

# Data Projector

## Operating Instructions

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

VPL-GTZ1

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

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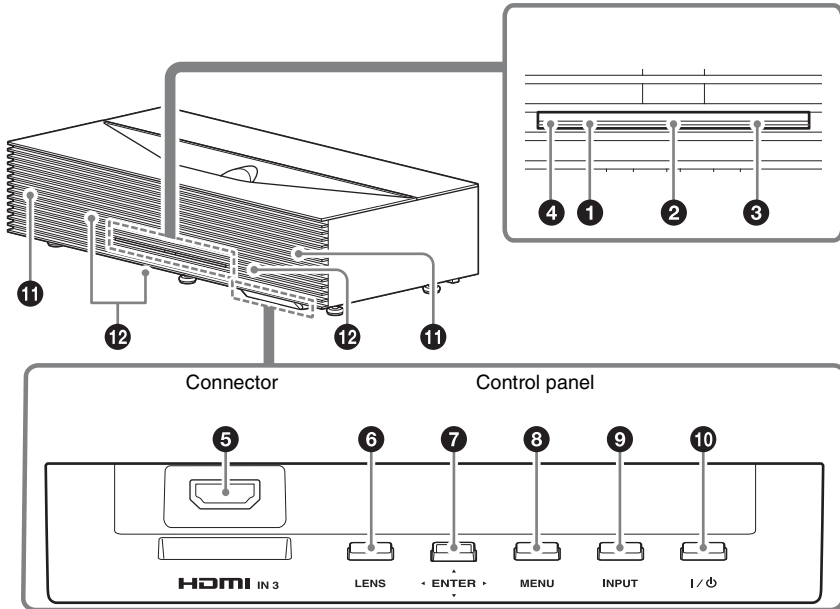
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# Location of Controls

## Front

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



### Indicators and remote control detector

- ❶ WARNING1 indicator (page 45)
- ❷ LED indicator (page 9)
- ❸ WARNING2 indicator (page 45)
- ❹ Remote control detector (page 8)

### Connector and control panel

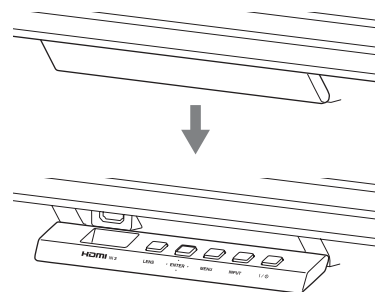
- ❺ HDMI 3 connector (page 14)
- ❻ LENS button (page 8)
- ❼ ⬆/⬇/⬅/➡ (arrow)/ □ (enter) button (page 22)
- ❽ MENU button (page 22)

### ❾ INPUT button (page 16)

### ❿ I/ON (ON/STANDBY) button (page 9)

#### Tip

The door opens by pulling the side of the door.



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## Others

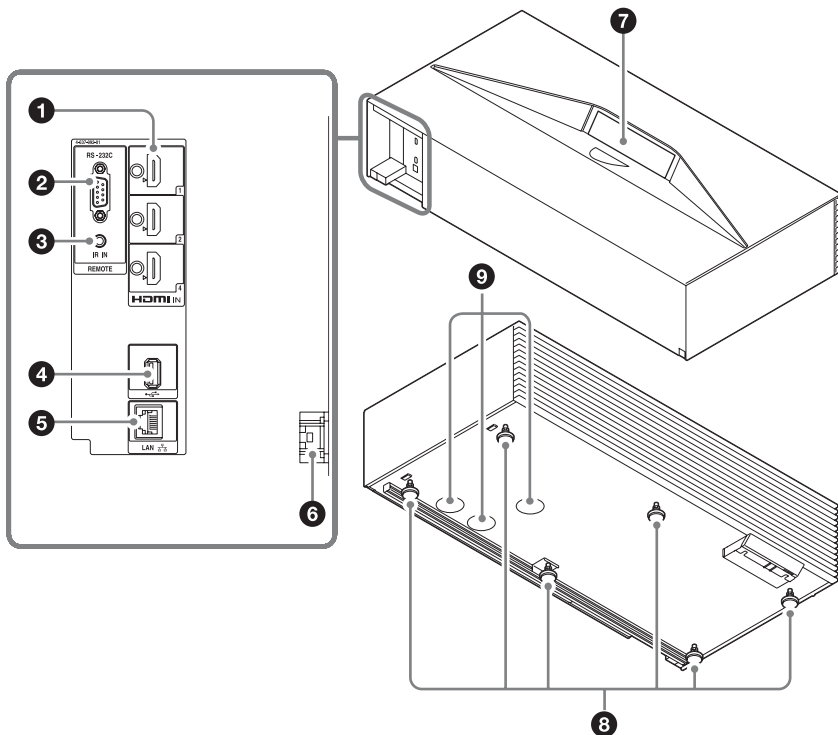
### ⑪ Ventilation holes (exhaust)

### ⑫ Ventilation holes (intake)

#### 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.

# Rear/Bottom



## Connectors

- 1 HDMI 1/HDMI 2/HDMI 4 connector (page 14)**
- 2 REMOTE connector**  
Connects to a system for remote control, etc.
- 3 IR IN connector**  
Inputs signals to control the unit.
- 4 USB connector (page 47)**
- 5 LAN connector (page 40)**

