands at the top and bottom of the projection surface are as small as possible. When you select "2.35:1 Zoom" from "Trigger Select 1/2" on the Installation menu, a 12 V signal is output from the TRIGGER 1 or TRIGGER 2 connector (page 31). **Normal:** Input video is displayed in its original aspect ratio, enlarged to fill the projection surface. This mode is suitable for viewing 1.78:1 (16:9) and 1.33:1 (4:3) video. **V Stretch:** This is the most suitable mode for using a 2.35:1 screen to view 2.35:1 video with a commercially available anamorphic lens. When you select "V Stretch" from "Trigger Select 1/2" on the Installation menu, a 12 V signal is output from the TRIGGER 1 or TRIGGER 2 connector (page 31). **Squeeze:** With this setting, 1.78:1 (16:9) and 1.33:1 (4:3) video will be displayed in their correct aspect ratios when you use a commercially available anamorphic lens. **Stretch:** Displays video that has been squeezed to 1.33:1 (4:3) as 1.78:1 (16:9) aspect ratio. **Tips** • When you select "V Stretch" or "Squeeze," select the anamorphic lens type from "Anamorphic Lens" in the Installation menu. • Selectable aspect modes vary depending on the input signal (page 45). • Aspect setting is stored for each of the five Picture Positions. Adjust the aspect after selecting the Picture Position. Final adjusted values are stored automatically.
Blanking	This feature allows you to adjust the displayable region within the four directions of the screen. **On:** Select the edge to adjust by highlighting Left, Right, Top, or Bottom using the ↑/↓ buttons. Adjust the amount of blanking using the ←/→ buttons.  **Off:** Turns off the Blanking function. **Tips** • Depending on the aspect ratio setting, right/left blanking may not be available. • Blanking setting is stored for each of the five Picture Positions. Adjust the blanking after selecting the Picture Position. Final adjusted values are stored automatically.
Image Shift	**On:** You can adjust the image position. **H:** The image moves to the right as the value increases, and moves to the left as decreases. **V:** The image moves up as the value increases, and moves down as decreases. **Off:** You can turn off the image shift function. **Tip** When displaying one image with two projectors installed side-by-side, position both images to align their adjoining edges.

Setup Menu

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

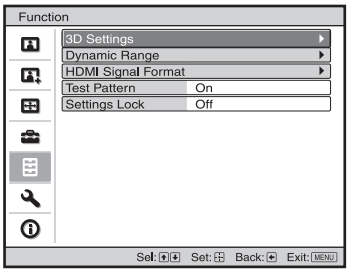


Setting items	Description
Status	Sets whether or not on-screen messages or menus, etc. are displayed. **On:** Displays on-screen messages and menus. **Off:** Turns off the on-screen displays, other than certain menus, a message when turning off the power, and warning messages. **All Off:** Turns off the on-screen displays, other than certain menus, and a message when turning off the power. **Notes** • When "All Off" is selected, warning message for high temperature is not displayed. • Note that Sony is not liable for failure of the unit or any accident caused by selecting "All Off."
Language	Selects the language used in the menu and on-screen displays.
Menu Position	You can change the position to display the menu on the projection surface. **Bottom Left:** Displays the menu on the bottom left area of the projection surface. **Center:** Displays the menu on the center of the projection surface.
Periodic LD Calibration	Performs the calibration automatically after a certain period of use. At that time, the calibration starts when the **I**/⏻ button of the unit or the ⏻ button of the remote controller is pressed, and after the calibration finishes the power turns off. **On:** Performs the calibration automatically. **Off:** Does not perform the calibration automatically.
High Altitude Mode	Sets the unit to operate at the prevailing atmospheric pressure. **On:** Use this setting when using the unit at an altitude of 1,500 m (approx. 4,900 ft) or higher. **Off:** Use this setting when using the unit at normal altitudes. **Tip** When this item is set to "On," the fan noise becomes slightly louder since the fan speed increases.
Remote Start	Sets the Remote Start settings. **On:** You can turn on the power from a PC or a terminal which is connected to a network. **Off:** Turns off the Remote Start function. **Tips** • To use the function, the unit should be connected to the network in advance (page 32). • To turn on the power with the Remote Start function, a special command should be sent from a PC or a terminal. For details, consult with qualified Sony personnel. **Note** When the Remote Start is set to "On," the standby power requirement will increase. When Network Management is set to "On," Remote Start is fixed at "On" and is not displayed in the menu.
Network Management	**On:** Set when connected to the network and continuously communicating with the projector control equipment. **Off:** Turns off the Network Management function. **Note** When Network Management is set to "On," the network function is continuously enabled. Set Network Management to "Off" for normal use. If you set to "On," the power consumption increases.

Setting items	Description
Power Saving	Sets the Power Saving mode. **Standby:** If no signal is input for 10 minutes, power is turned off automatically and the projector goes into standby mode. **Off:** Disables the Power Saving function.
All Reset	All settings by the main unit and adjusted data by the connected devices are initialized to their factory preset values.

Function Menu

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



Setting items	Description
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 to the unit, displays 3D video images according to the 3D system of those HDMI signals. **3D Format:** 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:** Select this to display 3D images as two similar images, side-by-side. **Over-Under:** Select this to display 3D images as two similar images, one above the other. **Tips** • “2D-3D Display Sel.” cannot be set to “3D” for some video sources. For available 3D signals, see “Compatible 3D Signals” (page 44). • The simulated 3D feature may have limited effect, depending on the projection image size (100 to 120 inches recommended) and the video source. • The menu display has a ghost while a 3D video image is displayed and is best viewed with the 3D glasses.
3D Brightness	For adjusting the brightness of the picture when watching 3D video images. You can select the brightness from “High” or “Standard.”
3D Depth Adjust	For adjusting the depth of the 3D video images on the projection surface. 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 recommend 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.” **Tip** There are differences in perception of 3D video images converted by the simulated 3D function among individuals.
Dynamic Range	Sets the video input level for HDMI 1 and HDMI 2 connectors. **Auto:** Sets the video input level automatically. **Limited:** The video input level is set for signals that are equivalent to 16-235. **Full:** The video input level is set for signals that are equivalent to 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.

