

Video Projector

Operating Instructions

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

VPL-VZ1000 **ES**

4K **SXRD** **HDMI**
Silicon X-tal Reflective Display

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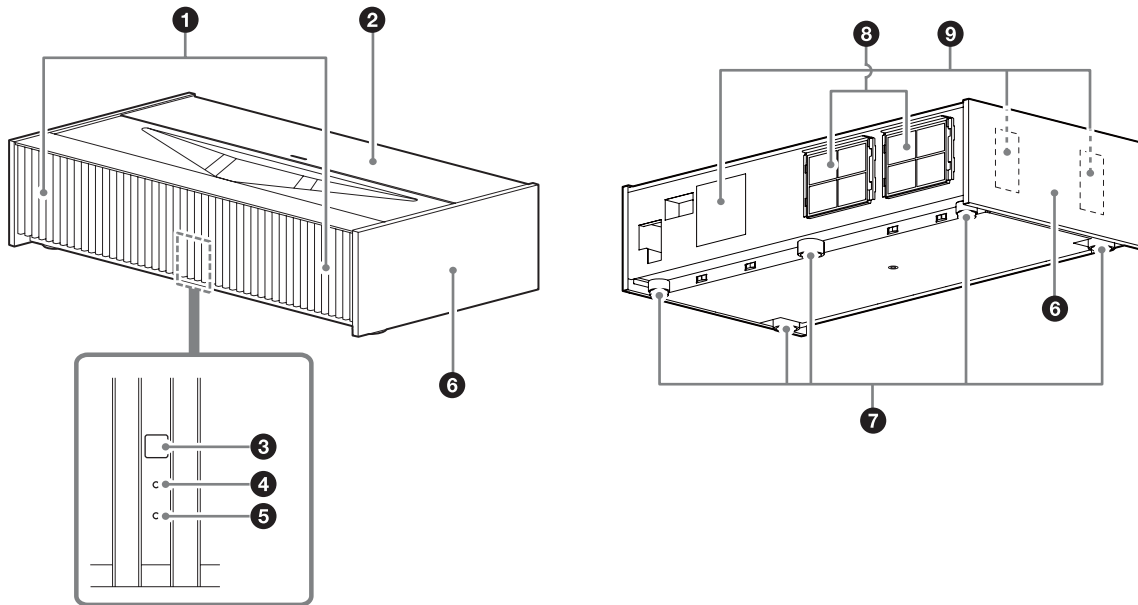
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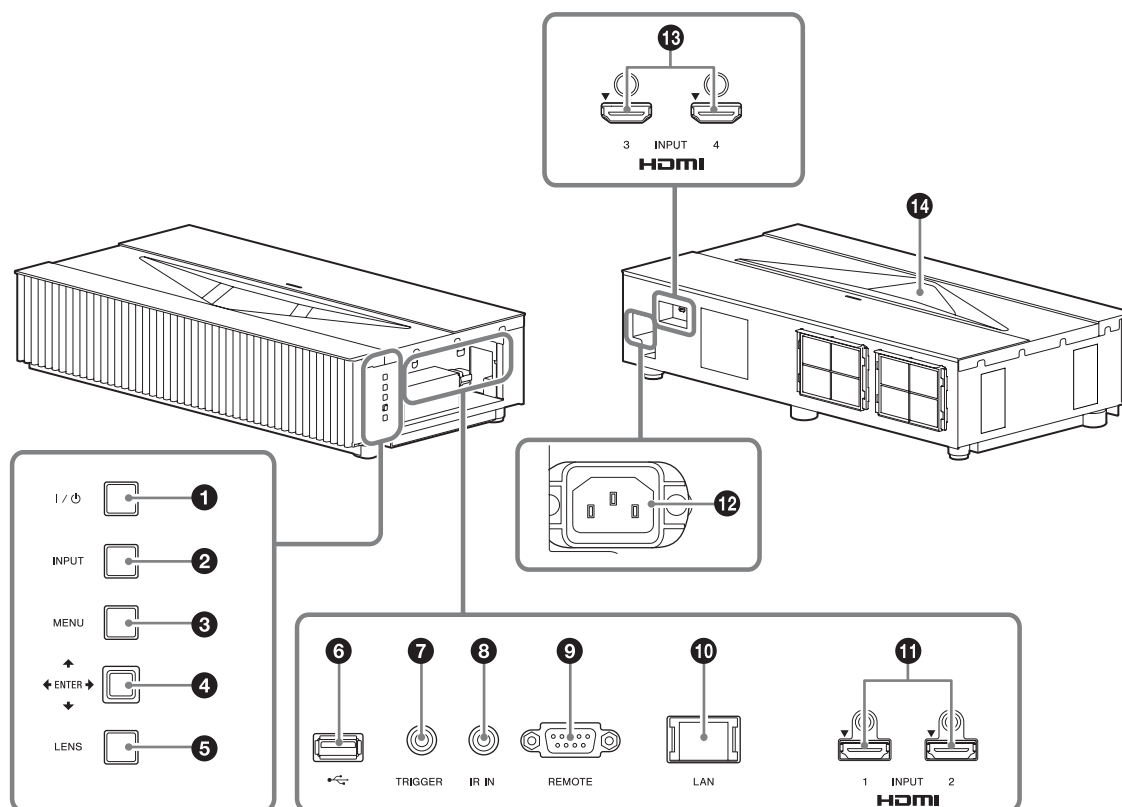
Location of Controls

Main Unit



- ❶ Ventilation holes (exhaust)
- ❷ Top cover (page 10)
- ❸ Remote control detector (page 6)
- ❹ LED indicator (page 6) / WARNING1 indicator (page 31)
- ❺ WARNING2 indicator (page 31)
- ❻ Side covers (page 10)
- ❼ Feet (adjustable) (page 8)
- ❽ Air filter (Ventilation holes (intake)) (page 35)
- ❾ Ventilation holes (intake)

Control Panel/Connecters/Projection Window



❶ I/⏻ (On/Standby) button (page 6)

❷ INPUT button (page 12)

❸ MENU button (page 15)

❹ ↑/↓/←/→/ ENTER button (page 15)

❺ LENS button (page 6)

Tip

The I/⏻, INPUT, MENU, and ↑/↓/←/→/ENTER buttons on the side panel of the unit function in the same way as those on the remote control. The LENS button functions in the same way as the PATTERN button of the remote control.

❻ USB connector (page 36)

❼ TRIGGER connector (page 26)

❽ IR IN connector

Inputs signals to control the unit.

❾ REMOTE connector

Connects to a system for controlling the unit, etc.

❿ LAN connector (page 29)

⓫ HDMI 1/HDMI 2 connectors (page 9)

❿ AC IN socket

⓬ HDMI 3/HDMI 4 connectors (page 9)

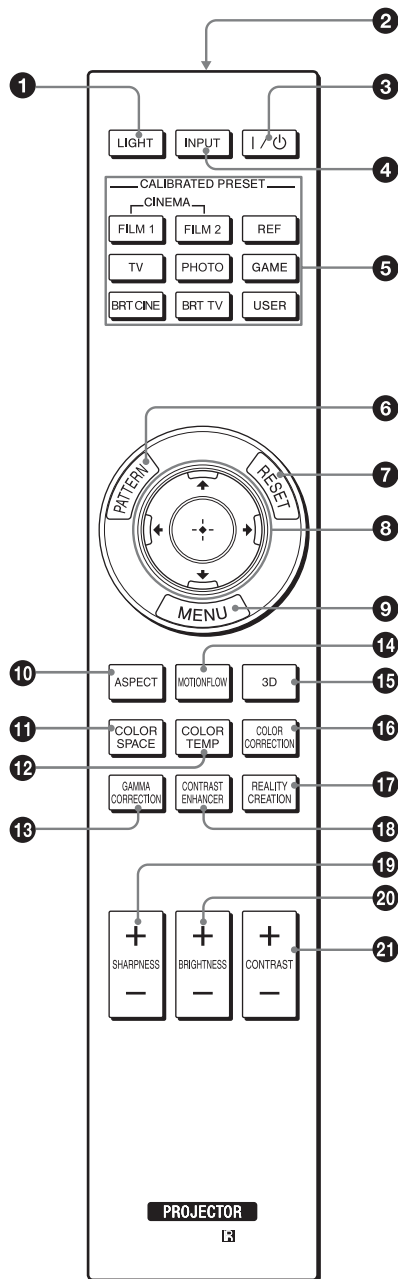
⓭ Projection window (lens)

Projects a video from this window.

Note

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

Remote Control



- 1 LIGHT button**
Illuminates the buttons on the remote control.
- 2 Infrared transmitter**
- 3 I/⏻ (On/Standby) button (page 6)**
- 4 INPUT button (page 12)**
- 5 CALIBRATED PRESET buttons (page 14)**
- 6 PATTERN button (page 6)**
- 7 RESET button (page 16)**
- 8 ↑/↓/←/→ / ⏻ (enter) buttons (page 15)**
- 9 MENU button (page 15)**
- 10 ASPECT button (page 13)**
- 11 COLOR SPACE button (page 20)**
- 12 COLOR TEMP button (page 18)**
- 13 GAMMA CORRECTION button (page 19)**
- 14 MOTIONFLOW button (page 18)**
- 15 3D button (page 12)**
- 16 COLOR CORRECTION button (page 19)**
- 17 REALITY CREATION button (page 17)**
- 18 CONTRAST ENHANCER button (page 17)**
- 19 SHARPNESS button (page 18)**
- 20 BRIGHTNESS button (page 18)**
- 21 CONTRAST button (page 18)**

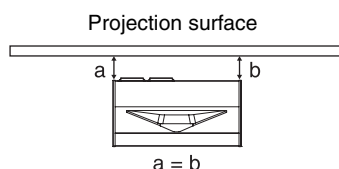
Connections and Preparations

Installing the Unit

The installation distance between the unit and a projection surface varies depending on the projection size. Install this unit so that it fits the desired projection size. For details on the distance between the unit and the projection surface (the projection distance) and the size of projected video, see “Installation Distance and Projection Image Size” (page 44).

- 1 Position the unit so that the unit is parallel to the projection surface.

Top view



- 2 After connecting the AC power cord to the unit, plug the AC power cord into a wall outlet. The unit goes into standby mode.

Tip

After connecting the AC power cord to the unit, the LED indicator may blink. You may not be able to control the unit while the indicator is blinking, but this is not a malfunction. Wait until it stops blinking.

Adjusting the Projection Image

Tip

When adjusting the lens, each time you press the PATTERN button of the remote control or the LENS button on the unit, the lens adjustment function switches as follows.

FOCUS → SHIFT → ZOOM

Notes

- 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.
- 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.
- Flange Back Correction is the function to adjust the focus of the picture. As it has been optimized at the factory default, normally adjustment is not required (page 27).