## CAUTION

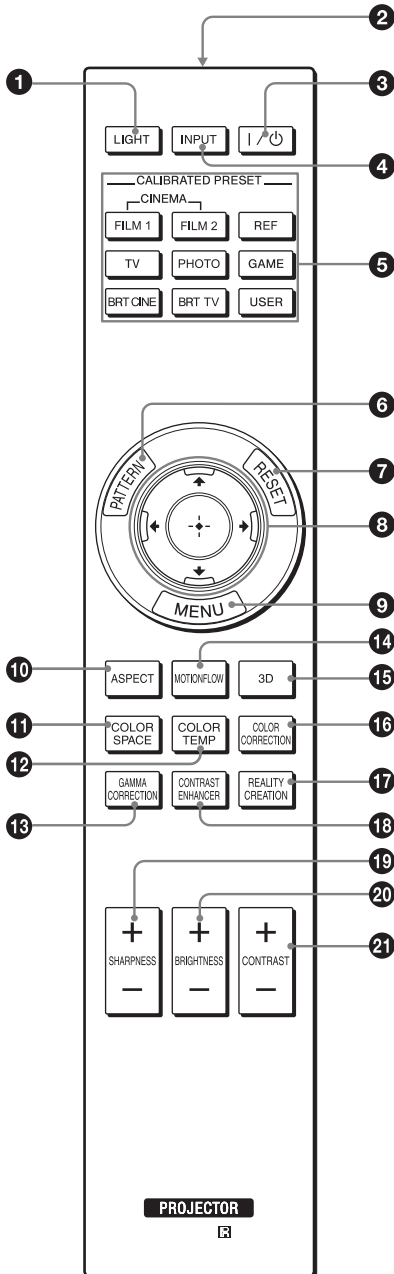
For safety, do not connect the connector for peripheral device wiring that might have

excessive voltage to this port. Follow the instructions for this port.

## Others

- 6 AC IN socket**
- 7 Projection window (lens)**  
Projects a video from this window.
- 8 Feet (adjustable) (page 13)**
- 9 Ventilation holes (intake)**

# Remote Control



- 1 LIGHT button**  
Illuminates the buttons on the remote control.
- 2 Infrared transmitter**
- 3 I/ON (ON/STANDBY) button** (page 9)
- 4 INPUT button** (page 16)
- 5 CALIBRATED PRESET buttons** (page 21)
- 6 PATTERN button** (page 10)
- 7 RESET button** (page 23)
- 8 ↑/↓/←/→ (arrow)/ Ⓢ (enter) buttons** (page 22)
- 9 MENU button** (page 22)
- 10 ASPECT button** (page 19)
- 11 COLOR SPACE button** (page 28)
- 12 COLOR TEMP button** (page 26)
- 13 GAMMA CORRECTION button** (page 27)
- 14 MOTIONFLOW button** (page 25)
- 15 3D button** (page 17)
- 16 COLOR CORRECTION button** (page 27)
- 17 REALITY CREATION button**  
Not used on this unit.
- 18 CONTRAST ENHANCER button** (page 25)
- 19 SHARPNESS button** (page 26)
- 20 BRIGHTNESS button** (page 25)
- 21 CONTRAST button** (page 25)

# Connections and Preparations

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

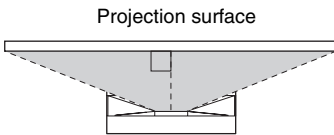
## Installing the Unit

The installation distance between the unit and a projection surface varies depending on the projection size and whether or not you use the zoom features. 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 57).

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

### Top view



- 2 Project an image on the projection surface and adjust the picture so that it fits the projection surface (page 8).

### Notes

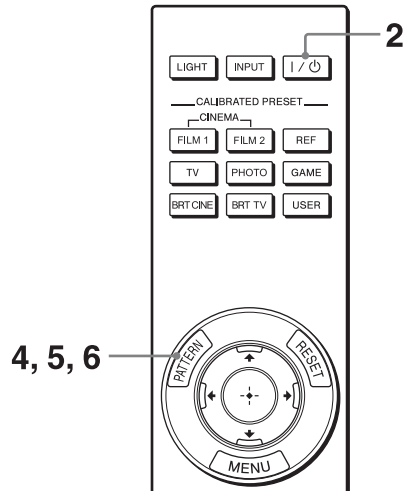
- When using a projection surface with an uneven surface, stripes may rarely appear on the projection surface depending on the distance between the projection surface and the unit or the zooming magnifications. This is not a malfunction of the unit.
- The projection picture may be distorted if the projection surface is not flat.

## Adjusting the Projection Image


Project an image on the projection surface and then adjust the projection image.



Remote control detector

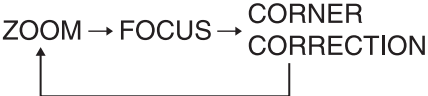


### Tips

- The I/⏻ (ON/STANDBY), INPUT, MENU, and  (joystick) buttons on the front panel of the unit function the same as those on the remote control. The LENS button functions in the same way as the PATTERN buttons of the remote control.



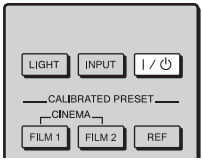
- When adjusting the lens, each time you press the LENS button on the unit, the lens adjustment function switches as follows.



**Note**

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

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

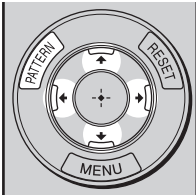
- Use the Picture Position function that matches the projection size. This setting is available in “Picture Position” of the Screen menu (page 30).

Image size (for maximum zoom)	Installation distance (from a projection surface to the rear of the unit)	Destination for adjustment*
147- to 132-inch	11 to 17 cm (4.3 to 6.7 inches)	Picture Position Custom 1
132- to 121-inch	6 to 11 cm (2.4 to 4.3 inches)	Picture Position Custom 2
121- to 113-inch	3 to 6 cm (1.2 to 2.4 inches)	Picture Position Custom 3
113- to 106-inch	0 to 3 cm (0 to 1.2 inches)	Default setting

\* Approximate adjustment value. When the setting is overwritten in “Picture Position” of the Screen menu (page 30), it cannot be returned to the default setting.

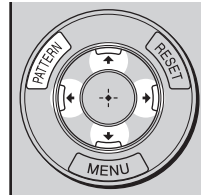
To perform further adjustment or change the image size by using the zoom function, follow the steps **4** to **6**.

- 4 Press the PATTERN button repeatedly to display the ZOOM adjustment window, and 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  $\downarrow/\leftarrow$ .

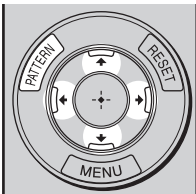
- 6 Press the PATTERN button repeatedly to display the CORNER CORRECTION adjustment window, and adjust the focus and distortion on the top corner of the picture by pressing the  $\uparrow/\downarrow/\leftarrow/\rightarrow$  buttons.