Setting items	Description
HDMI Signal Format	Switches the video signal formats for 4K. **Standard Format:** Displays a picture in the standard HDMI format. Normally use this setting. **Enhanced Format:** Displays a picture in a more detailed HDMI format. Use this setting only when the corresponding devices are used. **Tips** • A picture or sound may not be output normally when “Enhanced Format” is selected. In this case, set to “Standard Format.” • Set “Enhanced Format” only when the corresponding devices are used. • It may take time to display a picture after switching the video signal formats.
Test Pattern	Displays a test pattern according to the setting. **On:** A test pattern appears on the screen to be used when adjusting the lens with “Lens Focus,” “Lens Zoom,” and “Lens Shift.” **Off:** A test pattern does not appear. **Tip** While the test pattern is displayed, it is only displayed in green to allow you to adjust the focus easily.
Settings Lock	Locks menu item settings to prevent operational error (page 30). **Off:** Cancels the Settings Lock. **Level A:** Group 1 items (below) are not displayed on the menu, and are not available. **Level B:** Group 1 and Group 2 items (below) are not displayed on the menus, and are not available.

Items Locked by Settings Lock

Group 1

Picture menu

- Reset
- Reality Creation
- Laser Light Setting
- Contrast Enhancer
- Motionflow
- Contrast
- Brightness
- Color
- Hue
- Color Temp.
- Sharpness
- NR
- MPEG NR
- Smooth Gradation
- Film Mode
- Gamma Correction
- Color Correction
- Clear White
- x.v.Color
- HDR
- Color Space
- Input Lag Reduction

Advanced Picture menu

- Auto Calibration

Setup menu

- Periodic LD Calibration

Group 2

Setup menu

- Status
- Language
- Menu Position
- High Altitude Mode
- Remote Start
- Network Management
- Power Saving

Function menu

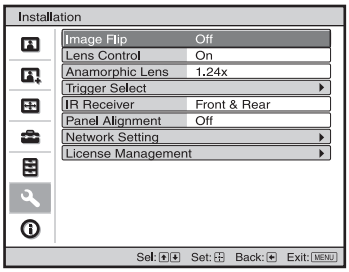
- Dynamic Range
- Test Pattern

Installation menu

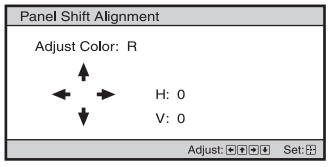
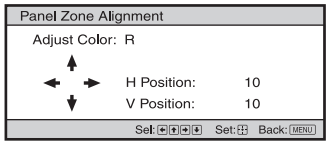
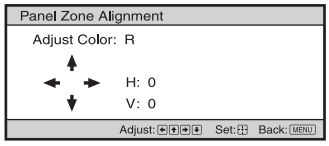
- Image Flip
- Lens Control
- Anamorphic Lens
- Trigger Select
- IR Receiver
- Panel Alignment
- Network Setting

Installation Menu

The Installation menu is used for changing the installation settings.



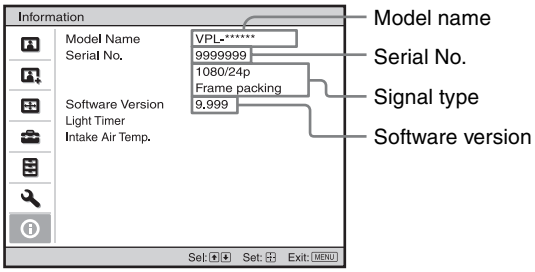
Setting items	Description
Image Flip	Flips the picture on the screen horizontally and/or vertically. **HV:** Flips the picture horizontally and vertically. **H:** Flips the picture horizontally. **V:** Flips the picture vertically. **Off:** The picture does not flip. Use this item for installation for the rear projection or ceiling installation.
Lens Control	Avoids any operation of the lens such as “Lens Focus,” “Lens Zoom,” and “Lens Shift,” by mistake. **On:** Enables adjustment of the lens. **Off:** Prevents any adjustment of the lens.
Anamorphic Lens	Select a setting to match the anamorphic lens conversion ratio. **1.24x:** Select this when you use an anamorphic lens with a horizontal rate of 1.24×. **1.32x:** Select this when you use an anamorphic lens with a horizontal rate of 1.32×.
Trigger Select	Switches the output function of the TRIGGER 1/TRIGGER 2 connector. **Off:** Turns off the TRIGGER connector function. **Power:** Outputs 12 V signals from the TRIGGER 1/TRIGGER 2 connectors when the unit is on. The TRIGGER 1/TRIGGER 2 connectors do not output any signals when the unit is in standby. **V Stretch:** Works with the “Aspect” setting’s “V Stretch” (page 25) and outputs a 12 V signal from the TRIGGER 1 or TRIGGER 2 connector. **2.35:1 Zoom:** Works with the “Aspect” setting’s “2.35:1 Zoom” (page 25) and outputs a 12 V signal from the TRIGGER 1 or TRIGGER 2 connector. **3D:** Outputs a 12 V signal from the TRIGGER 1 or TRIGGER 2 connector when the 3D signal is input or when working with “2D-3D Display Sel.” of “3D” “3D Settings” (page 28).
IR Receiver	Selects the remote control detectors (IR Receiver) on the front and rear of the unit. **Front & Rear:** Activates both the front and rear detectors. **Front:** Activates the front detector only. **Rear:** Activates the rear detector only.