- 1 Press the I/⏻ (On/Standby) button to turn on the unit. The LED indicator lights in white.

Tip

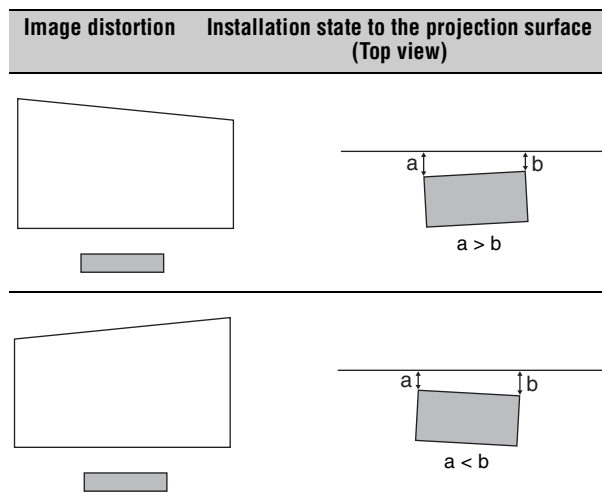
The LED indicator does not light when “Illumination” is set to “Off” on the Installation menu.

- 2 Press the PATTERN button to display the Lens Focus adjustment window, and adjust the focus of the picture by pressing the ↑/↓/←/→ buttons.

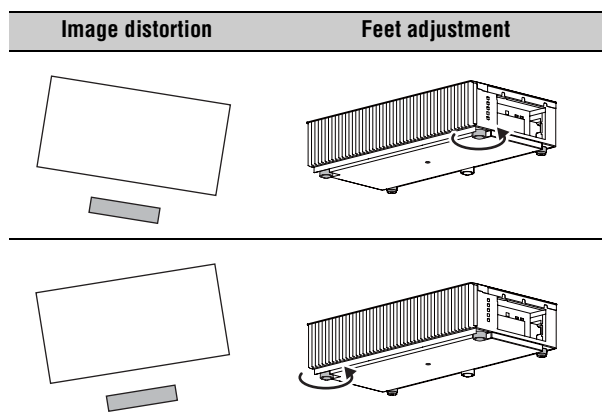
Tips

- The factory default for focus has been adjusted to the 100-inch screen. Make fine adjustments according to the screen size and installing position.
- Adjust by checking the entire test pattern. The amplitude of the pattern focus on the top of the picture becomes large with the ultra short focus projector.
- If you press the RESET button on the remote control while the Lens Focus adjustment window is displayed, the focus setting returns to the factory default.
- When “Lens Control” is set to “Off” on the Installation menu, you cannot adjust the lens (page 26).
- When “Test Pattern” is set to “Off” on the Function menu, the test pattern is not displayed (page 25).
- Whenever you press the ⏻ button, the test pattern disappears.

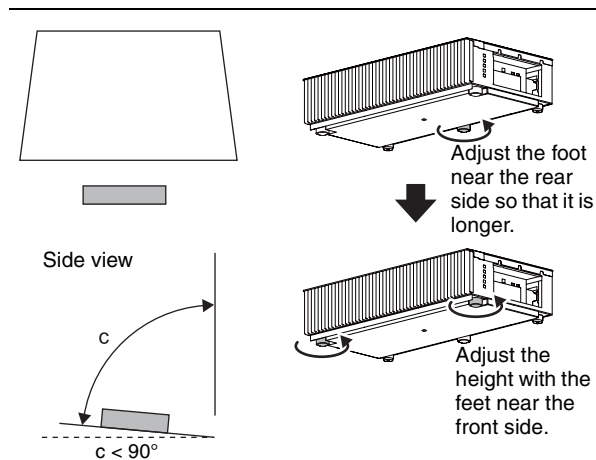
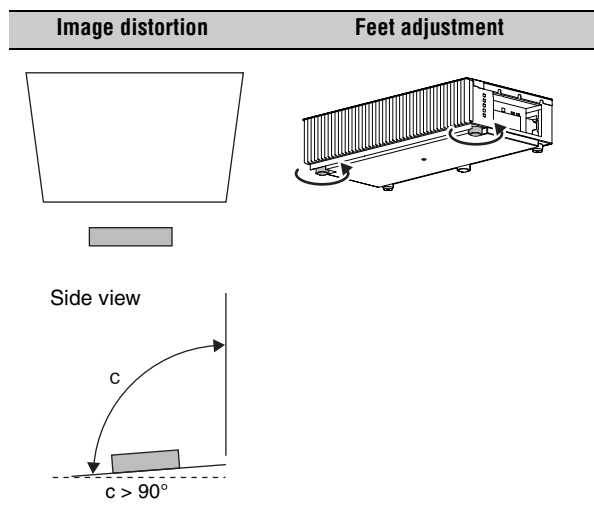
- 3** Check if the upper side and lower side of the picture are parallel.
If not, install the unit in a position parallel to the projection surface ($a=b$).



- 4** Check if the lower side of the picture is horizontal.
If not, use the left/right feet (adjustable) to keep the unit level. For details on adjusting the feet, see page 8.



- 5** Check if the left side and right side of the picture are vertical.
If not, use the feet (adjustable) to keep the unit vertical to the projection surface. For details on adjusting the feet, see page 8.

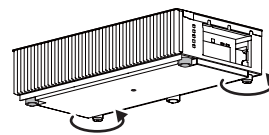


If the frame of the projection surface is rectangle and parallel to the floor, adjustment is completed.

Tip

If the picture remains distorted, repeat step **3** and **4**.

- 6** Adjust the feet for preventing backlash to the floor.



Note

The picture may be distorted if you turn the feet for preventing backlash too much.

- 7** Press the PATTERN button to display the Lens Shift adjustment window, and adjust the picture position by pressing the $\uparrow/\downarrow/\leftarrow/\rightarrow$ buttons.

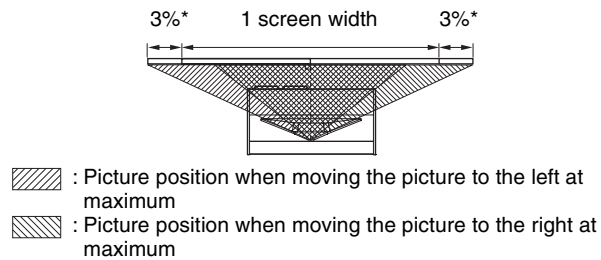
Tip

If you press the RESET button on the remote control while the Lens Shift adjustment window is displayed, the picture position returns to the center of the lens (factory default position).

To adjust the horizontal position

When pressing the \leftarrow/\rightarrow button, the picture projected on the screen moves right or left by a maximum of 3% of the screen width from the center of the lens.

Top view

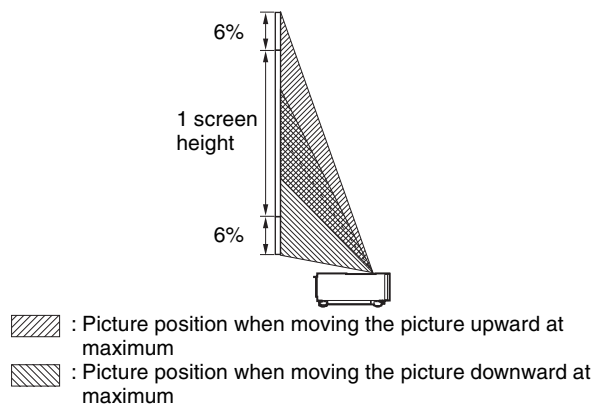


* For 17:9 display, the range of movement will be $\pm 2.8\%$.

To adjust the vertical position

When pressing the \uparrow/\downarrow button, the picture projected on the screen moves up or down by a maximum of 6% of the screen height from the center of the lens.

Side view



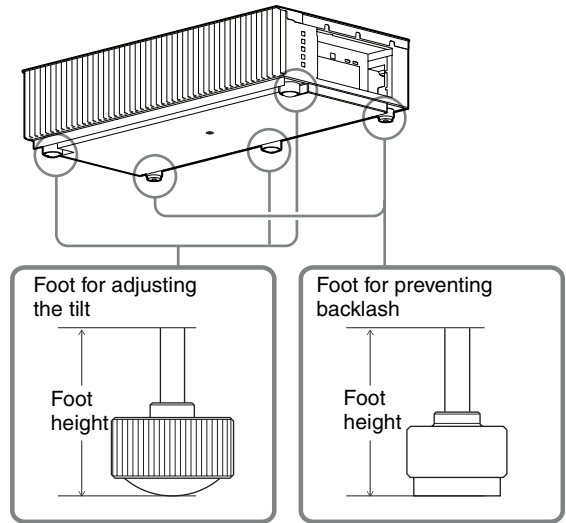
- 8** Press the PATTERN button again to display the Lens Zoom adjustment window. Then adjust the size of the picture by pressing the $\uparrow/\downarrow/\leftarrow/\rightarrow$ buttons.

To make the picture larger, press \uparrow/\rightarrow .

To make the picture smaller, press \downarrow/\leftarrow .

Adjusting the height of the feet

You can adjust the height and tilt of the unit using the three feet at the bottom of the unit, and prevent backlash of the unit using the two feet.



Tips

- The feet for adjusting the tilt can be adjusted by 1.5 mm with every full turn.
- The left and right feet near the rear side can be used to prevent the backlash. You can adjust these feet to the same height as the feet for adjusting the tilt.