**Tip**

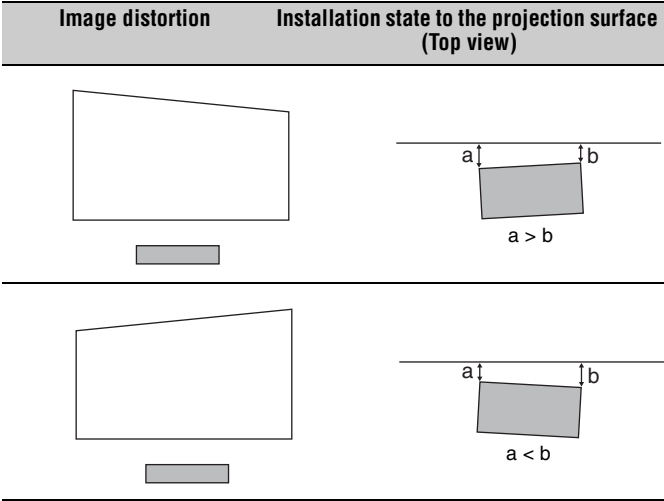
- When “Lens Control” is set to “Off” on the Installation  menu, you cannot adjust the lens (ZOOM, FOCUS, CORNER CORRECTION).
- When “Test Pattern” is set to “Off” on the Function  menu, the test pattern is not displayed (page 35).

- 5 Press the PATTERN button repeatedly to display the FOCUS adjustment window, and adjust the focus of the center of the picture.

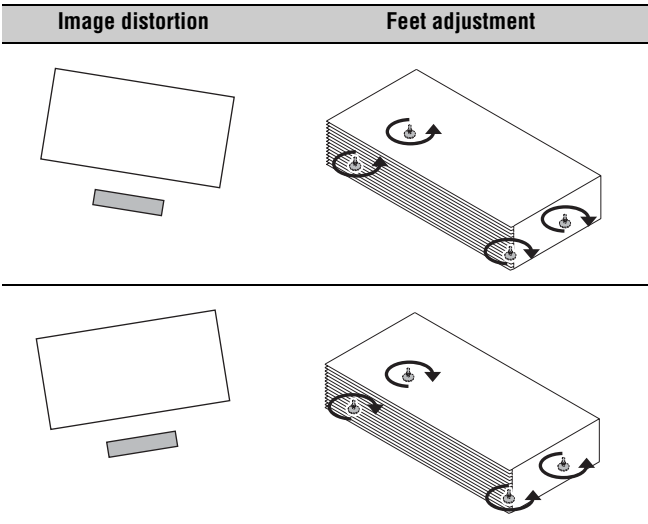


When the display changes to the FOCUS function after adjusting the picture size with the ZOOM function, the focus of the center area is adjusted automatically. For the further adjusting, use the  $\uparrow/\downarrow/\leftarrow/\rightarrow$  buttons.

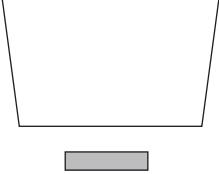
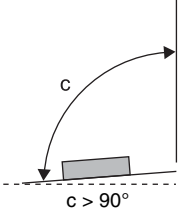
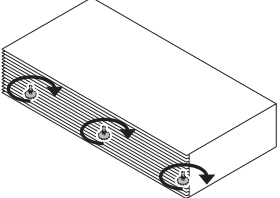

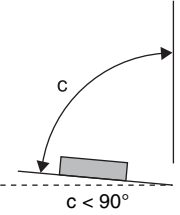
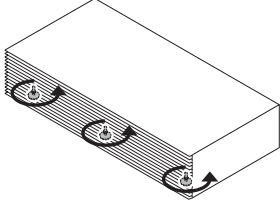
- 7** Check if the upper side and lower side of the picture are parallel.  
 If not, install the unit in a position parallel to the projection surface ( $a=b$ ).



- 8** 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 of adjusting the feet, see page 13.



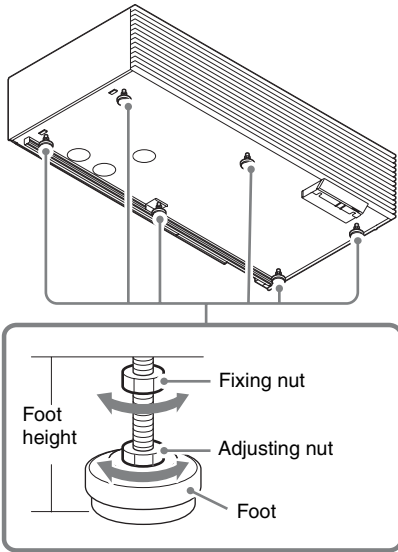
- 9** Check if the left side and right side of the picture are vertical.  
If not, use the foreground feet (adjustable) to keep the unit vertical to the projection surface. For details of adjusting the feet, see page 13.

Image distortion	Installation state to the projection surface (Side view)	Feet adjustment
	 <p><math>c &gt; 90^\circ</math></p>	
	 <p><math>c &lt; 90^\circ</math></p>	

- 10** Repeat steps 4 and 5.  
Make the frame of the projection surface rectangular and parallel to the floor to finish the installation.

## To adjust the feet

You can adjust the height by using the six feet at the bottom of the unit.



- 1** Loosen the fixing nut by turning it to the left when viewed from the top.
- 2** Turn the adjusting nut to adjust the length of the foot.  
 Extending: Turn the adjusting nut to the right (clockwise) when viewed from the top.  
 Contracting: Turn the adjusting nut to the left (counterclockwise) when viewed from the top.
- 3** Tighten the fixing nut by turning it to the right when viewed from the top.

### Tips

- Use the supplied adjustment tool for adjusting the feet.
- The height does not change if you turn the foot.

### Notes

- Be careful not to catch your finger when turning the fixing nut or adjusting nut.
- You can adjust the foot height up to 60 mm. If the foot height is more than 70 mm, the foot may come off and the unit may drop causing an injury.