Setting items	Description
Panel Alignment	This feature allows you to adjust the gaps in the color of characters or the picture on the projection surface. **On:** Adjusts the gaps in the colors selecting “Adjust Item” or “Adjust Color.” **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 the ←/→, ↑/↓ buttons. When “Shift” is selected: Assign the settings of the horizontal direction (H) with the ←/→ buttons and the vertical direction (V) with the ↑/↓ buttons on the shift adjustment screen.  When “Zone” is selected: Select the position to adjust with the ←/→ buttons for the horizontal position (H Position) and the ↑/↓ buttons for the vertical position (V Position), then press ⊕.  Set the amount to adjust with the ←/→ buttons for the horizontal direction (H) and with the ↑/↓ buttons for the vertical direction (V). You can select the position to adjust again by pressing ⊕.  **Reset:** Returns to the factory settings. **Off:** The optimized data has been preset. **Note** Depending on the adjustments made above, colors may become uneven or the resolution may change.
Network Setting	Perform internet protocol settings.
IPv4 Setting	**IP Address Setup**: Selects the IP address setting method. **Auto(DHCP):** The IP address is assigned automatically from the DHCP server such as a router. **Manual:** Specifies the IP address manually. When “Manual” is selected for “IP Address Setup,” select the item with the ←/→ buttons and input the value with the ↑/↓ buttons. When all items are entered, select “Apply,” and then press the ⊕ button. The entered settings will be registered. **IP Address**: Sets the unit’s IP address. **Subnet Mask**: Sets the unit’s subnet mask. **Default Gateway**: Sets the unit’s default gateway. **MAC Address**: Displays the unit’s MAC address. This cannot be changed. **Apply**: Enables the IP address that is set manually.
IPv6 Information	Displays the IPv6 information. When you set the IPv6 IP address, set it on a Web browser (page 35).

Setting items	Description
License Management	Manages the activation (validation) status of the license. **Activate Licenses:** Activates (validates) the available license. **Unique Device ID:** Displays the ID number of the unit. **Tip** For details on features activated by “Activate Licenses,” refer to the following web site: https://www.ecspert.sony.biz/ **Note** Supported Web browsers are as follows: Windows OS: Internet Explorer 10/11, Microsoft Edge (Windows 10), Google Chrome Mac OS: Safari

Information Menu

The Information menu displays the model name, serial number, input signal type, and software version.



Items	Description
Model Name	Displays the model name
Serial No.	Displays the serial number.
Signal type	Displays the resolution of the video which you are watching. When input signals with 3D information are input, the type of input signals and the 3D format are displayed. When the input signal is compatible with HDR, “HDR(HDR10)” or “HDR(HLG)” is displayed according to the input signal.
Software Version	Displays the software version.
Light Timer	Displays how long the light has been turned on (total usage).
Intake Air Temp.	Displays the intake air temperature.

Note

You cannot adjust or change the displays listed above.

About the Preset Memory

This unit has default image data to adjust preset data for input signals appropriately according to the signals shown in “Preset Signals” (page 43) (the preset memory). When the preset signal is input, the unit automatically detects the signal type and recalls the data for the signal from the preset memory to adjust it to an optimum picture. The signal type is displayed in the Information menu.

Note

Depending on the computer input signal, parts of projection image may be hidden or displayed incorrectly.

Using Network Features

Connection to the network allows you to operate the following features:

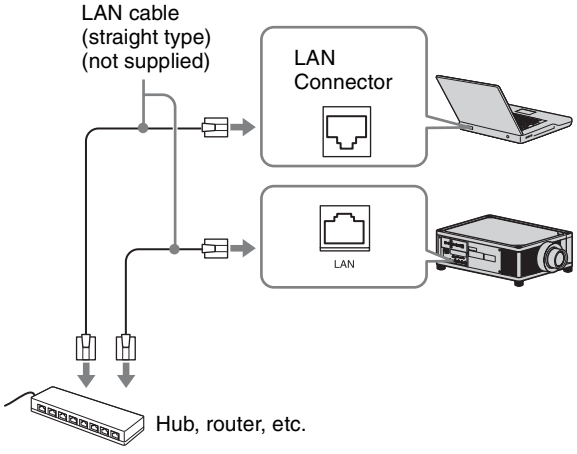
- Checking the current status of the unit via a Web browser.
- Making the network settings for the unit.
- Network monitoring and controlling with control protocol (SDAP [Advertisement], SDCP [PJ Talk], DDDP [AMX], Crestron RoomView, Control4).

Notes

- When connecting this projector with the network, consult with the network administrator. The network must be secured.
- When using this projector connected with the network, access the Control window via a Web browser and change the access limitation of the factory preset values (page 36). It is recommended to change the password regularly.
- When the setting on the Web browser is completed, close the Web browser to log out.
- The menu displays used for the explanation below may be different depending on the model you are using.
- Supported Web browsers are Internet Explorer 8/9/10/11.
- The menu displays only English.
- If the browser of your computer is set to [Use a proxy server] when you have access to the unit from your computer, click the check mark to set accessing without using a proxy server.
- AMX DDDP is not compatible with IPv6.
- These network functions are available when the unit is turned on.

Displaying the Control Window of the Unit with a Web Browser

1 Connect the LAN cable.



2 Set the network settings for the unit using “Network Setting” on the Installation menu (page 32).

3 Start a Web browser on the computer, enter the following in the address field, then press the Enter key on your computer.

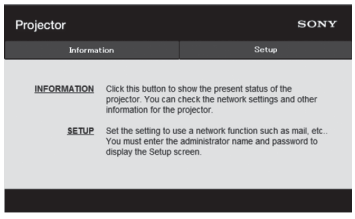
http://xxx.xxx.xxx.xxx
(xxx.xxx.xxx.xxx: IP address for the unit)

When connecting by the IPv6 address

http://[xxxx:xxxx:- xxxx]

You can confirm the IP address of the unit under “Network Setting” on the Installation menu.

The following window appears in the Web browser:

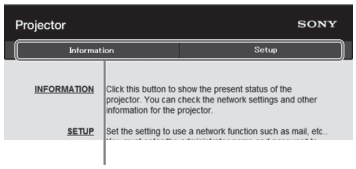


Once you make the network settings, you can open the Control window only by performing step **3** of this procedure.