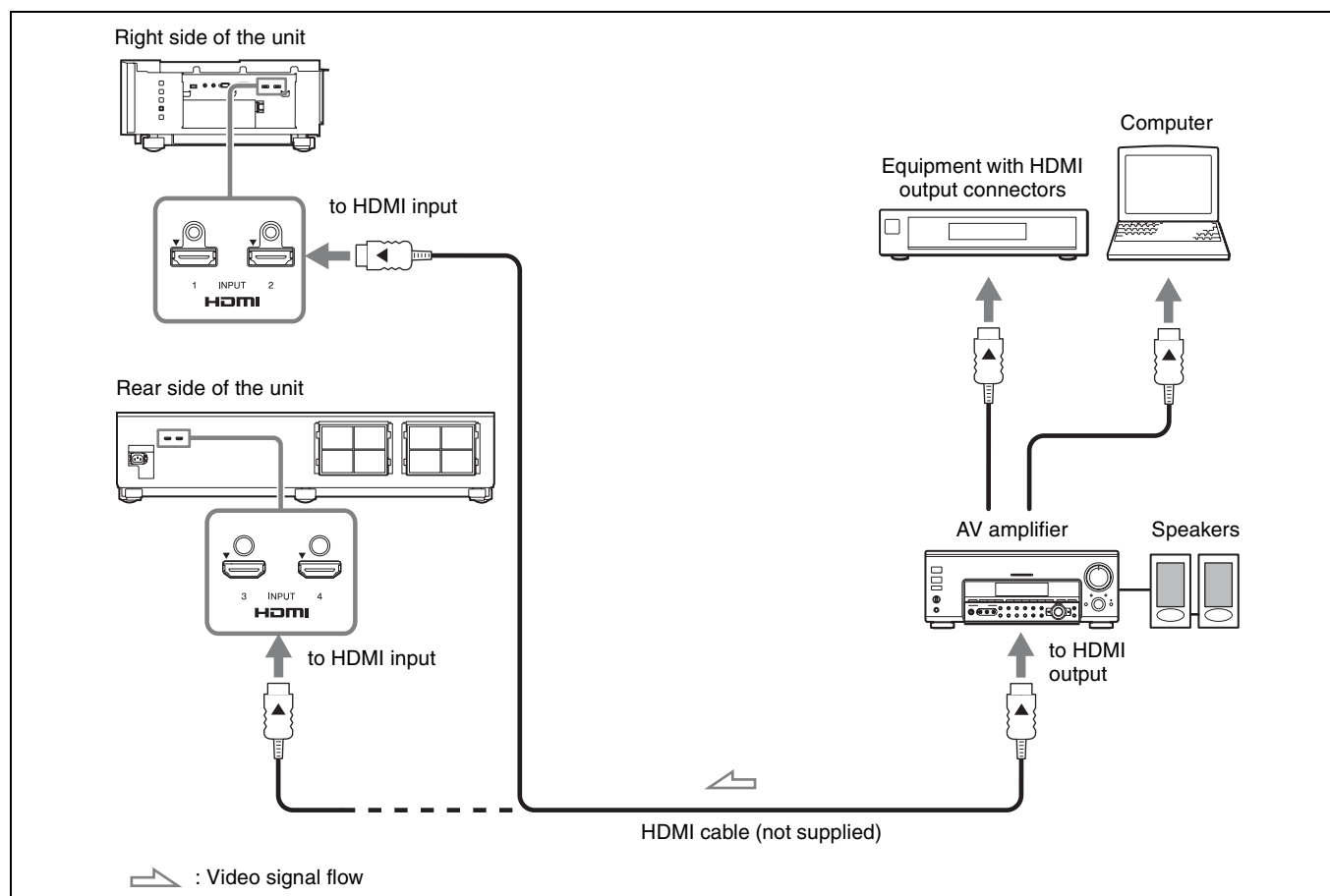
Notes

- Be careful not to get your finger caught when turning the feet for adjusting the tilt or feet for preventing backlash.
- You can adjust the foot height up to 20 mm. If the foot height is more than 30 mm, the foot may come off and the unit may drop causing an injury.

Connecting to Video Equipment or a Computer

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.

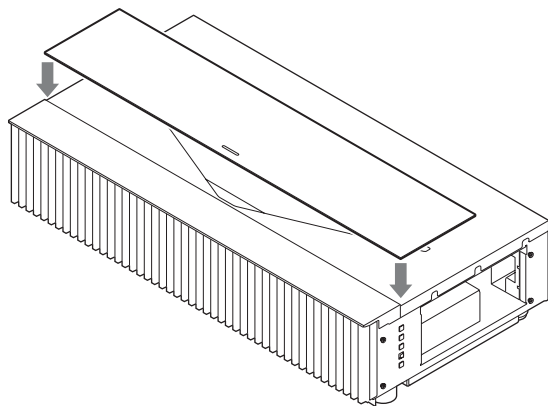


Notes

- Use a High Speed or Premium High Speed HDMI cable on which the cable type logo is specified. 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 use a notebook computer and set the computer to output the signal to both the computer’s display and an external monitor, the picture may not appear on the unit properly. Set your computer to output the signal to only the external monitor. For settings of the computer, consult with the manufacturer of the computer.

Attaching the Top Cover

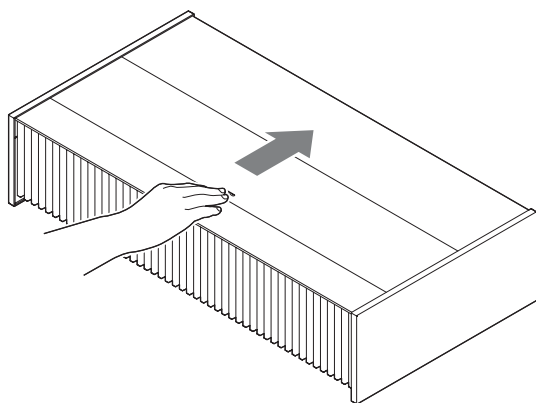
Place the top cover on the top of the unit, and align the left and right position.



Using the top cover

Slide the top cover by the pull on the center of the top cover.

You can prevent the accumulation of dust on the projection window by closing the top cover when the unit is not in use.



Notes

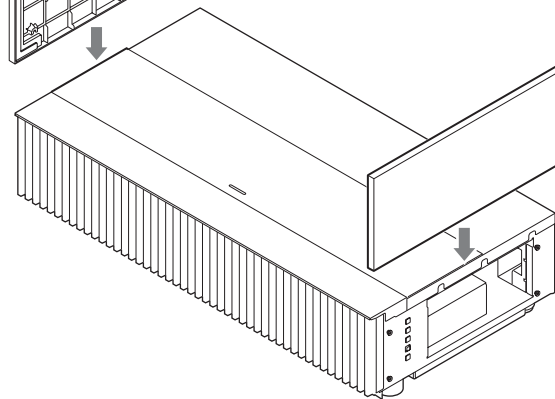
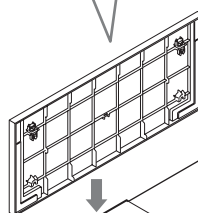
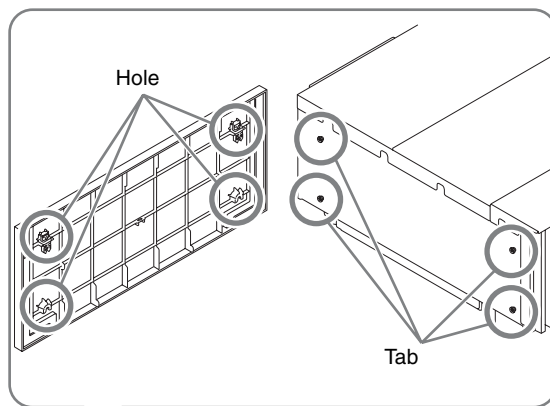
- Do not close the top cover when turning the power on.
- Use the top cover together with the side covers.
- If dust is in the sliding surface, it may scratch the unit.
- When removing the top cover, do not set the top cover upright.

Attaching the Side Covers

After attaching the top cover, place the side covers by hooking the holes of the side covers to the tabs on the side of the unit.

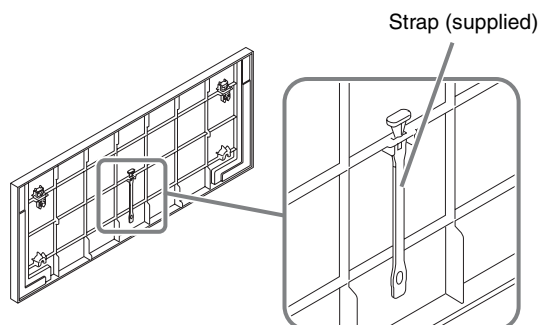
Note

Make sure that all 4 holes are hooked to the tabs.

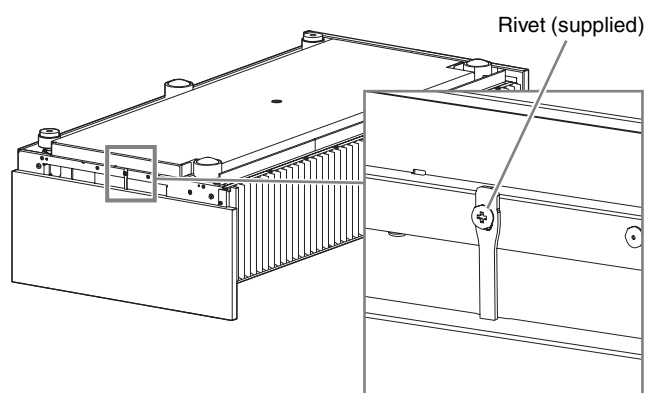


Attaching the side covers when installing the unit on a ceiling

- 1 Attach the strap to the side covers.



2 Attach a safety rivet to the unit.



3 Attach the side covers.

Note

When installing the unit on a ceiling, do not attach the top cover.

Projecting the Picture and Adjusting the Screen

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 // to select the equipment.
Projects the picture from the selected equipment.

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 connectors sequentially.
- You can change the language for the menu and on-screen displays in “Language” on the Setup menu (page 23).

Turning Off the Power

- 1 Press the (On/Standby) button.
The message “POWER OFF?” appears.
- 2 Press the button again before the message disappears.
The LED indicator turns off.

You can disconnect the AC power cord after the LED indicator turns off.

Note

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

Tips

- You can turn off the unit by holding the button for about 1 second, instead of performing the above steps.
- The LED indicator does not change when “Illumination” is set to “Off” on the Installation menu.

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 13).

Tips

- The factory default setting for “2D-3D Display Sel.” is “Auto” to allow projecting 3D video images automatically when the unit detects 3D signals.
- To convert 3D video images to 2D video images, set “2D-3D Display Sel.” to “2D” (page 24).

Notes

- It may not be possible to display 3D video image automatically, 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 24).
- 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 24).

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

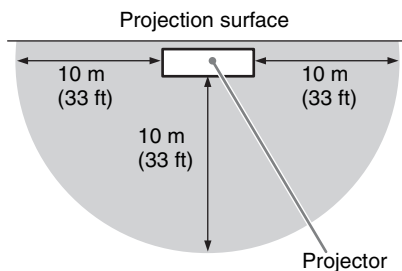
Misoperation may occur if:

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

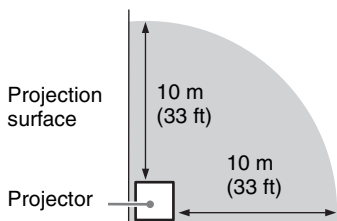
3D glasses communication range

The following figures indicate the communication range of the 3D glasses. If you try to watch 3D video images from a distance greater than the communication range or install the 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 view

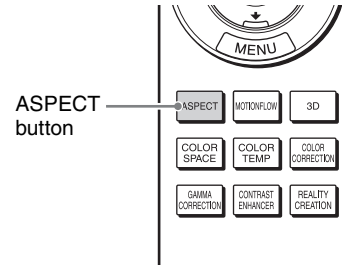


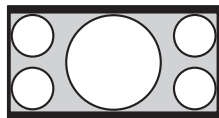
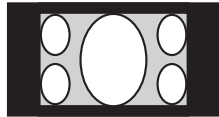
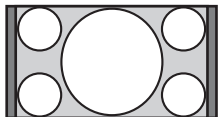


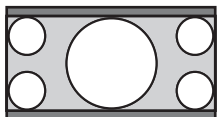
Side view

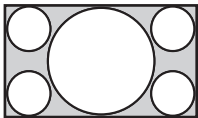
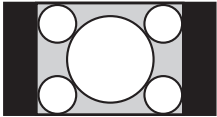
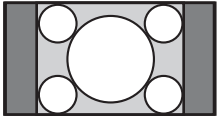
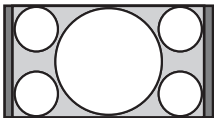
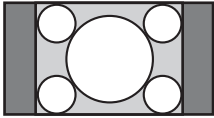
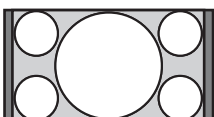
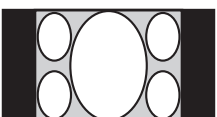


Selecting the Aspect Ratio

Each time you press the ASPECT button, the “Aspect” setting switches. You can also select it using the menu (page 22).