### Tips

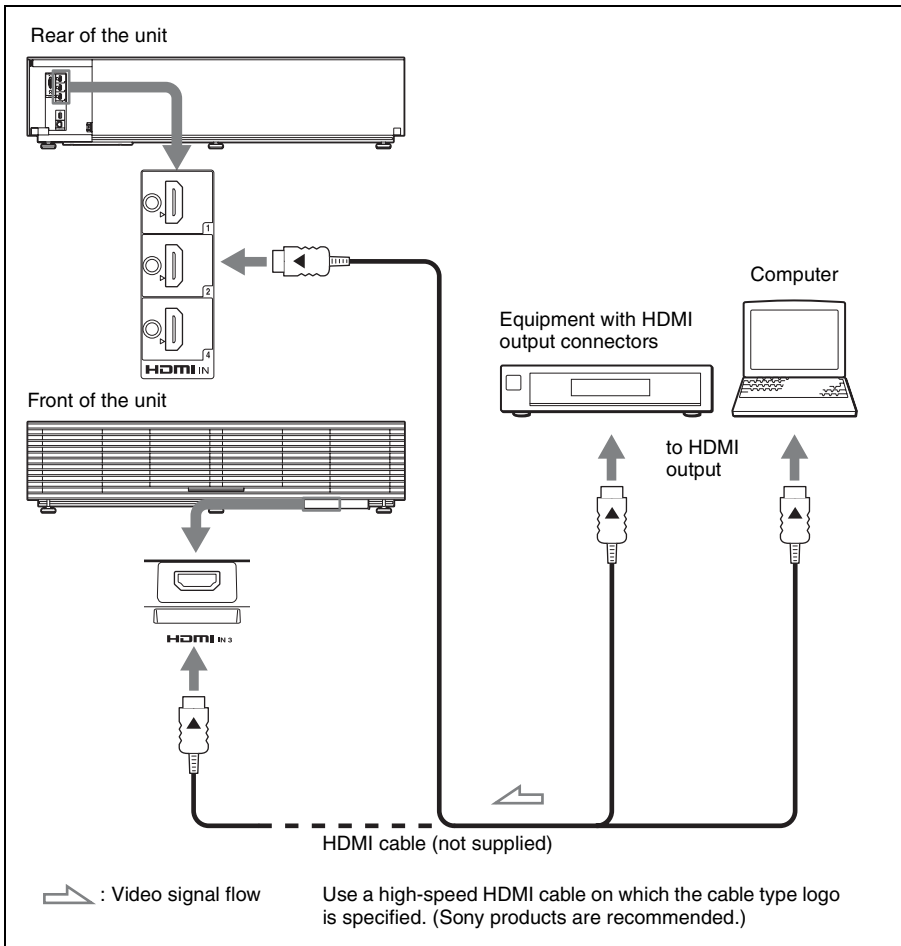
- Note that more detailed adjustment is possible for the Edge Blending function when using multiple units in a line with a PC application.  
 For more details, consult with qualified Sony personnel.
- When multiple projectors are set up in a line, the temperature inside the projectors may increase due to exhaust vent proximity, and an error indication may result.  
 In this case, space the projectors farther apart and/or install deflection partitioning between them.  
 For more details, consult with qualified Sony personnel.

# Connecting to Video Equipment or a Computer

You can enjoy high picture quality by connecting a DVD player/recorder, Blu-ray Disc player/recorder, or PlayStation® equipped with HDMI output to the HDMI input of the unit.

## When making connections, be sure to do the following:

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



## Notes

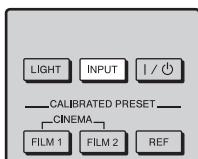
- Use a high-speed HDMI cable. With a standard HDMI cable, images of 1080p, DeepColor, 3D video and 4K video may not be displayed properly.
- When connecting an HDMI cable to the unit, make sure the ▼ mark on the upper part of the HDMI input of the unit and the ▲ mark on the connector of the cable are faced at each other.
- If the picture from equipment connected to the unit with an HDMI cable is not correct, check the settings of the connected equipment.
- If you set your computer to output the signal to both the computer's display and this equipment, the picture of the equipment may not appear properly. Set your computer to output the signal to only the external monitor. For details, refer to the operating instructions supplied with your computer. For settings of the computer, consult with the manufacturer of the computer.

# Projecting

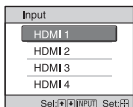
This section describes how to operate the unit to view a picture from the equipment connected to the unit. It also describes how to adjust the quality of the picture to suit your taste.

## Projecting the Picture

- 1 Turn on both the unit and the equipment connected to the unit.
- 2 Press INPUT to display the input palette on the projection surface.





- 3 Select the equipment from which you want to display images. Press INPUT repeatedly or press **↑/↓/↶/↷** (enter) to select the equipment from which to project.



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

### Tips


- When “Status” is set to “Off” on the Setup  menu, the input palette does not appear. Press the INPUT button to switch between input terminals sequentially.
- You can change the language for the menu and on-screen displays in “Language” on the Setup  menu (page 32).

## Turning Off the Power

- 1 Press the **I/O** (ON/STANDBY) button.  
The message “POWER OFF?” appears.
- 2 Press the **I/O** (ON/STANDBY) button again before the message disappears.  
The LED indicator turns off.

You can disconnect the AC power cord.

### Notes

- Never disconnect the AC power cord while the unit is turned on.
- The LED indicator does not change when “Illumination” is set to “Off” on the Installation  menu,

You can turn off the unit by holding the **I/O** (ON/STANDBY) button for about 1 second, instead of performing the above steps.



# Watching 3D Video Images

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

- 1 Turn on the HDMI equipment for 3D compatibility connected to the unit, then play the 3D content.  
For details on how to play 3D content, refer to the operating instructions for the connected equipment.
- 2 Turn on the unit and project the 3D video image.  
For details on how to project the image, see “Projecting the Picture” (page 16).
- 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 17).

## 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 34).

## Notes

- It may not be possible to display 3D video image, depending on the type of signal. Set the “2D-3D Display Sel.” to “3D,” and “3D Format” to “Side-by-Side” or “Over-Under” to suit the format of the 3D content you want to watch (page 34).
- Use the 3D glasses within the communication range (page 17).
- 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 34).