Operating the Control Window

Switching the Page

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



Page Switching buttons

Setting the Access Limitation

You can limit a user for accessing any particular page.

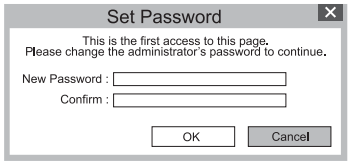
Administrator: Allowed access to all pages

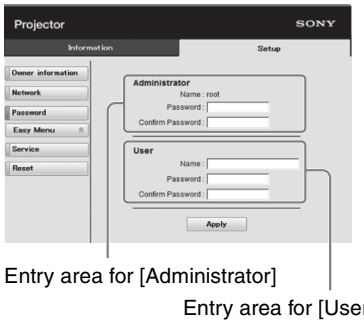
User: Allowed access to all pages except the Setup page

When you access the Setup page for the first time, input "root" as the user name and "Projector" as the password in the authentication dialog.

When you log in for the first time, the window that prompts you to change the password is displayed. Follow the instructions on the screen to change the password.

The name of the administrator is preset to "root."





Entry area for [Administrator]

Entry area for [User]

The password can be changed in the Password page in the Setup page.

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

The password of the administrator and user should be 8 to 16 characters that includes both alphabet and numeric characters. Alphabet is case-sensitive.

The default password "Projector" cannot be set as a new password.

Note

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

Confirming the Information Regarding the Unit

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

Information area

Error Handling

Troubleshooting

If the unit 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	Page
The power is not turned on.	Check the indicators.	39
	After the AC power cord is connected, it may take about 10 seconds until the unit is ready to be turned on. Wait a while then turn on the unit.	–
The power is suddenly turned off.	Check that “Power Saving” in the Setup menu is set to “Standby.”	27
	Set “Power Saving” to “Off.”	27

Picture

Symptom	Cause and Remedy	Page
No picture.	Check that the connecting cable is connected to the external equipment properly.	10
	Select the input source correctly using the INPUT button.	12
	Check that the computer signal is set for output to an external monitor. If a notebook computer and the signal is output to its display and an external monitor, the external monitor’s image may not be displayed correctly. Set your computer to output the signal to only an external monitor.	–
The picture has ghosts.	Video images are displayed in 3D. Watch the 3D video images using the 3D glasses, and set “2D-3D Display Sel.” to “3D.”	12, 28
Bright or dark area of the video appears too bright or too dark.	This symptom may occur when a signal level other than those of HDMI standard is input. Switch the output level of the connected equipment, or switch the Dynamic Range on the Function menu of the unit.	28
The picture is too dark.	Adjust “Contrast” or “Brightness” on the Picture menu properly.	20
The picture is not clear.	Adjust the focus.	7
	Condensation has accumulated on the lens. Leave the unit for about two hours with the power on.	–
The color of characters or the picture is not appropriate.	Select the desired color registration in “Panel Alignment” on the Installation menu.	32
Image is left on the projection image. (Image retention)	When high contrast non-moving images are displayed for a long period of time, there may be some image retention on the projection image. 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	Page
On-screen display does not appear.	Set “Status” on the Setup menu to “On.”	26
	Check if the ON/STANDBY indicator should light in green. When the ON/STANDBY indicator blinks in green, the unit is starting up. Wait until it stops blinking and remains lit in green.	7

Remote control

Symptom	Cause and Remedy	Page
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 light source near the remote control detector, the unit may work improperly or inadvertently.	–
	Confirm the position of the remote control detector on the unit.	4
	Set “IR Receiver” to “Front & Rear” on the Installation menu.	31
	Make sure that the cable is not connected to the IR IN connector.	3

3D video images

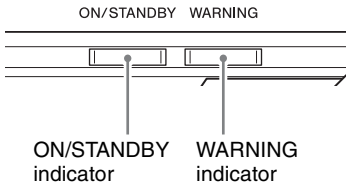
Symptom	Cause and Remedy	Page
The video image does not seem like 3D video images.	Check if the 3D glasses are turned on.	12
	Make sure that the battery in the 3D glasses is sufficiently charged.	–
	Set “2D-3D Display Sel.” to “Auto” or “3D.”	28
	Check if the input signals are compatible 3D signals.	44
	The 3D signals may not be input depending on the specifications of the connected AV selector/AV amplifier/external equipment. If the 3D signal is not input, confirm the specifications and/or settings of the AV selector/AV amplifier/external equipment.	–
	When the viewing position is too far from the unit, the 3D glasses may not be able to display the images properly.	13
	The projection image size is not appropriate. Set the zooming magnification to low or watch the image from farther away from the projection surface.	47
	For details, see “Precautions for use” of “Using the 3D Glasses.”	13

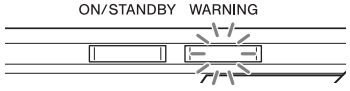
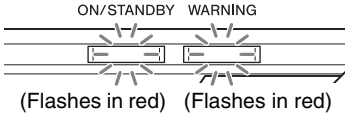
Others

Symptom	Cause and Remedy	Page
The fan is noisy.	Check the setting of “High Altitude Mode” on the Setup menu.	26
	Make sure that the room temperature is not too high.	–
	Check the installation requirements of the unit. Fan speed 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 in these rooms. The approximate normal temperature for the unit is 25°C (77°F).	–
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.	8, 47

About Indicators

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



Flashing/Lighting indicators	The number of flashes	Cause and Remedy
 (Lights in red) (Flashes in red)	Three times	The unit does not light properly due to an abnormality of the light source and light source power. Turn off, then turn on the power after a while. If the symptom persists, consult qualified Sony personnel.
	Six times	The unit detects a drop impact. If there is abnormality on the unit, consult with qualified Sony personnel. If there are no abnormalities on the unit, disconnect the AC power cord and check that the ON/STANDBY indicator turns off, then connect the AC power cord and turn the unit on.
	Eight times	The lens is not securely attached.
 (Flashes in red) (Flashes in red) Both indicators flash	Twice	The internal temperature is unusually high. Check to ensure that nothing is blocking the ventilation holes and the unit is not being used at high altitudes.