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

Original image (for 16:9 display)	Recommended setting and resultant images
 <p>1.78:1 (16:9)</p>  <p>1.33:1 (4:3)</p>  <p>1.33:1 (4:3) with side panels</p>	<p>Normal</p>   <p>Stretch</p> 
 <p>Squeezed</p>	

Notes

- Selectable aspect modes vary depending on the input signal (page 42).
- The aspect cannot be selected when a computer signal is input, a signal with a resolution of 4096 × 2160 is input (page 38).

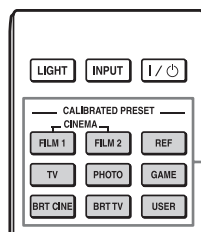
Notes on switching the “Aspect” setting

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

Selecting the Picture Viewing Mode

With the CALIBRATED PRESET buttons, 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.



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.
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, such as a living room.
BRT TV	Picture quality suited for watching TV programs, sports, concerts, and other video images in a bright environment, such as a living room.
USER	Adjusts the picture quality to suit your taste then saves the setting. The factory default setting is the same as REF.

Using the Menus

Note

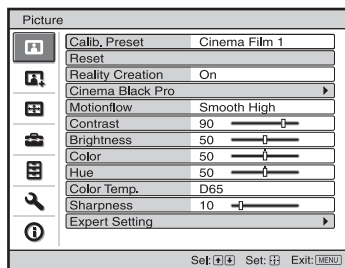
The menu displays used for the explanation may be different from the actual menu display.

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.

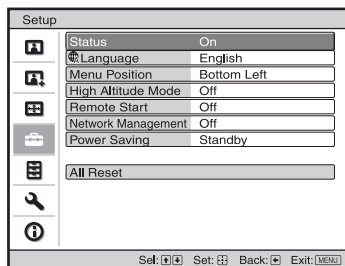
1 Press MENU.

The menu window appears.



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

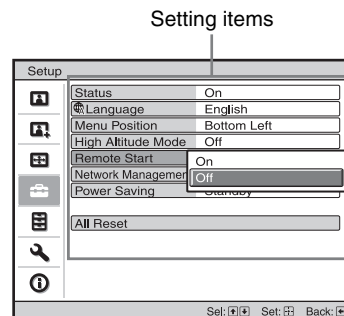
The items that can be set or adjusted with the selected menu appear. The item presently selected is shown in white.



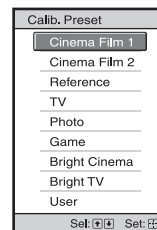
3 Press ↑/↓ to select an item you want to set or adjust and press → or ⌂.

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

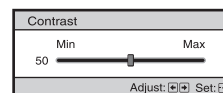
Pop-up menu



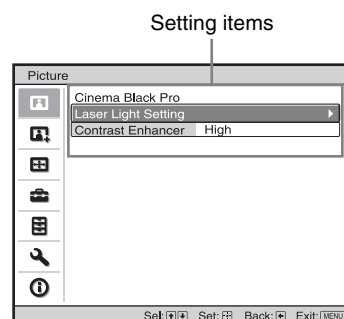
Setting menu



Adjustment menu



Next menu window



4 Make the setting or adjustment of the item.

When changing the adjustment level

To increase the value, press ↑/→.

To decrease the value, press ↓/←.

Press ⌂ to store the setting and return to the original menu screen.

When changing the setting

Press **↑/↓** to change the setting.

Press **⏮** to return to the original screen.

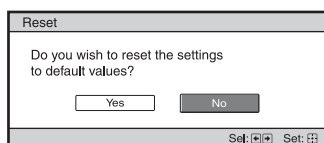
You can return to the original screen using **←** depending on the selected item.

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 their factory preset values:

“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 on 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

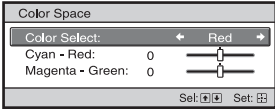
The Picture menu is used for adjusting the picture.

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

Setting items	Description
Calib. Preset [CALIBRATED PRESET]	<p>You can select the picture viewing mode that best suits the type of video source or the environment.</p> <p>You can save and use different preset modes for 2D/3D respectively.</p> <p>Cinema Film 1: Picture quality suited to reproducing the highly dynamic and clear images typical of master positive film.</p> <p>Cinema Film 2: Picture quality suited to reproducing the rich tone and color typical of a movie theater, based on the Cinema Film 1.</p> <p>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.</p> <p>TV: Picture quality suited for watching TV programs, sports, concerts, and other video images.</p> <p>Photo: Ideal for projecting still images taken with a digital camera.</p> <p>Game: Picture quality suited to gaming, with well-modulated colors and fast response.</p> <p>Bright Cinema: Picture quality suited for watching movies in a bright environment, such as a living room.</p> <p>Bright TV: Picture quality suited for watching TV programs, sports, concerts, and other video images in a bright environment, such as a living room.</p> <p>User: You can adjust the picture quality to suit your taste, and save the setting. The factory default setting is the same as “Reference.”</p> <p>Tip Any adjustments to picture quality settings are saved for each input.</p>
Reset	<p>Resets all currently selected Calib. Preset mode settings to their default values (page 16).</p> <p>Tip Reset does not affect settings saved for the Custom 1 to 5 items of “Color Temp.”</p>
Reality Creation [REALITY CREATION]	<p>Adjusts the resolution and noise filtering of images. (Super-resolution function)</p> <p>On: Adjusts the settings of “Reality Creation.”</p> <p>Database: Select “Normal” or “Mastered in 4K.”</p> <p>“Mastered in 4K” provides image quality suitable for Blu-ray Disc™ “Mastered in 4K” releasing from Sony Pictures Home Entertainment.</p> <p>Resolution: When you increase the setting value, the texture and detail of the picture become sharper.</p> <p>Noise Filtering: When you increase the setting value, the noise (picture roughness) becomes less prominent.</p> <p>Test: On/Off: Changes “On” and “Off” at a certain frequency to check the effect of “Reality Creation.”</p> <p>Tip The display position of status during the test works together with the “Menu Position” setting (page 23).</p> <p>Off: The “Reality Creation” function is not applied.</p>
Cinema Black Pro	
Laser Light Setting	<p>Dynamic Control: Adjusts the range of movement of the laser light control.</p> <p>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.</p> <p>Limited: Suppresses the movement and brightness of the laser light control, making the picture quality suitable for viewing in a dark room.</p> <p>Off: The “Dynamic Control” function is not applied.</p> <p>Output: The higher the setting, the brighter the picture. The lower the setting, the darker the picture.</p> <p>Tip After adjusting “Output” according to the brightness of the room and picture, set “Dynamic Control” according to your preference.</p>
Contrast Enhancer [CONTRAST ENHANCER]	<p>Corrects the level of bright and dark parts automatically to optimize contrast according to a scene.</p> <p>Increases image sharpness and makes image dynamic.</p> <p>High/Middle/Low: You can adjust the contrast enhancer.</p> <p>Off: The contrast enhancer function is not applied.</p>

Setting items	Description
Motionflow [MOTIONFLOW]	<p>Smooth High: Provides smoother picture movement; especially effective for film-based content.</p> <p>Smooth Low: Provides smoother picture movement for standard use.</p> <p>True Cinema: Images, such as a movie created in 24 frames per second, are reproduced at the original framerate.</p> <p>Off: The “Motionflow” function is not applied.</p> <p>Tips</p> <ul style="list-style-type: none"> • Select “Off” if the selected “Smooth High,” “Smooth Low,” or “True Cinema” results in a distorted picture. • Depending on the picture content, you may not see the effect visually even if you have changed the settings. • Only “Off” is available when a signal with a resolution of 4096 × 2160 is input.
Contrast [CONTRAST]	<p>Adjusts the contrast.</p> <p>Higher values increase the sharpness in images, while lower values decrease the sharpness.</p> <p>When the HDR signal is input with “HDR10,” “HLG,” or “Auto” set for “HDR,” “Contrast(HDR)” appears instead of “Contrast.”</p>
Brightness [BRIGHTNESS]	<p>Adjusts the brightness of the picture.</p> <p>The higher the setting, the brighter the picture. The lower the setting, the darker the picture.</p>
Color	<p>Adjusts the color density.</p> <p>The higher the setting, the greater the intensity. The lower the setting, the lower the intensity.</p>
Hue	<p>Adjusts the color tone.</p> <p>The higher the setting, the more greenish the picture becomes. The lower the setting, the more reddish the picture becomes.</p>
Color Temp. [COLOR TEMP]	<p>Adjusts the color temperature.</p> <p>D93: Equivalent to 9,300 K color temperature normally used in TVs. Gives white colors a blue tint.</p> <p>D75: Equivalent to 7,500 K color temperature used as an ancillary standard illuminant. Gives a neutral tint between “D93” and “D65.”</p> <p>D65: Equivalent to 6,500 K color temperature used as a standard illuminant. Gives white colors a red tint.</p> <p>D55: Equivalent to 5,500 K color temperature used as an ancillary standard illuminant. Gives white colors an even redder tint.</p> <p>Custom 1 to 5: Enables you to adjust, set, and store your favorite color temperature.</p> <p>The factory default settings are as follows.</p> <p>Custom 1: Same as the “D93” color temperature setting.</p> <p>Custom 2: Same as the “D75” color temperature setting.</p> <p>Custom 3: Same as the “D65” color temperature setting.</p> <p>Custom 4: Same as the “D55” color temperature setting.</p> <p>Custom 5: Setting that prioritizes brightness.</p> <p>Tip</p> <p>You can adjust each item to a color temperature according to your preference.</p>
Sharpness [SHARPNESS]	<p>Sharpens the outline of the picture, or reduces the noise.</p> <p>The higher the setting, the sharper the picture. The lower the setting, the softer the picture, thus reducing the noise.</p>
Expert Setting	
NR (Noise Reduction)	<p>Reduces the roughness or noise of the picture.</p> <p>Auto: Detects the noise level to reduce the roughness or noise of the picture automatically.</p> <p>High/Middle/Low: Select a setting according to the roughness or noise of the input signal source.</p> <p>Off: The NR (noise reduction) function is not applied.</p> <p>Tip</p> <p>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.”</p>
MPEG NR (MPEG Noise Reduction)	<p>Reduces block noise and mosquito noise, particularly in digital signals.</p> <p>Auto: Detects the noise level to reduce the block noise and mosquito noise of the picture automatically.</p> <p>High/Middle/Low: Select a setting according to the block noise and mosquito noise of the input signal source.</p> <p>Off: The MPEG NR (MPEG noise reduction) function is not applied.</p> <p>Tip</p> <p>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.”</p>