## Using the 3D Glasses

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

## Precautions for use

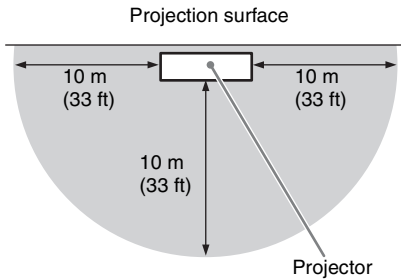
Misoperation may occur if:

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

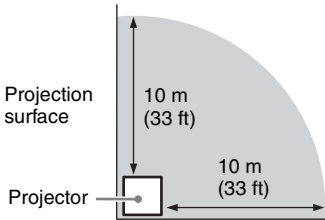
## 3D glasses communication range

The following figure indicates the communication range of the 3D glasses. If you try to watch 3D video images from a distance greater than the communication range or install the unit outside the communication range, the 3D glasses may not be able to display the images properly. Also, the distance varies depending on the environment of the room and installation environment of the unit.

## Top view




## Side view



# Using the Picture Position


You can recall the stored lens settings (lens zoom, lens focus, lens corner correction) and aspect ratio.

Use this function for changing projection image size of multiple pictures, etc.

- 1 Select “Custom 1”, “Custom 2”, or “Custom 3” in “Picture Position” of the Screen  menu.

The picture position that you selected is recalled.

### Tip

Store or delete the lens settings in the “Picture Position” of the Screen  menu (page 30).

### Notes

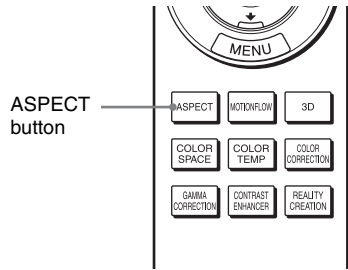
- If you press any button on the remote control or the unit while the lens is moving, the lens stops. In this case, select the lens position again or adjust the lens manually.
- The Picture Position function is not guaranteed to reproduce the lens settings precisely.
- When you use the subtended angle of two or more aspects using lens zoom, install the unit within the specified parameters referring to “Installation Distance and Projection Image Size” (page 57).

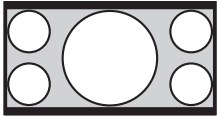

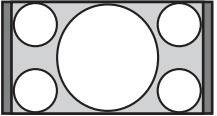

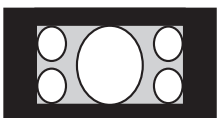
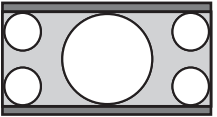
# Selecting the Aspect Ratio According to the Video Signal

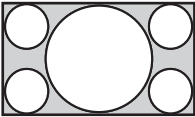
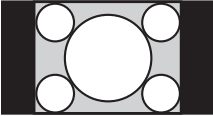
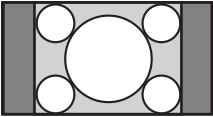
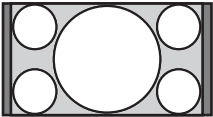
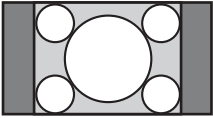
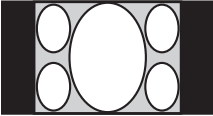
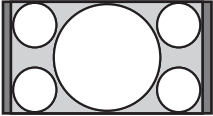
You can select an aspect ratio best suited for the video signal received.

Press ASPECT.


Each time you press the button, you can select the "Aspect" setting. You can also select it using the menu (page 31).



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 data-bbox="281 288 394 309">1.78:1 (16:9)</p>  <p data-bbox="286 459 388 480">1.33:1 (4:3)</p>  <p data-bbox="213 628 461 649">1.33:1 (4:3) with side panels</p>	<p data-bbox="754 129 820 150">Normal</p>  
 <p data-bbox="292 842 383 863">Squeezed</p>	<p data-bbox="754 683 820 703">Stretch</p> 

### Notes

- Selectable aspect modes vary depending on the input signal (page 55).
- The aspect cannot be selected when a computer signal is input, a signal with a resolution of  $4096 \times 2160$  is input (page 50), or “V Keystone” is set to other than “0” on the Installation  menu.

### Notes on switching the “Aspect” setting

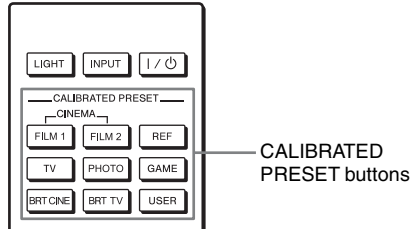
- Select the aspect mode taking into account that changing the aspect ratio of the original picture will provide a different look from that of the original image.
- Note that if the unit is used for profit or for public viewing, modifying the original picture by switching the aspect may constitute an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

# Selecting the Picture Viewing Mode

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

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

Press one of the CALIBRATED PRESET buttons.



Setting items	Description
CINEMA FILM 1	Picture quality suited to reproducing the highly dynamic and clear images typical of master positive film.
CINEMA FILM 2	Picture quality suited to reproducing the rich tone and color typical of a movie theater, based on the tones changed for 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"

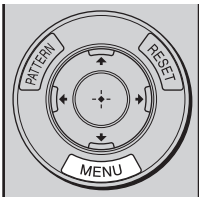
# Using the Menu

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

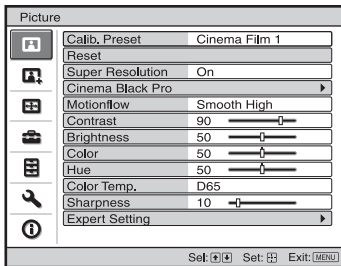
## Operation through the Menu

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

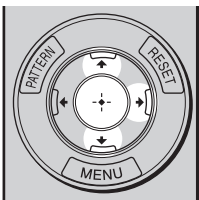
1 Press MENU.



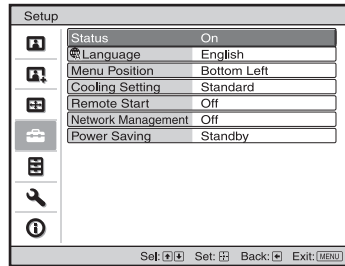
The menu window appears.