Note

If the indicator starts flashing in a way of other than the above, and the symptom persists even after carrying out the above methods, consult with qualified Sony personnel.

Message Lists

Warning messages

Symptom	Cause and Remedy	Page
High temp.! Light off in 1 min.	Turn off the power.	–
	Check to ensure that nothing is blocking the ventilation holes.	4
Frequency is out of range!	Frequency is out of range. Input a signal that is within the acceptable frequency range of the unit.	43
Projector temperature is high. High Altitude Mode should be “On” if Projector is being used at high altitude.	Check to ensure that nothing is blocking the ventilation holes.	4
	When using the unit at high altitude, set “High Altitude Mode” to “On.”	26
	Note When temperature inside the unit remains high, “High Altitude Mode” is switched to “On” in 1 minute, then the fan speed increases.	
Power Saving Mode is set. Projector will automatically enter Standby Mode in 1 minute.	“Power Saving” is set to “Standby.”	27
	Note If no signal is input, the power turns off after 1 minute, and the projector goes into standby mode.	

Caution messages

Symptom	Cause and Remedy	Page
x	No signal is input in the selected input. Check connections.	10
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.”	29

Others

Updating the Software

You can download files to update the software of the unit. Copy the downloaded files to your USB memory, insert the USB memory to the USB terminal of the unit, then perform the update.
To use the features updated, insert a USB memory device into a PC connected to the internet.
Download the update files from the following Sony website:
http://www.pro.sony.eu/
The website also explains how to install the update.

Note

Some USB memories may not be supported for use. For details, refer to the website above.

About HDR (high dynamic range)

HDR is a video expression which improves the ability to express dark places and bright places compared to previous video expressions.

About DCI specification

DCI is a specification for Digital cinema projection systems, established by the industry standards body DCI (Digital Cinema Initiatives), an affiliation of six major Hollywood studios.

About 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 unit 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.

NOTICES AND LICENSES FOR SOFTWARE USED IN THIS PRODUCT

Refer to "Software License Information" supplied separately.

Trademark Information

- "PlayStation" is a registered trademark of Sony Computer Entertainment Inc.
- This unit incorporates High-Definition Multimedia Interface (HDMI®) technology.
  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.

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This projector supports DeepColor, x.v.Color, LipSync, computer input signal, 3D signal, 4K signal (60P 4:4:4) and HDR of HDMI standards. It also supports HDCP.

Specifications

Item		Description
Display System		Projection system
Display device	Size of effective display area	SXRD 0.74-inch (18.8 mm) × 3
	Number of pixels	4096 × 2160 × 3 pixels
Projection lens		Motorized Lens (VPLL-Z7013) Throw Ratio 1.27:1 to 2.73:1 F2.9 to F3.9 Shift: ±80% (V), ±31% (H)
Projection image size		60-inch to 300-inch (1,524 mm to 7,620 mm)
Light source		Laser diode
Accepted digital signals		See “Preset Signals” (page 43).
Inputs/Outputs	HDMI connectors (HDCP 2.2)	× 2
	REMOTE connector	RS-232C, D-sub 9-pin
	LAN connector	RJ45, 10BASE-T/100BASE-TX
	USB connector	Type A, DC 5 V, Max. 500 mA
	IR connectors	IN: 1, OUT:1, mini jack
	TRIGGER connectors	× 2, mini jack, DC 12 V, Max. 100 mA
Outside dimensions (w/h/d)		550 mm × 228 mm × 750 mm (21 $^{21}/_{32}$ inches × 8 $^{31}/_{32}$ inches × 29 $^{17}/_{32}$ inches)
Mass		Approx. 43 kg (95 lb) (including the lens)
Power requirements		AC 220 V to 240 V, 6 A, 50/60 Hz (for Europe and China) AC 100 V to 240 V, 12 A to 6 A, 50/60 Hz (for countries other than Europe and China)
Power consumption		1.2 kw (max.)
Standby mode power consumption		0.5 W
Operating temperature (Operating humidity)		5°C to 40°C (41°F to 104°F) (20% to 80% (no condensation))
Storage temperature (Storage humidity)		–10°C to +60°C (14°F to 140°F) (20% to 80% (no condensation))
Supplied accessories		See “Checking the Supplied Accessories” on the Quick Reference Manual.
Optional accessories		Active 3D Glasses: TDG-BT500A*
		Projection Lens VPLL-Z7008: Motorized, Throw ratio: 0.80:1 to 1.02:1, Shift: ±50% (V), ±18% (H), F2.9, Projected image size: 60“ to 1000” (1,524 mm to 25,400 mm), Maximum external dimensions: 134 mm × 134 mm × 309 mm (5 $^{9}/_{32}$ inches × 5 $^{9}/_{32}$ inches × 12 $^{5}/_{32}$ inches) (W × H × D), Mass: 3.7 kg (8.2 lb)

* The 3D Glasses communicate with the projector via Bluetooth technology to display 3D signals.

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 October 2016.

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 signals shown below is input, the picture may not be displayed properly.