Setting items	Description
Smooth Gradation	<p>Smooths the gradation of the flat parts of images.</p> <p>High/Middle/Low: You can adjust the smooth gradation effect.</p> <p>Off: The smooth gradation function is not applied.</p>
Film Mode	<p>According to the film source you have selected, make a setting for playback.</p> <p>Auto: Suitable for reproducing the original picture movement. Normally, set this to "Auto."</p> <p>Off: Plays back the picture in progressive format without detecting video signals automatically.</p> <p>Tip This item is compatible with a 1080i signal only.</p>
Gamma Correction [GAMMA CORRECTION]	<p>Adjusts the response characteristics of the tone of the picture.</p> <p>Select a favorite tone from 10 options.</p> <p>1.8: Bright Produces a brighter picture overall.</p> <p>2.0</p> <p>2.1</p> <p>2.2</p> <p>2.4</p> <p>2.6: Dark Produces a darker picture overall.</p> <p>Gamma 7: Produces a sharper picture by emphasizing darker parts.</p> <p>Gamma 8: Produces a brighter picture than Gamma 7. Select this when you watch in a bright environment, such as a living room.</p> <p>Gamma 9: Produces a brighter picture than Gamma 8.</p> <p>Gamma 10: Increases the sharpness in images. Select this when you watch TV programs, etc., in a bright environment, such as a living room.</p> <p>Off: The "Gamma Correction" function is not applied.</p>
Color Correction [COLOR CORRECTION]	<p>On: Adjusts Hue, Saturation and Brightness of the selected colors.</p> <p>Repeat steps ① and ② described below to specify the target color.</p> <p>① Press ↑/↓ to select "Color Select," then press ←/→ to select the color you want to adjust among "Red," "Yellow," "Green," "Cyan," "Blue," and "Magenta."</p> <div data-bbox="652 963 928 1091" data-label="Image"> <p>The screenshot shows a menu titled 'Color Correction'. Below the title is a sub-menu 'Color Select' with a list of colors: Red, Yellow, Green, Cyan, Blue, and Magenta. The 'Red' option is currently selected. To the right of the list are three sliders labeled 'Hue:', 'Saturation:', and 'Brightness:', each with a value of 0. At the bottom of the menu are two buttons: 'Set: [icon]' and 'Set: [icon]'.</p> </div> <p>② Press ↑/↓ to select "Hue," "Saturation" or "Brightness," then adjust them to suit your taste using ←/→ while watching the projected picture.</p> <p>Off: The "Color Correction" effect is not applied.</p>
Clear White	<p>Emphasizes vivid whites.</p> <p>High/Low: You can adjust the "Clear White" effect.</p> <p>Off: The "Clear White" effect is not applied.</p>
x.v.Color	<p>Set this item when connecting the unit with equipment that supports x.v.Color and playing back an x.v.Color video signal.</p> <p>On: You can play back an x.v.Color video signal.</p> <p>Off: The "x.v.Color" function is not applied.</p> <p>Tip Setting x.v.Color to "On" disables gamma adjustment.</p>
HDR	<p>Sets how to play back HDR content.</p> <p>Auto: Distinguishes HDR content automatically and applies the optimal picture quality. When an input signal supports BT.2020, the "Color Space" is set to "BT.2020" automatically. When a signal other than BT.2020 is input, the mode set in "Color Space" is applied. ("BT.2020" is not available in this case.)</p> <p>HDR10: Set when playing back HDR10-compatible content.</p> <p>HLG: Set when playing back HLG-compatible content.</p> <p>Off: Set when playing back content other than HDR content.</p> <p>All of the modes of "Color Space" are selectable when "HDR10," "HLG," or "Off" is selected.</p> <p>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.</p>

Setting items	Description
Color Space [COLOR SPACE]	<p>Converts the color space.</p> <p>BT.709: An ITU-R BT.709 color space, which is used for high-definition television broadcast or Blu-ray Disc. The color space is equivalent to sRGB.</p> <p>BT.2020: The color space suited for watching images with BT.2020, such as HDR content.</p> <p>Color Space 1: The color space suited for watching TV programs and video images, such as sport, concerts, etc.</p> <p>Color Space 2: The color space suited for watching TV programs, sport, concerts, and other video images in a bright environment, such as a living room.</p> <p>Color Space 3: The color space suited for watching movies in a bright environment, such as a living room.</p> <p>Custom: You can adjust the color space setting.</p> 
	<p>Tip You can adjust each item to a color space according to your preference.</p> <p>Note When “HDR” is set to “Auto,” the selectable modes change according to the signal type (page 19).</p>
Input Lag Reduction	<p>Reduces the delay of the display for a video.</p> <p>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.</p> <p>Off: Turns the Input Lag Reduction function off.</p> <p>Tip When “Input Lag Reduction” is set to “On,” Motionflow, NR, and MPEG NR cannot be set.</p>

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.”
- 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.
- This function adjusts only the white balance.





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 39).

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

Setting items	Description
Aspect [ASPECT]	<p>You can set the aspect ratio of the picture to be displayed for the current input signal (page 13).</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>Stretch: Displays video that has been squeezed to 1.33:1 (4:3) as 1.78:1 (16:9) aspect ratio.</p> <p>Tips</p> <ul style="list-style-type: none"> Selectable aspect modes vary depending on the input signal (page 42). The aspect cannot be selected for an input signal from a computer or an input signal with a resolution of 4096 × 2160. (page 38 to 39, 42)
Blanking	<p>This feature allows you to adjust the displayable region within the four directions of the screen.</p> <p>On: Select the edge to adjust by highlighting Left, Right, Top, or Bottom using the / buttons. Adjust the amount of blanking using the / buttons.</p> <div data-bbox="826 978 1106 1138" data-label="Image"> <p>The image shows a 'Blanking' menu with four rows: 'Left: 2', 'Right: 3', 'Top: 2', and 'Bottom: 3'. At the bottom of the menu are three buttons: 'Set: [icon]', 'Adjust: [icon]', and 'Set: [icon]'.</p> </div> <p>Off: Turns off the Blanking function.</p> <p>Tip Depending on the aspect ratio setting, right/left blanking may not be available.</p>
Image Shift	<p>On: You can adjust the image position.</p> <p>H: The image moves to the right as the value increases, and moves to the left as decreases.</p> <p>V: The image moves up as the value increases, and moves down as decreases.</p> <p>Off: You can turn off the image shift function.</p>

Setup Menu

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

Setting items	Description
Status	<p>Sets whether or not on-screen messages or menus, etc. are displayed.</p> <p>On: Displays on-screen messages and menus.</p> <p>Off: Turns off the on-screen displays, other than certain menus, a message when turning off the power, and warning messages.</p> <p>All Off: Turns off the on-screen displays, other than certain menus, and a message when turning off the power.</p> <p>Notes</p> <ul style="list-style-type: none">• 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	<p>Selects the language used in the menu and on-screen displays.</p>
Menu Position	<p>You can change the position to display the menu on the projection surface.</p> <p>Bottom Left: Displays the menu on the bottom left area of the projection surface.</p> <p>Center: Displays the menu on the center of the projection surface.</p>
High Altitude Mode	<p>Sets the unit to operate at the prevailing atmospheric pressure.</p> <p>On: Use this setting when using the unit at an altitude of 1,500 m (approx. 4,900 ft) or higher.</p> <p>Off: Use this setting when using the unit at normal altitudes.</p> <p>Tip</p> <p>When this item is set to “On,” the fan noise becomes slightly louder since the fan speed increases.</p>
Remote Start	<p>Sets the Remote Start settings.</p> <p>On: You can turn on the power from a PC or a terminal which is connected to a network.</p> <p>Off: Turns off the Remote Start function.</p> <p>Tips</p> <ul style="list-style-type: none">• To use the function, the unit should be connected to the network in advance (page 27).• 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. <p>Note</p> <p>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.</p>
Network Management	<p>On: Set when connected to the network and continuously communicating with the projector control equipment.</p> <p>Off: Turns off the Network Management function.</p> <p>Note</p> <p>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.</p>
Power Saving	<p>Sets the Power Saving mode.</p> <p>Standby: If no signal is input for 10 minutes, power is turned off automatically and the projector goes into standby mode.</p> <p>Off: Disables the Power Saving function.</p>
All Reset	<p>All settings by the main unit and adjusted data by the connected devices are initialized to their factory preset values.</p>

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.	<p>For Switching the video images to “2D” or “3D.”</p> <p>Auto: Displays 3D video images when HDMI signals with 3D information* are input. Displays 2D video images when other signals are input.</p> <p>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.</p> <p>3D Format: Set the 3D system when the input HDMI signals do not include 3D information.</p> <p>Simulated 3D: Converts 2D video images to 3D video images. The setting can be made only for input the HD signals.</p> <p>The simulated 3D feature may have limited effect, depending on the video source.</p> <p>There are differences in perception of 3D video images among individuals.</p> <p>Side-by-Side: Select this to display 3D images as two similar images, side-by-side.</p> <p>Over-Under: Select this to display 3D images as two similar images, one above the other.</p> <p>2D: Displays 2D video images.</p> <p>* The 3D information is additional information to differentiate 3D. Some HDMI signals have additional information to differentiate 3D and some HDMI signals have none.</p> <p>Tips</p> <ul style="list-style-type: none"> • “2D-3D Display Sel.” cannot be set to “3D” for some video sources. For available 3D signals, see “Compatible 3D Signals” (page 40). • 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 Depth Adjust	<p>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.</p> <p style="text-align: center;"> Depth -2 -1 0 +1 +2 Front ← Normal → Depth </p> <p>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.”</p>
Simulated 3D Effect	<p>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.”</p> <p>Tips</p> <ul style="list-style-type: none"> • There are differences in perception of 3D video images converted by the simulated 3D function among individuals. • 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.
Dynamic Range	<p>Sets the video input level for HDMI 1, HDMI 2, HDMI 3 and HDMI 4 connectors.</p> <p>Auto: Sets the video input level automatically.</p> <p>Limited: The video input level is set for signals that are equivalent to 16-235.</p> <p>Full: The video input level is set for signals that are equivalent to 0-255.</p> <p>Note</p> <p>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.</p>