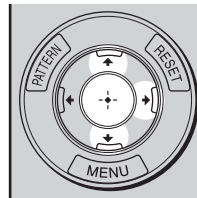
2 Press ↑/↓ to select a menu item, and press → or ◂.



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

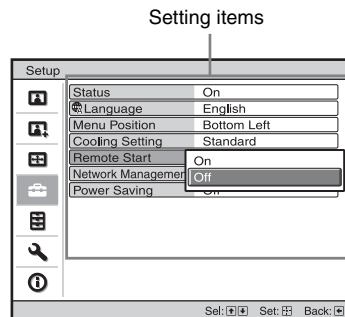


3 Press ↑/↓ to select an item you want to set or adjust and press → or ◂.

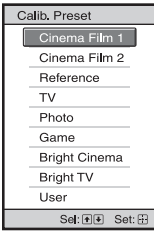


The setting items are displayed in a pop-up menu, in a setting menu, in an adjustment menu or in the next menu window.

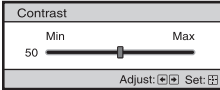
### Pop-up menu



## Setting menu



## Adjustment menu



## Next menu window



- 4 Make the setting or adjustment of an item.

### When changing the adjustment level

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

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

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

### When changing the setting

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

Press  $\odot$  to restore the original screen.

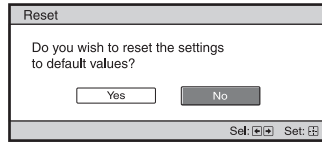
You can restore the original screen using  $\leftarrow$  depending on the selected item.

## 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  $\leftarrow$  and press  $\odot$ .

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

"Super Resolution," "Cinema Black Pro,"

"Motionflow," "Contrast," "Brightness,"

"Color," "Hue," "Color Temp.,"

"Sharpness," and "Expert Setting" on the Picture menu

## To reset the items that have been adjusted

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

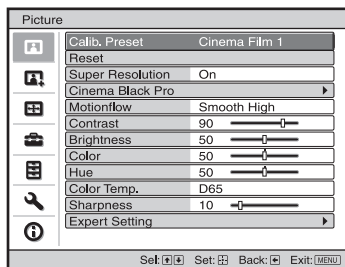
Press RESET on the remote control to reset only the selected settings to its factory preset value.

### Note

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

# Picture Menu

The Picture menu is used for adjusting the picture.



## Note

These items may not be available, depending on the type of input signal. For details, see “Input Signals and Adjustment/Setting Items” (page 52).

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><b>Cinema Film 1:</b> Picture quality suited to reproducing the highly dynamic and clear images typical of master positive film.</p> <p><b>Cinema Film 2:</b> Picture quality suited to reproducing the rich tone and color typical of a movie theater, based on the tones changed for Cinema Film 1.</p> <p><b>Reference:</b> 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><b>TV:</b> Picture quality suited for watching TV programs, sports, concerts, and other video images.</p> <p><b>Photo:</b> Ideal for projecting still images taken with a digital camera.</p> <p><b>Game:</b> Picture quality suited to gaming, with well-modulated colors and fast response.</p> <p><b>Bright Cinema:</b> Picture quality suited for watching movies in a bright environment, such as a living room.</p> <p><b>Bright TV:</b> Picture quality suited for watching TV programs, sports, concerts, and other video images in a bright environment, such as a living room.</p> <p><b>User:</b> 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><b>Tip</b></p> <p>Any adjustments to picture quality settings are saved for each input.</p>



Setting items	Description
Reset	Resets all currently selected Calib. Preset mode settings to their default values (page 23).  <b>Tip</b> Reset does not affect settings saved for the Custom 1 to 5 items of “Color Temp.”
Super Resolution	Adjusts the resolution of images. <b>On:</b> Adjusts the settings of the resolution. When you increase the setting value, the texture and detail of the picture become sharper. <b>Off:</b> The “Super Resolution” function is not applied.
Cinema Black Pro	
Laser Light Setting	<b>Dynamic Control:</b> Adjusts the range of movement of the laser light control. <b>Full:</b> 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. <b>Limited:</b> Suppresses the movement and brightness of the laser light control, making the picture quality suitable for viewing in a dark room. <b>Off:</b> The “Dynamic Control” function is not applied. <b>Output:</b> The higher the setting, the brighter the picture. The lower the setting, the darker the picture.  <b>Tip</b> After adjusting “Output,” set “Dynamic Control” according to the brightness of the room and the picture itself.
Contrast Enhancer [CONTRAST ENHANCER]	Corrects the level of bright and dark parts automatically to optimize contrast according to a scene. Increases image sharpness and makes image dynamic. <b>High/Middle/Low:</b> You can adjust the contrast enhancer. <b>Off:</b> The contrast enhancer function is not applied.
Motionflow [MOTIONFLOW]	<b>Smooth High:</b> Provides smoother picture movement; especially effective for film-based content. <b>Smooth Low:</b> Provides smoother picture movement for standard use. <b>Impulse:</b> Reproduces original picture quality. Provides cinema-like picture, which may flicker. <b>Combination:</b> Reduces motion blur while maintaining brightness for high-speed picture content. <b>True Cinema:</b> Images, such as a movie created in 24 frames per second, are reproduced at the original framerate. <b>Off:</b> The “Motionflow” function is not applied.  <b>Tips</b> <ul style="list-style-type: none"> <li>• Select “Off” if the selected “Smooth High,” “Smooth Low,” “Impulse,” “Combination,” or “True Cinema” results in a distorted picture.</li> <li>• Depending on the picture content, you may not see the effect visually even if you have changed the settings.</li> <li>• Only “Off” or “Impulse” is available when a signal with a resolution of 4096 × 2160 or 3840 × 2160 is input.</li> </ul>
Contrast [CONTRAST]	Adjusts the contrast. Higher values increase the sharpness in images, while lower values decrease the sharpness.
Brightness [BRIGHTNESS]	Adjusts the brightness of the picture. The higher the setting, the brighter the picture. The lower the setting, the darker the picture.