Preset memory no.	Preset signal (resolution)		fH (kHz)	fV (Hz)	Sync
5	480/60p	480/60p (Progressive NTSC) (720 × 480p)	31.470	60.000	–
6	576/50p	576/50p (Progressive PAL) (720 × 576p)	31.250	50.000	–
7	1080/60i	1035/60i (1920 × 1035i) 1080/60i (1920 × 1080i)	33.750	60.000	–
8	1080/50i	1080/50i (1920 × 1080i)	28.130	50.000	–
10	720/60p	720/60p (1280 × 720p)	45.000	60.000	–
11	720/50p	720/50p (1280 × 720p)	37.500	50.000	–
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 × 720/60p)	90.000	60.000	–
19	720/50p (Frame packing)	720/50p (1280 × 720/50p)	75.000	50.000	–
20	1080/24p (Frame packing)	1080/24p (1920 × 1080/24p)	53.946	23.976	–
26	640 × 480	VGA	31.469	59.940	H-Neg, V-Neg
32	800 × 600	SVGA	37.879	60.317	H-Pos, V-Pos
37	1024 × 768	XGA	48.363	60.004	H-Neg, V-Neg
45	1280 × 960	QVGA	60.000	60.000	H-Pos, V-Pos
47	1280 × 1024	SXGA	63.974	60.013	H-Pos, V-Pos
55	1280 × 768	WXGA	47.776	59.870	H-Neg, V-Pos
71	1080/60i (Frame packing)	1080/60i (1920 × 1080/60i)	67.500	60.000	–
72	1080/50i (Frame packing)	1080/50i (1920 × 1080/50i)	56.250	50.000	–
74	3840 × 2160/60p	3840 × 2160/60p (3840 × 2160)	133.293	59.988	–
75	3840 × 2160/50p	3840 × 2160/50p (3840 × 2160)	112.500	50.000	–
76	4096 × 2160/60p	4096 × 2160/60p (4096 × 2160)	133.264	59.975	–
77	4096 × 2160/50p	4096 × 2160/50p (4096 × 2160)	112.500	50.000	–
78	4096 × 2160/30p	4096 × 2160/30p (4096 × 2160)	67.500	30.000	–
79	4096 × 2160/25p	4096 × 2160/25p (4096 × 2160)	56.250	25.000	–
93	3840 × 2160/24p	3840 × 2160/24p (3840 × 2160)	53.946	23.976	–
94	3840 × 2160/25p	3840 × 2160/25p (3840 × 2160)	56.250	25.000	–
95	3840 × 2160/30p	3840 × 2160/30p (3840 × 2160)	67.433	29.970	–

Preset memory no.	Preset signal (resolution)		fH (kHz)	fV (Hz)	Sync
96	4096 × 2160/24p	4096 × 2160/24p (4096 × 2160)	54.000	24.000	–

Input Signals and Adjustment/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/set are not displayed in the menu.

Screen menu

Item	Preset memory number	
	5 to 8, 10 to 14, 18 to 20, 71, 72, 74 to 79, 93 to 96	26, 32, 37, 45, 47, 55
Aspect	●	–

●: Can be adjusted/set
–: Cannot be adjusted/set

Compatible 3D Signals

This unit accepts the following types of 3D signals.

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

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	4096 × 2160	3840 × 2160	1920 × 1080	1280 × 720	720 × 480 720 × 576	Others
Preset memory number (page 43)	**76 to 79, 96**	**74, 75, 93 to 95**	**7, 8, 12 to 14**	**10, 11**	**5, 6**	**26, 32, 37, 45, 47, 55**
1.85:1 Zoom	–	●	●	●	●	–
2.35:1 Zoom	–	●	●	●	●	–
Normal	●	●	●	●	●	●*
V Stretch	●	●	●	●	●	–
Squeeze	●	●	●	●	●	–
Stretch	–	–	–	–	●	–

*: 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 43)	**7, 8, 10 to 14**	**10 to 14**	**18 to 20, 71, 72**	**7, 8, 10 to 14**
1.85:1 Zoom	●	●	●	●
2.35:1 Zoom	●	●	●	●
Normal	●	●	●	●
V Stretch	●	●	●	●
Squeeze	●	●	●	●
Stretch	–	–	–	–

Storage Conditions of Adjustment/Setting Items

Each adjustable/setting item is individually stored according to the storage conditions in the following table. For further details, see the tables below.

Picture menu

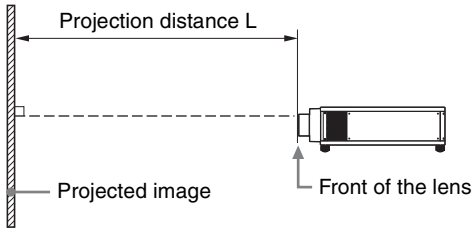
Item	Storage conditions
Calib. Preset	For each input connector and preset signal
Reset	For each input connector and Calib. Preset
Reality Creation	
Laser Light Setting	
Contrast Enhancer	
Motionflow	
Contrast	
Brightness	
Color	
Hue	
Color Temp.	
D93 - D55, Custom	
Gain R	For each Color Temp.
Gain G	
Gain B	
Bias R	
Bias G	
Bias B	
Sharpness	For each input connector and Calib. Preset
NR	
MPEG NR	
Smooth Gradation	
Film Mode	
Gamma Correction	
Color Correction	
Clear White	
x.v.Color	
HDR	
Color Space	
BT.709 - Custom	
Red	For each Color Space
Green	
Blue	
Cyan - Red	
Magenta - Green	
Input Lag Reduction	For each input connector and Calib. Preset

Screen menu

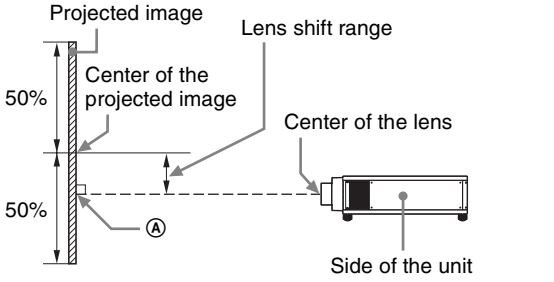
Item	Storage conditions
Aspect	For each Picture Position
Blanking	

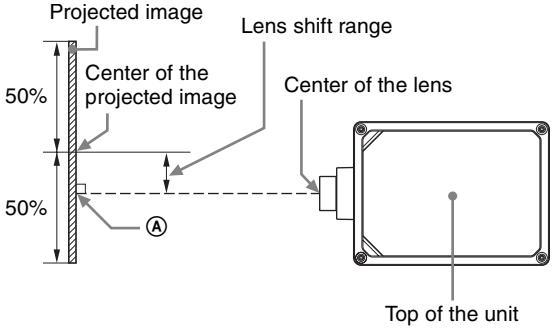
Projection Distance and Lens Shift Range

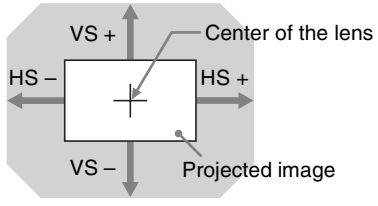
The projection distance refers to the distance between the front of the lens and the projected surface.