Setting items	Description
HDMI Signal Format	<p>Switches the video signal formats for 4K.</p> <p>Standard Format: Displays a picture in the standard HDMI format. Normally use this setting.</p> <p>Enhanced Format: Use this setting when the HDMI format with a wider band frequency is used.</p> <p>Tips</p> <ul style="list-style-type: none"> • 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	<p>Displays a test pattern according to the setting.</p> <p>On: A test pattern appears on the screen to be used when adjusting the lens with “Lens Focus,” “Lens Zoom,” and “Lens Shift.”</p> <p>Off: A test pattern does not appear.</p> <p>Tip</p> <p>While the test pattern is displayed, it is only displayed in green to allow you to adjust the focus easily.</p>
Settings Lock	<p>Locks menu item settings to prevent operational error (page 25).</p> <p>Off: Cancels the Settings Lock.</p> <p>Level A: Group 1 items (below) are not displayed on the menu, and are not available.</p> <p>Level B: Group 1 and Group 2 items (below) are not displayed on the menus, and are not available.</p>

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

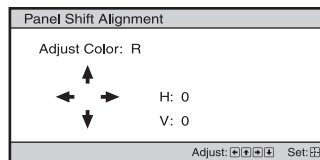
Group 2






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 Trigger Select Panel Alignment Network Setting

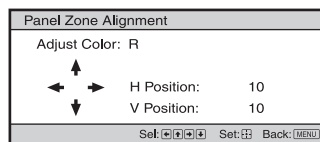
Installation Menu






The Installation menu is used for changing the installation settings.

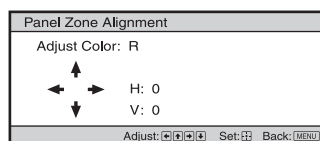
Setting items	Description
Image Flip	<p>Flips the picture on the screen horizontally and/or vertically. Use this item for installation for the rear projection or ceiling installation.</p> <p>HV: Flips the picture horizontally and vertically. H: Flips the picture horizontally. V: Flips the picture vertically. Off: The picture does not flip.</p>
Lens Control	<p>Avoids any operation of the lens such as “Lens Focus,” “Lens Zoom,” and “Lens Shift,” by mistake.</p> <p>On: Enables adjustment of the lens. Off: Prevents any adjustment of the lens.</p>
Trigger Select	<p>Switches the output function of the TRIGGER connector.</p> <p>Off: Turns off the TRIGGER connector function. Power: Outputs 12 V signals from the TRIGGER connector when the unit is on. The TRIGGER connector does not output any signals when the unit is in standby.</p>
Illumination	<p>Changes the lighting setting of the LED indicator in use.</p> <p>On: The LED indicator lights. Off: The LED indicator does not light.</p>
Panel Alignment	<p>This feature allows you to adjust the gaps in the color of characters or the picture on the projection surface.</p> <p>Adjust: Adjusts the gaps in the colors selecting “Adjust Item” or “Adjust Color.” Adjust Item: Selects how to make adjustments from below.</p> <p>Shift: Shifts the whole picture and makes adjustments. Zone: Selects the desired range and makes adjustments.</p> <p>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).</p> <p>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).</p> <p>Adjust: The shift adjustment and zone adjustment of the color selected in “Adjust Color” can be made with the , , ,  buttons.</p> <p>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.</p>















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 .



Setting items	Description
	<p>Reset: Returns to the factory settings.</p> <p>Preset: The optimized data has been preset.</p> <p>Note</p> <p>Depending on the adjustments made above, colors may become uneven or the resolution may change.</p>
Flange Back Correction	<p>Adjust the focus by pressing the /// buttons.</p> <p>Tips</p> <ul style="list-style-type: none"> • This function is different from the lens focus. • Normally, there is no need to adjust according to the installation environment. Use this item for installation in a special environment.
Network Setting	Perform Internet protocol settings.
IPv4 Setting	<p>IP Address Setup: Selects the IP address setting method.</p> <p>Auto(DHCP): The IP address is assigned automatically from the DHCP server such as a router.</p> <p>Manual: Specifies the IP address manually.</p> <p>When “Manual” is selected for “IP Address Setup,” input “IP Address,” “Subnet Mask,” and “Default Gateway.” Select each item with the / buttons, then press the  button. Select the frame to input 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.</p> <p>IP Address: Sets the unit’s IP address.</p> <p>Subnet Mask: Sets the unit’s subnet mask.</p> <p>Default Gateway: Sets the unit’s default gateway.</p> <p>MAC Address: Displays the unit’s MAC address. This cannot be changed.</p> <p>Apply: Enables the IP address that is set manually.</p>
IPv6 Information	<p>Displays the IPv6 information.</p> <p>When you set the IPv6 IP address, set it on a Web browser (page 29).</p>

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.
Software Version	Displays the software version.
Light Timer	Displays how long the light has been turned on (total usage).

Note

You cannot adjust or change the items 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 38) (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.

Network Features

Connecting 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, ADCP (Sony Advanced Display Control Protocol)).

Notes

- When connecting the unit to the network, consult with the network administrator. The network must be secured.
- When using the unit connected with the network, access the Control window via a Web browser and change the access limitation of the factory preset values (page 30). 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 in 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.


- 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`

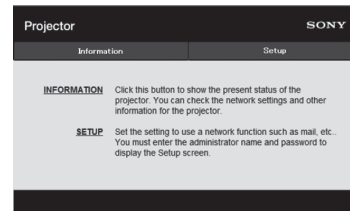
(xxx.xxx.xxx.xxx: IP address for the unit)

When connecting by the IPv6 address

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

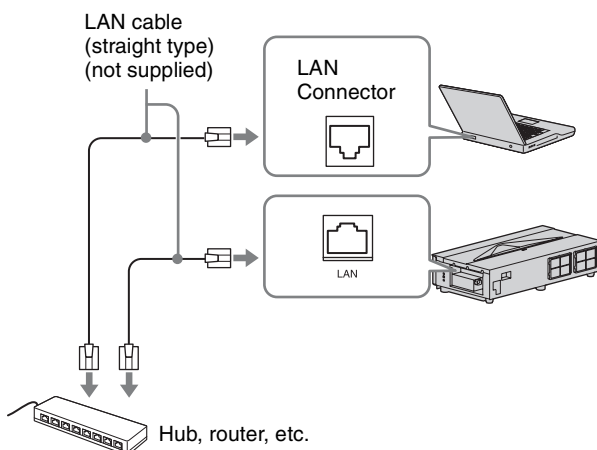
You can confirm the IP address of the unit under “Network Setting” on the Installation  menu.


The following window appears in the Web browser:



Displaying the Control Window of the Unit with a Web Browser

- 1 Connect the LAN cable.

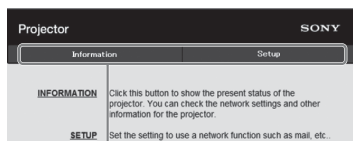


- 2 Set the network settings for the unit using “Network Setting” on the Installation  menu (page 27).
Once you make the network settings, you can open the Control window only by performing step 3 of this procedure.

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's access to any particular page.

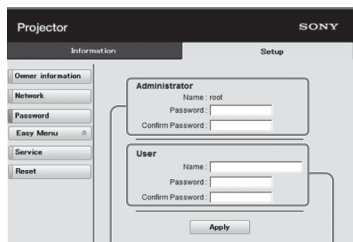
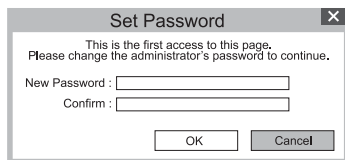
Administrator: Allowed access to all pages

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 passwords of the administrator and user should be 8 to 16 characters that include 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.

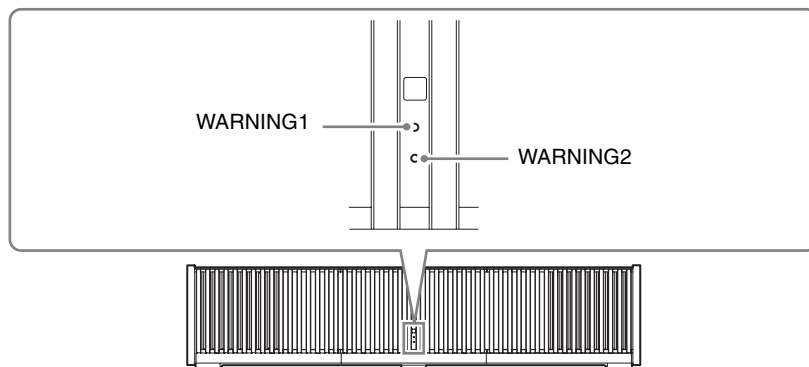


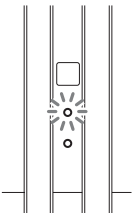
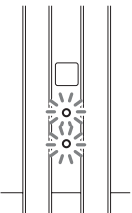
Information area

Error Handling

About Indicators

The WARNING1 or WARNING2 indicator lights up or flashes if there is any trouble with your projector.



Flashing/Lighting indicators	The number of flashes	Cause and Remedy
 (Flashes in red)	Three times	The light source does not light properly due to an abnormality of the light source or 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 LED indicator turns off, then connect the AC power cord and turn the unit on.
 Both indicators flash (Flashes in red) (Flashes in red)	Twice	The internal temperature is unusually high. Check to ensure that nothing is blocking the ventilation holes, the air filter is not clogged, and the unit is not being used at high altitudes.
	Three times	The fan is broken. Consult with qualified Sony personnel.