Setting items	Description
Color	Adjusts the color density. The higher the setting, the greater the intensity. The lower the setting, the lower the intensity.
Hue	Adjusts the color tone. The higher the setting, the more greenish the picture becomes. The lower the setting, the more reddish the picture becomes.
Color Temp. [COLOR TEMP]	Adjusts the color temperature. <b>D93:</b> Equivalent to 9,300 K color temperature normally used in TVs. Gives white colors a blue tint. <b>D75:</b> Equivalent to 7,500 K color temperature used as an ancillary standard illuminant. Gives a neutral tint between “D93” and “D65.” <b>D65:</b> Equivalent to 6,500 K color temperature used as a standard illuminant. Gives white colors a red tint. <b>D55:</b> Equivalent to 5,500 K color temperature used as an ancillary standard illuminant. Gives white colors an even redder tint. <b>Custom 1 to 5:</b> Enables you to adjust, set, and store your favorite color temperature. The factory default settings are as follows. <b>Custom 1:</b> Same as the “D93” color temperature setting. <b>Custom 2:</b> Same as the “D75” color temperature setting. <b>Custom 3:</b> Same as the “D65” color temperature setting. <b>Custom 4:</b> Same as the “D55” color temperature setting. <b>Custom 5:</b> Setting that prioritizes brightness.
Sharpness [SHARPNESS]	Sharpens the outline of the picture, or reduces the noise. The higher the setting, the sharper the picture. The lower the setting, the softer the picture, thus reducing the noise.
Expert Setting	
NR (Noise Reduction)	Reduces the roughness or noise of the picture. <b>Auto:</b> Detects the noise level to reduce the roughness or noise of the picture automatically. <b>High/Middle/Low:</b> Select a setting according to the roughness or noise of the input signal source. <b>Off:</b> The NR (noise reduction) function is not applied.  <b>Tip</b> The noise level may not be detected accurately with “Auto” depending on the input signal source. If the picture is unacceptable with “Auto,” select a setting from among “High,” “Middle,” “Low” or “Off.”
MPEG NR (MPEG Noise Reduction)	Reduces block noise and mosquito noise, particularly in digital signals. <b>Auto:</b> Detects the noise level to reduce the block noise and mosquito noise of the picture automatically. <b>High/Middle/Low:</b> Select a setting according to the block noise and mosquito noise of the input signal source. <b>Off:</b> The MPEG NR (MPEG noise reduction) function is not applied.  <b>Tip</b> The noise level may not be detected accurately with “Auto” depending on the input signal source. If the picture is unacceptable with “Auto,” select a setting from among “High,” “Middle,” “Low” or “Off.”
Smooth Gradation	Smooths the gradation of the flat parts of images. <b>High/Middle/Low:</b> You can adjust the smooth gradation effect. <b>Off:</b> The smooth gradation function is not applied.

Setting items	Description
Film Mode	<p>According to the film source you have selected, make a setting for playback.</p> <p><b>Auto:</b> Suitable for reproducing the original picture movement. Normally, set this to “Auto.”</p> <p><b>Off:</b> Plays back the picture in progressive format without detecting video signals automatically.</p>
Gamma Correction [GAMMA CORRECTION]	<p>Adjusts the response characteristics of the tone of the picture. Select a favorite tone from 10 options.</p> <p><b>1.8:</b> Bright Produces a brighter picture overall.</p> <p><b>2.0</b></p> <p><b>2.1</b> ↑</p> <p><b>2.2</b> ↓</p> <p><b>2.4</b></p> <p><b>2.6:</b> Dark Produces a darker picture overall.</p> <p><b>Gamma 7:</b> Simulates the gamma curve of film.</p> <p><b>Gamma 8:</b> Increases the sharpness in images. Select this when you watch in a bright environment, such as a living room.</p> <p><b>Gamma 9:</b> Produces a brighter picture than Gamma 8.</p> <p><b>Gamma 10:</b> Increases the sharpness in images. Select this when you watch TV programs, etc., in a bright environment, such as a living room.</p> <p><b>Off:</b> The “Gamma Correction” function is not applied.</p>
Color Correction [COLOR CORRECTION]	<p><b>On:</b> Adjusts Hue, Saturation and Brightness of the selected colors. 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="527 770 801 896" data-label="Image"> </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><b>Off:</b> The “Color Correction” effect is not applied.</p>
Clear White	<p>Emphasizes vivid whites.</p> <p><b>High/Low:</b> You can adjust the “Clear White” effect.</p> <p><b>Off:</b> 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><b>On:</b> You can play back an x.v.Color video signal.</p> <p><b>Off:</b> The “x.v.Color” function is not applied.</p> <p>For details on x.v.Color, see “About x.v.Color” (page 47).</p> <p><b>Tip</b> Setting x.v.Color to “On” disables gamma adjustment.</p>

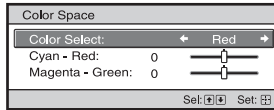
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Setting items	Description
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Color Space  
[COLOR SPACE]

Converts the color space.  
**BT.709:** An ITU-R BT.709 color space, which is used for high-definition television broadcast or Blu-ray Disc. The color space is equivalent to sRGB.  
**Color Space 1:** The color space suited for watching TV programs and video images, such as sports, concerts, etc.  
**Color Space 2:** The color space suited for watching TV programs, sports, concerts, and other video images in a bright environment, such as a living room.  
**Color Space 3:** The color space suited for watching movies in a bright environment, such as a living room.  
**Custom:** You can adjust the color space setting.



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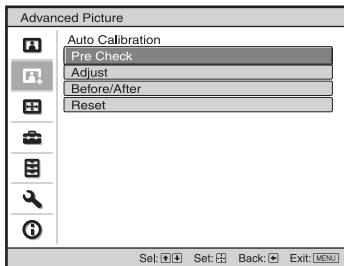
Input Lag  
Reduction

Reduces the delay of the display for a video.  
**On:** Reproduces a smooth fast-moving video image with a reduced sense of afterimage.  
**Off:** Turns the Input Lag Reduction function off.  
**Tip**  
When “Input Lag Reduction” is set to “On,” Motionflow, NR, and MPEG NR cannot be set.