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 Ⓐ 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%.



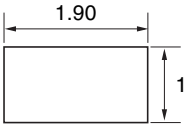




Shaded region: Lens shift range

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 1.90:1 (Native Full Display 17:9) format



Projection distance

Unit: m (inches)

Projection image size		Projection distance L	
Diagonal	Width × Height	VPLL-Z7008	VPLL-Z7013
80" (2.03 m)	1.80 × 0.95 (71 × 37)	1.43 – 1.82 (56 – 71)	2.23 – 4.90 (88 – 192)
100" (2.54 m)	2.25 × 1.18 (88 × 47)	1.80 – 2.29 (71 – 90)	2.81 – 6.14 (111 – 241)
120" (3.05 m)	2.70 × 1.42 (106 × 56)	2.17 – 2.76 (86 – 108)	3.39 – 7.38 (134 – 290)
150" (3.81 m)	3.37 × 1.78 (133 × 70)	2.74 – 3.47 (108 – 136)	4.25 – 9.25 (168 – 364)
200" (5.08 m)	4.49 × 2.37 (177 × 93)	3.67 – 4.65 (145 – 183)	5.70 – 12.36 (225 – 486)

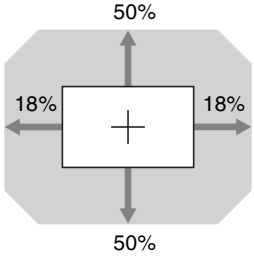
Projection distance formula

D: Projected image size (Diagonal) Unit: m (inches)

Lens	Projection distance L (minimal length)	Projection distance L (maximal length)
VPLL-Z7008 (optional lens)	L = 0.018689 × D – 0.0733 (L = 0.735786 × D – 2.8875)	L = 0.023617 × D – 0.0664 (L = 0.929788 × D – 2.6152)
VPLL-Z7013 (standard lens)	L = 0.028860 × D – 0.0800 (L = 1.136218 × D – 3.1491)	L = 0.062212 × D – 0.0756 (L = 2.449310 × D – 2.9775)

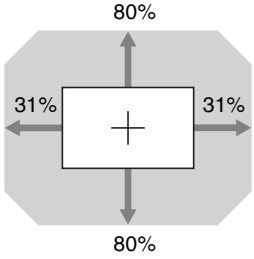
Lens shift range

VPLL-Z7008 (optional lens)



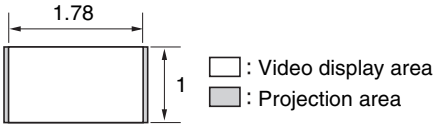
VS + = VS – = 50 – 2.778 × (HS + or HS –) [%]
HS + = HS – = 18 – 0.360 × (VS + or VS –) [%]

VPLL-Z7013 (standard lens)



VS + = VS – = 80 – 2.581 × (HS + or HS –) [%]
HS + = HS – = 31 – 0.388 × (VS + or VS –) [%]

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



Projection distance

Unit: m (inches)

Projection image size		Projection distance L	
Diagonal	Width × Height	VPLL-Z7008	VPLL-Z7013
80" (2.03 m)	1.77 × 1.00 (70 × 39)	1.50 – 1.91 (59 – 75)	2.35 – 5.15 (93 – 202)
100" (2.54 m)	2.21 × 1.25 (87 × 49)	1.90 – 2.41 (75 – 95)	2.96 – 6.46 (117 – 254)
120" (3.05 m)	2.66 × 1.49 (105 × 59)	2.29 – 2.91 (90 – 114)	3.56 – 7.77 (141 – 305)
150" (3.81 m)	3.32 × 1.87 (131 × 74)	2.88 – 3.65 (114 – 143)	4.47 – 9.73 (176 – 383)
200" (5.08 m)	4.43 × 2.49 (174 × 98)	3.86 – 4.89 (152 – 192)	5.99 – 13.00 (236 – 511)

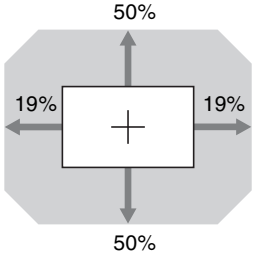
Projection distance formula

D: Projected image size (Diagonal) Unit: m (inches)

Lens	Projection distance L (minimal length)	Projection distance L (maximal length)
VPLL-Z7008 (optional lens)	L = 0.019643 × D – 0.0733 (L = 0.773332 × D – 2.8875)	L = 0.024822 × D – 0.0664 (L = 0.977234 × D – 2.6152)
VPLL-Z7013 (standard lens)	L = 0.030333 × D – 0.0800 (L = 1.194198 × D – 3.1491)	L = 0.065387 × D – 0.0756 (L = 2.574296 × D – 2.9775)

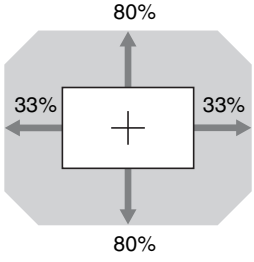
Lens shift range

VPLL-Z7008 (optional lens)



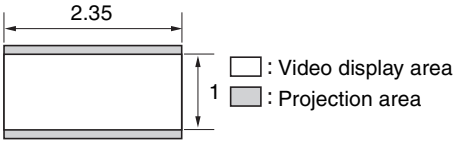
VS + = VS – = 50 – 2.632 × (HS + or HS –) [%]
HS + = HS – = 19 – 0.380 × (VS + or VS –) [%]

VPLL-Z7013 (standard lens)