Note


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

Message Lists

Warning messages

Symptom	Cause and Remedy
High temp.! Light off in 1 min.	Turn off the power. Check to ensure that nothing is blocking the ventilation holes and the air filter is not clogged. (page 3, 35)
Frequency is out of range!	Input a signal that is within the acceptable frequency range of the unit. (page 38)
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 and the air filter is not clogged. (page 3, 35) 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.” (page 23) 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
	No signal is input in the selected input. Check connections. (page 9)
Not applicable!	Press the appropriate button.
Settings Lock enabled.	“Settings Lock” is set to “Level A” or “Level B.” (page 25)




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
The power is not turned on.	Check the indicators. (page 31) 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." (page 23) Set "Power Saving" to "Off." (page 23)

Picture

Symptom	Cause and Remedy
No picture.	Check that the connecting cable is connected to the external equipment properly. (page 9) Select the input source correctly using the INPUT button. (page 12) Check that the computer signal is set to 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, or set "2D-3D Display Sel." to "3D." (page 13, 24) To convert 3D video images to 2D video images, set "2D-3D Display Sel." to "2D."
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. (page 24)
The picture is too dark.	Adjust "Contrast" or "Brightness" on the Picture  menu properly. (page 18)
The picture is not clear.	Adjust the focus. (page 6) 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. (page 26)
Image is left on the projection image. (Image retention)	When high contrast still 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 will eliminate the retained image after a while.
The picture is distorted.	Check if the installing projection surface is not distorted. (page 6) Install the unit horizontally. (page 6)

On-screen display

Symptom	Cause and Remedy
On-screen display does not appear.	Set "Status" on the Setup  menu to "On." (page 23)


Remote control

Symptom	Cause and Remedy
The remote control does not work.	Batteries could be weak. Replace them with new batteries. Insert the batteries with the correct polarities. If there is a 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. (page 3) Make sure that the cable is not connected to the IR IN connector. (page 4)

3D video images

Symptom	Cause and Remedy
The video image does not seem like 3D video images.	Check if the 3D glasses are turned on. (page 13)
	Make sure that the battery in the 3D glasses is sufficiently charged.
	Set “2D-3D Display Sel.” to “Auto” or “3D.” (page 24)
	Check if the input signals are compatible 3D signals. (page 40)
	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. (page 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. (page 44)
	For details, see “Precautions for use” of “Using the 3D Glasses.” (page 13)

Others

Symptom	Cause and Remedy
The fan is noisy.	Check the setting of “High Altitude Mode” on the Setup  menu. (page 23)
	Make sure that the room temperature is not too high.
	Check to see if the air filter is not clogged. (page 35)
	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. (page 8, 44)

Maintenance

Cleaning the Air Filter

Clean the air filter regularly, preferably once a year.

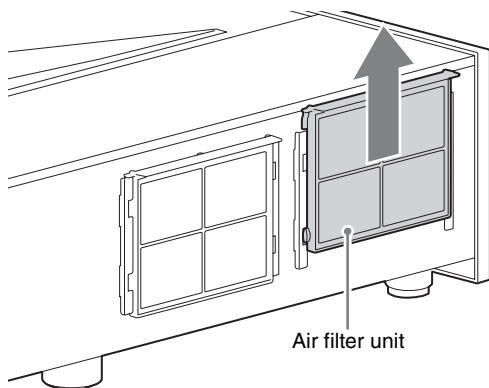
If the dust cannot be removed from the air filter even after cleaning, replace the air filter with a new one.

For details on a new air filter, consult with qualified Sony personnel.

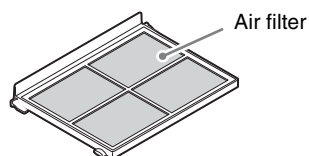
Caution

If you continue to use the air filter, dust may accumulate, clogging it. As a result, the temperature may rise inside the unit, leading to a possible malfunction or fire.

- 1 Turn off the projector, and disconnect the AC power cord from the AC outlet.
- 2 Pull out the air filter unit from the projector.



- 3 Clean the air filter with a vacuum cleaner. Clean the front and back of the filter.



- 4 Attach the air filter unit.

Notes

- Securely attach the air filter unit. If not attached to the specified position, the air filter may fall out.
- When washing with water, let the air filter dry completely.

Cleaning

Cleaning the cabinet

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

Cleaning the side covers

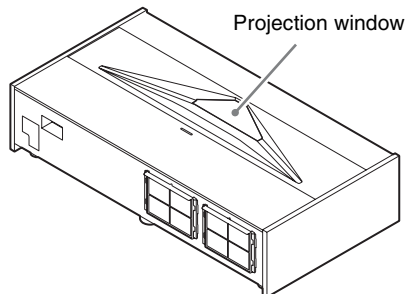
When removing dust from the side covers, wipe gently with the supplied cleaning cloth.

Note

If you wipe the side covers forcibly, it may scratch them.

Cleaning the projection window

When removing dust from the projection window, wipe gently with the supplied cleaning cloth.



Note

The projection window is made of glass. If you forcibly push or hit it, it may break and cause an injury.

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 update the software of the unit, your PC must be able to connect 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.

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.
- “x.v.Color (x.v.Colour)” and “x.v.Color (x.v.Colour)” logo are trademarks of Sony Corporation.

.....
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	Zoom	Powered
	Focus	Powered
	Shift	Powered
Projection image size		80-inch to 120-inch (2,030 mm to 3,050 mm)
Light source		Laser diode
Accepted digital signals		See “Preset Signals” (page 38).
Inputs/Outputs	HDMI connectors (HDCP 2.2)	× 4
	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 IN connector	mini jack
	TRIGGER connector	mini jack, DC 12 V, Max. 100 mA
Outside dimensions (w/h/d)		925 mm × 218.5 mm × 493.8 mm (36 ¹³ / ₃₂ inches × 8 ¹⁹ / ₃₂ inches × 19 ⁷ / ₁₆ inches) (with side covers)
Mass		Approx. 35 kg (77 lb) (without side and top covers)
Power requirements		AC 100 V to 240 V, 4.4 A to 1.9 A, 50/60 Hz
Power consumption		435 W
Standby mode power consumption	(Standby)	0.5 W (when “Remote Start” is set to “Off”)
	(Networked Standby)	0.6 W (LAN) (when “Remote Start” is set to “On”) When a LAN connector is not connected, the power consumption changes to low power consumption mode (0.5 W).
Operating temperature (Operating humidity)		5°C to 35°C (41°F to 95°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

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

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 January 2017.

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
50	1400 × 1050	SXGA+	65.317	59.978	H-Neg, 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	—

Preset memory no.	Preset signal (resolution)		fH (kHz)	fV (Hz)	Sync
95	3840 × 2160/30p	3840 × 2160/30p (3840 × 2160)	67.433	29.970	—
96	4096 × 2160/24p	4096 × 2160/24p (4096 × 2160)	54.000	24.000	—

Preset memory numbers for each input signal

Digital signal

Signal	Preset memory number
Component signal	5 to 8, 10 to 14, 18 to 20, 71, 72, 74 to 79, 93 to 96
Video GBR signal	5 to 8, 10 to 14, 18 to 20, 71, 72, 74 to 79, 93 to 96
Computer signal	10*, 12*, 26, 32, 37, 45, 47, 50, 55

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

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.

Picture menu

Item	Input signal		
	Component signal	Video GBR signal	Computer signal
Reality Creation	●	●	—
Laser Light Setting	●	●	●
Contrast Enhancer	●	●	—
Motionflow	●	●	—
Contrast	●	●	●
Brightness	●	●	●
Color	●	●	—
Hue	●	●	—
Color Temp.	●	●	●
Sharpness	●	●	—
NR	● (excluding preset memory numbers 18 to 20, 71, and 72)	● (excluding preset memory numbers 18 to 20, 71, and 72)	—
MPEG NR	● (excluding preset memory numbers 18 to 20, 71, and 72)	● (excluding preset memory numbers 18 to 20, 71, and 72)	—
Smooth Gradation	●	●	—
Film Mode	● (excluding preset memory numbers 5, 6, 10 to 14, 18 to 20, 74 to 79, and 93 to 96)	● (excluding preset memory numbers 5, 6, 10 to 14, 18 to 20, 74 to 79, and 93 to 96)	—
Gamma Correction	●	●	●
Color Correction	●	●	●
Clear White	●	●	●
x.v.Color	●	—	—
HDR	● (preset memory numbers 74 to 79 and 93 to 96 only)	● (preset memory numbers 74 to 79 and 93 to 96 only)	—

Item	Input signal		
	Component signal	Video GBR signal	Computer signal
Color Space	●	●	●

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

Screen menu

Item	Input signal		
	Component signal	Video GBR signal	Computer signal
Aspect* ¹	● (excluding preset memory numbers 76 to 79 and 96)	● (excluding preset memory numbers 78, 79 and 96)	–

●: Can be adjusted/set
 –: Cannot be adjusted/set
 *1: For further details, refer to the tables in “Aspect Mode” (page 42).

Note

When connecting a cable such as an HDMI cable, check the type of signal in the Information ⓘ menu (page 28) and “Preset memory numbers for each input signal” (page 39), and check items that can 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

*: Mandatory 3D format of the HDMI standards.

3D Signals and Adjustment/Setting Items

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


Item	3D signals			
	720/60p, 720/50p	1080/60i, 1080/50i	1080/24p	1080/60p, 1080/50p
Reality Creation	●	●	●	●
Laser Light Setting* ¹	●	●	●	●
Motionflow	●	●	●	●
NR	—	—	—	—
MPEG NR	—	—	—	—
Smooth Gradation	—	—	—	—
Film Mode	—	●	—	—
x.v.Color	●	●	●	●
HDR	—	—	—	—
Aspect* ²	●	●	●	●

●: Can be adjusted/set

—: Cannot be adjusted/set

*1: “Dynamic Control” cannot be selected.

*2: For further details, refer to the tables in “Aspect Mode” (page 42).

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

Item	3D signals		
	Over-Under	Side-by-Side	Simulated 3D
Reality Creation	●	●	●
Laser Light Setting* ¹	●	●	●
Motionflow* ²	●	●	●
NR	—	—	●
MPEG NR	—	—	●
Smooth Gradation	—	—	●
Film Mode* ³	—	●	●
x.v.Color	●	●	●
HDR	—	—	—
Aspect* ⁴	●	●	●

●: Can be adjusted/set

—: Cannot be adjusted/set

*1: “Dynamic Control” cannot be selected.

*2: The item is not available for Over-Under/Side-by-Side on 720/60p, or Side-by-Side on 1080/60p.

*3: The item is available only for 1080/60i or 1080/50i.

*4: For further details, refer to the tables in “Aspect Mode” (page 42).

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 38)	76 to 79, 96	74, 75, 93 to 95	7, 8, 12 to 14	10, 11	5, 6	26, 32, 37, 45, 47, 50, 55
1.85:1 Zoom	—	●	●	●	●	—
2.35:1 Zoom	—	●	●	●	●	—
Normal	●	●	●	●	●	●*
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 38)	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	●	●	●	●
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.