VS + = VS – = 80 – 2.424 × (HS + or HS –) [%]
HS + = HS – = 33 – 0.413 × (VS + or VS –) [%]

When projecting in 2.35:1 format



Projection distance

Unit: m (inches)

Projection image size		Projection distance L	
Diagonal	Width × Height	VPLL-Z7008	VPLL-Z7013
80" (2.03 m)	1.87 × 0.80 (74 × 31)	1.49 – 1.89 (59 – 74)	2.33 – 5.10 (92 – 200)
100" (2.54 m)	2.34 × 0.99 (92 × 39)	1.88 – 2.39 (74 – 94)	2.93 – 6.39 (116 – 251)
120" (3.05 m)	2.80 × 1.19 (110 × 47)	2.26 – 2.88 (89 – 113)	3.53 – 7.69 (139 – 302)
150" (3.81 m)	3.51 × 1.49 (138 × 59)	2.85 – 3.61 (112 – 142)	4.43 – 9.63 (175 – 379)
200" (5.08 m)	4.67 × 1.99 (184 × 78)	3.82 – 4.84 (151 – 190)	5.93 – 12.86 (234 – 506)

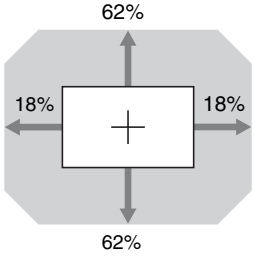
Projection distance formula

D: Projected image size (Diagonal) Unit: m (inches)

Lens	Projection distance L (minimal length)	Projection distance L (maximal length)
VPLL-Z7008 (optional lens)	L = 0.019441 × D – 0.0733 (L = 0.765407 × D – 2.8875)	L = 0.024567 × D – 0.0664 (L = 0.967219 × D – 2.6152)
VPLL-Z7013 (standard lens)	L = 0.030024 × D – 0.0800 (L = 1.182064 × D – 3.1491)	L = 0.064723 × D – 0.0756 (L = 2.548138 × D – 2.9775)

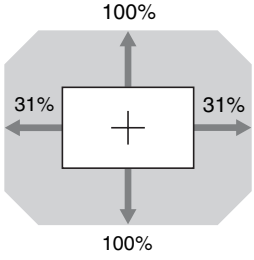
Lens shift range

VPLL-Z7008 (optional lens)



VS + = VS – = 62 – 3.444 × (HS + or HS –) [%]
HS + = HS – = 18 – 0.290 × (VS + or VS –) [%]

VPLL-Z7013 (standard lens)

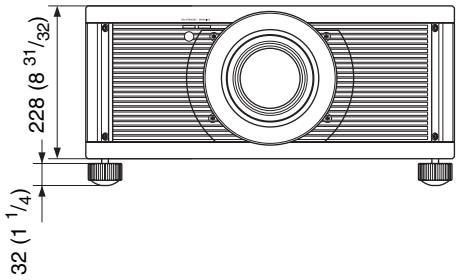


VS + = VS – = 100 – 3.226 × (HS + or HS –) [%]
HS + = HS – = 31 – 0.310 × (VS + or VS –) [%]

Dimensions

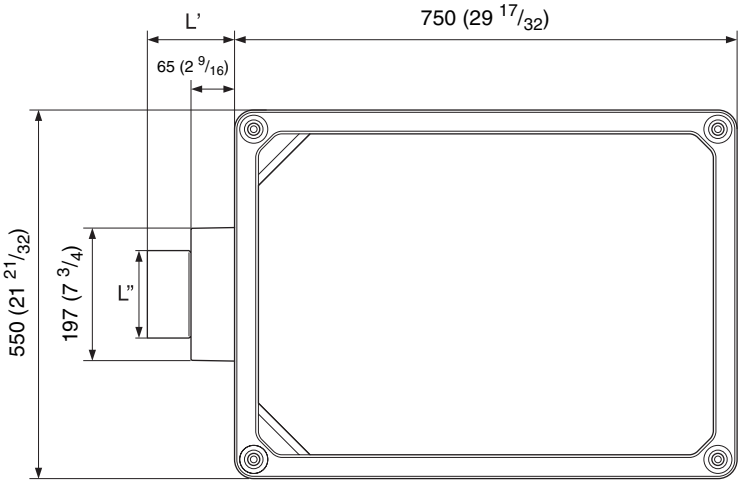
Front

Unit: mm (inches)



Top

Unit: mm (inches)

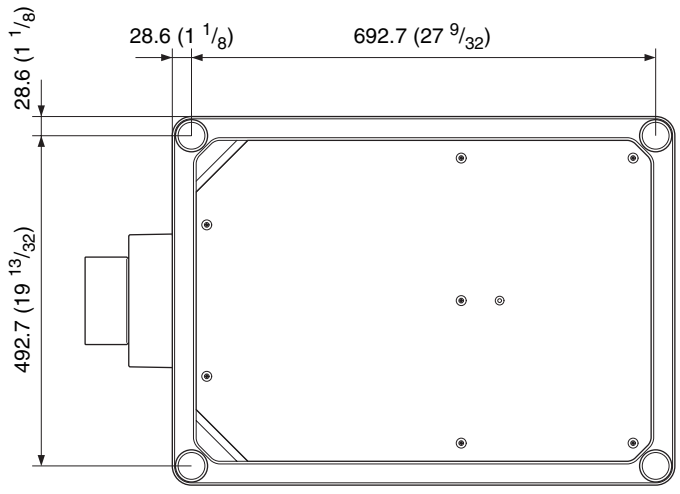


L': The distance between the front of the lens (center) and the front of the cabinet
VPLL-Z7008 (optional lens): 159.0 mm (6 1/4 inches) (Tele) to 185.2 mm (7 9/32 inches) (Wide)
VPLL-Z7013 (standard lens): 130.2 mm (5 1/8 inches)

L": 131 (5 5/32) (VPLL-Z7013 (standard lens))
134 (5 9/32) (VPLL-Z7008 (optional lens))

Bottom

Unit: mm (inches)



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