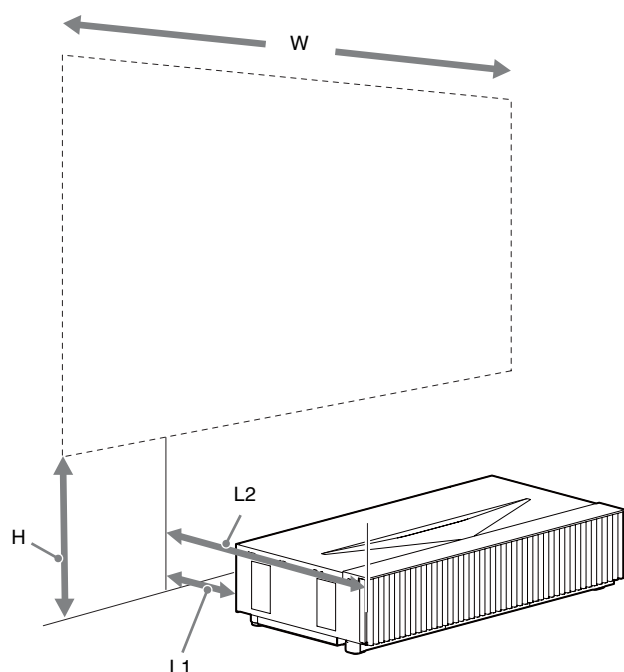
Preset memory numbers for each input signal

Input	Preset memory numbers
HDMI 1 - HDMI 4 (2D)	5 to 8, 10 to 14, 26, 32, 37, 45, 47, 50, 55, 74 to 79, 93 to 96
HDMI 1 - HDMI 4 (3D)	7, 8, 10 to 14, 18 to 20, 71, 72

Picture menu

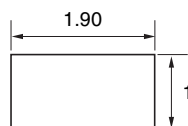
Item	Storage conditions
Calib. Preset	For each input connector and preset signal
Reset	For each input connector and Calib. Preset
Reality Creation	
Laser Light Setting	
Contrast Enhancer	
Motionflow	
Contrast	
Brightness	
Color	
Hue	
Color Temp.	
D93 - D55, Custom	
Gain R	For each Color Temp.
Gain G	
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

Installation Distance and Projection Image Size



L1: Distance from a projection surface to the rear of the unit
 L2: Distance from a projection surface to the front of the unit
 H: Distance from the installation surface to the bottom of the screen
 W: Horizontal width of the screen

When projecting in 1.90:1 (Native Full Display 17:9) format



Projection image size			Installation distance		Adjustment amount of picture shift		Adjustment amount of picture size	
Diagonal (D)	Width × Height	Bottom height (H)	From a projection surface to the rear of the unit (L1)	From a projection surface to the front of the unit (L2)	Horizontal direction	Vertical direction	Horizontal direction	Vertical direction
84-inch (2.14 m)	1.89 m × 1.00 m (74 inches × 39 inches)	39.0 cm (15.3 inches)	5.0 cm (2.0 inches)	52.0 cm (20.5 inches)	+/-5.3 cm (+/-2.1 inches)	+/-6.0 cm (+/-2.4 inches)	+/-1.9 cm (+/-0.7 inches)	+/-1.0 cm (+/-0.4 inches)
95-inch (2.40 m)	2.13 m × 1.12 m (84 inches × 44 inches)	41.8 cm (16.5 inches)	10.2 cm (4.0 inches)	57.2 cm (22.5 inches)	+/-6.0 cm (+/-2.4 inches)	+/-6.7 cm (+/-2.6 inches)	+/-2.1 cm (+/-0.8 inches)	+/-1.1 cm (+/-0.4 inches)
105-inch (2.67 m)	2.36 m × 1.24 m (93 inches × 49 inches)	44.7 cm (17.6 inches)	15.5 cm (6.1 inches)	62.5 cm (24.6 inches)	+/-6.6 cm (+/-2.6 inches)	+/-7.5 cm (+/-2.9 inches)	+/-2.4 cm (+/-0.9 inches)	+/-1.2 cm (+/-0.5 inches)
116-inch (2.94 m)	2.60 m × 1.37 m (102 inches × 54 inches)	47.6 cm (18.7 inches)	20.7 cm (8.2 inches)	67.7 cm (26.7 inches)	+/-7.3 cm (+/-2.9 inches)	+/-8.2 cm (+/-3.2 inches)	+/-2.6 cm (+/-0.9 inches)	+/-1.4 cm (+/-0.6 inches)
126-inch (3.21 m)	2.84 m × 1.49 m (112 inches × 59 inches)	50.4 cm (19.9 inches)	26.0 cm (10.2 inches)	73.0 cm (28.7 inches)	+/-8.0 cm (+/-3.1 inches)	+/-9.0 cm (+/-3.5 inches)	+/-2.8 cm (+/-1.1 inches)	+/-1.5 cm (+/-0.6 inches)

Formula 1 (calculates an installation distance from a projection image size)

Unit: cm (inches)

Projection image size
$L1 = 0.2219 \times W - 36.9398$ ($L1 = 0.2219 \times W - 14.5432$)
$L2 = 0.2219 \times W + 10.0602$ ($L2 = 0.2219 \times W + 3.9607$)

Formula 2 (calculates a projection image size from an installation distance)

Unit: cm (inches)

From a projection surface to the rear of the unit
$W = 4.5069 \times L1 + 166.4916$ ($W = 4.5069 \times L1 + 65.5479$)

Formula 3 (calculates a distance from the installation surface to the bottom of a projection image)

Unit: cm (inches)

Projection image size
$H = 0.1213 \times W + 16.0372$ ($H = 0.1213 \times W + 6.3139$)

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



Projection image size			Installation distance		Adjustment amount of picture shift		Adjustment amount of picture size	
Diagonal (D)	Width × Height	Bottom height (H)	From a projection surface to the rear of the unit (L1)	From a projection surface to the front of the unit (L2)	Horizontal direction	Vertical direction	Horizontal direction	Vertical direction
80-inch (2.03 m)	1.77 m × 1.00 m (70 inches × 39 inches)	39.0 cm (15.3 inches)	5.0 cm (2.0 inches)	52.0 cm (20.5 inches)	+/-5.3 cm (+/-2.1 inches)	+/-6.0 cm (+/-2.4 inches)	+/-1.8 cm (+/-0.7 inches)	+/-1.0 cm (+/-0.4 inches)
90-inch (2.29 m)	1.99 m × 1.12 m (78 inches × 44 inches)	41.8 cm (16.5 inches)	10.2 cm (4.0 inches)	57.2 cm (22.5 inches)	+/-6.0 cm (+/-2.4 inches)	+/-6.7 cm (+/-2.6 inches)	+/-2.0 cm (+/-0.8 inches)	+/-1.1 cm (+/-0.4 inches)
100-inch (2.54 m)	2.22 m × 1.24 m (87 inches × 49 inches)	44.7 cm (17.6 inches)	15.5 cm (6.1 inches)	62.5 cm (24.6 inches)	+/-6.6 cm (+/-2.6 inches)	+/-7.5 cm (+/-2.9 inches)	+/-2.2 cm (+/-0.9 inches)	+/-1.2 cm (+/-0.5 inches)
110-inch (2.79 m)	2.44 m × 1.37 m (96 inches × 54 inches)	47.6 cm (18.7 inches)	20.7 cm (8.2 inches)	67.7 cm (26.7 inches)	+/-7.3 cm (+/-2.9 inches)	+/-8.2 cm (+/-3.2 inches)	+/-2.4 cm (+/-0.9 inches)	+/-1.4 cm (+/-0.6 inches)
120-inch (3.05 m)	2.66 m × 1.49 m (105 inches × 59 inches)	50.4 cm (19.9 inches)	26.0 cm (10.2 inches)	73.0 cm (28.7 inches)	+/-8.0 cm (+/-3.1 inches)	+/-9.0 cm (+/-3.5 inches)	+/-2.7 cm (+/-1.1 inches)	+/-1.5 cm (+/-0.6 inches)

Formula 1 (calculates an installation distance from a projection image size)

Unit: cm (inches)

Projection image size
$L1 = 0.2368 \times W - 36.9638$ ($L1 = 0.2368 \times W - 14.5527$)
$L2 = 0.2368 \times W + 10.0362$ ($L2 = 0.2368 \times W + 3.9512$)

Formula 2 (calculates a projection image size from an installation distance)

Unit: cm (inches)

From a projection surface to the rear of the unit
$W = 4.2226 \times L1 + 156.0908$ ($W = 4.2226 \times L1 + 61.4531$)

Formula 3 (calculates a distance from the installation surface to the bottom of a projection image)

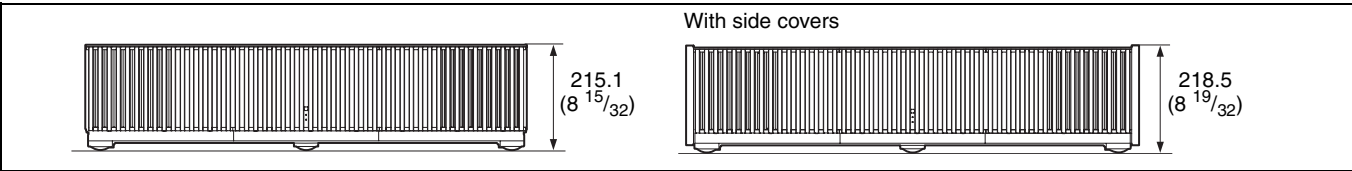
Unit: cm (inches)

Projection image size
$H = 0.1295 \times W + 16.0240$ ($H = 0.1295 \times W + 6.3087$)

Dimensions

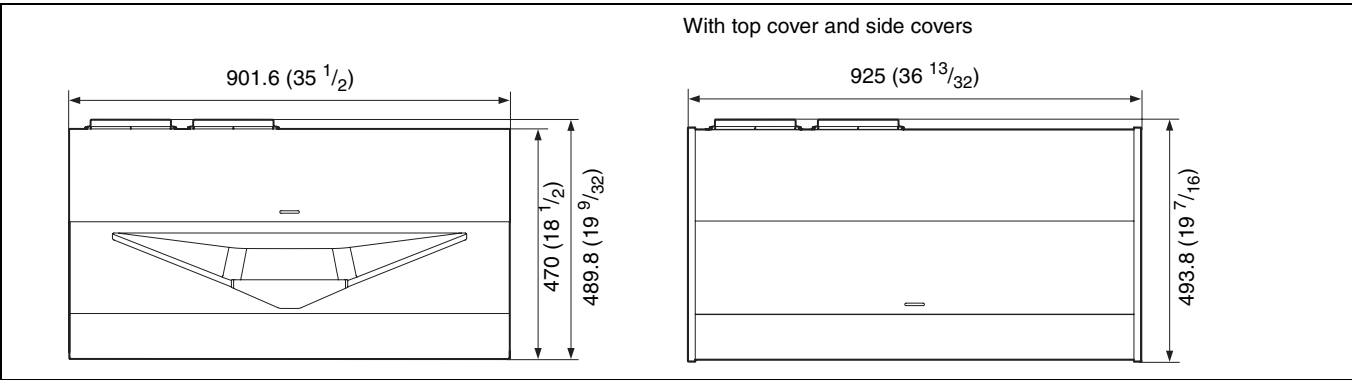
Front

Unit: mm (inches)



Top

Unit: mm (inches)



Bottom

Unit: mm (inches)