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# Advanced Picture Menu

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



Setting items	Description
Auto Calibration	<p><b>Pre Check:</b> Checks the color difference against the factory default settings, before calibration starts.</p> <p><b>Adjust:</b> Performs Auto Calibration.</p> <p><b>Before/After:</b> 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.</p> <p><b>Reset:</b> Resets the calibration results, and returns to the factory default settings.</p>

## Notes

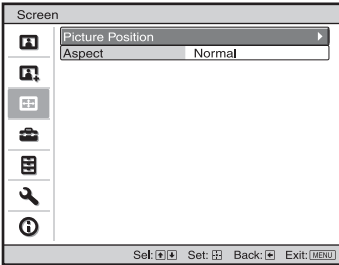
- Auto Calibration results in relatively coarse calibration. The color settings are not guaranteed to be the same as the factory default values.
- The colors are projected automatically while performing “Pre Check” or “Adjust.” A similar phenomenon may occur infrequently while the power is off to adjust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

## Tips

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

# Screen Menu

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




## Note

These items may not be available, depending on the type of input signal. For details, see “Input Signals and Adjustment/Setting Items” (page 52).

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

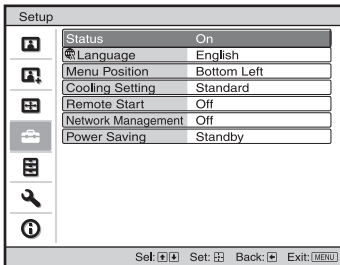
Setting items	Description
Picture Position	<p>You can store up to five combinations of lens settings and aspect ratios. After setting the lens and aspect, select from “1.85:1,” “2.35:1,” “Custom 1,” “Custom 2” or “Custom 3” depending on the subtended screen angle, and after confirming, continue by selecting “Save,” “Delete,” or “Select.”</p> <p><b>Save:</b> Stores the current lens settings (lens zoom, lens focus, lens corner correction) in the selected position. If a setting is already stored in that position, it is overwritten.</p> <p><b>Delete:</b> Deletes the stored setting. After the setting is deleted, “1.85:1,” “2.35:1,” “Custom 1,” “Custom 2,” or “Custom 3” in the display changes to “---.”</p> <p><b>Select:</b> Recalls the settings of the selected position.</p> <p><b>Tip</b></p> <p>The optimal aspect ratio is preset for each picture position. The aspect ratio can be changed and saved for each picture position.</p> <p><b>Notes</b></p> <ul style="list-style-type: none"><li>• If you press any button on the unit while the lens is moving, the lens stops. In this case, select the lens position again or adjust the lens manually.</li><li>• When you use a 2.35:1 or a 16:9 subtended angle with the Picture Position function, make sure that the installation position is suitable (page 18).</li><li>• The Picture Position function is not guaranteed to reproduce the lens settings precisely.</li></ul>

Setting items	Description
Aspect [ASPECT]	<p>You can set the aspect ratio of the picture to be displayed for the current input signal (page 19).</p> <p><b>1.85:1 Zoom:</b> 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><b>2.35:1 Zoom:</b> 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><b>Normal:</b> 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><b>Stretch:</b> Displays video that has been squeezed to 1.33:1 (4:3) as 1.78:1 (16:9) aspect ratio.</p> <p><b>Tips</b></p> <ul style="list-style-type: none"> <li>• Selectable aspect modes vary depending on the input signal (page 55).</li> <li>• The aspect cannot be selected for an input signal from a computer or an input signal with a resolution of 4096 × 2160, or when “V Keystone” on the Installation  menu is set to other than 0 (pages 50, 51, 55).</li> </ul>



# Setup Menu

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



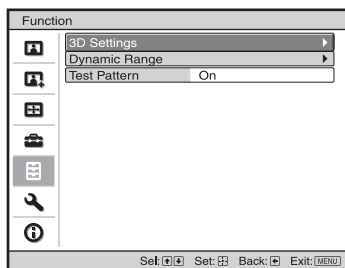
Setting items	Description
Status	<p>Sets whether or not on-screen messages or menus, etc. are displayed.</p> <p><b>On:</b> Displays on-screen messages and menus.</p> <p><b>Off:</b> Turns off the on-screen displays, other than certain menus, a message when turning off the power, and warning messages.</p> <p><b>All Off:</b> Turns off the on-screen displays, other than certain menus, and a message when turning off the power.</p> <p><b>Notes</b></p> <ul style="list-style-type: none"><li>• When “All Off” is selected, warning message for high temperature is not displayed.</li><li>• Note that Sony is not liable for failure of the unit or any accident caused by selecting “All Off.”</li></ul>
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><b>Bottom Left:</b> Displays the menu on the bottom left area of the projection surface.</p> <p><b>Center:</b> Displays the menu on the center of the projection surface.</p>
Cooling Setting	<p>Sets the unit to operate at the prevailing atmospheric pressure.</p> <p><b>High:</b> Use this setting when using the unit at an altitude of 1,500 m (approx. 4,900 ft) or higher.</p> <p><b>Standard:</b> Use this setting when using the unit at normal altitudes.</p> <p><b>Tip</b></p> <p>When this item is set to “High,” the fan noise becomes slightly louder since the fan speed increases.</p>



Setting items	Description
Remote Start	<p>Sets the Remote Start settings.</p> <p><b>On:</b> You can turn on the power from a PC or a terminal which is connected to a network.</p> <p><b>Off:</b> Turns off the Remote Start function.</p> <p><b>Tips</b></p> <ul style="list-style-type: none"> <li>• To use the function, the unit should be connected to the network in advance (page 38).</li> <li>• 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.</li> </ul> <p><b>Note</b></p> <p>When the Remote Start is set to “On,” the standby power requirement will increase. When Network Management is set to “On,” the Remote Start setting is set to “Off” automatically, and you cannot change the setting.</p>
Network Management	<p><b>On:</b> Set when connected to the network and continuously communicating with the projector control equipment.</p> <p><b>Note</b></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><b>Standby:</b> If no signal is input for 10 minutes, power is turned off automatically and the projector goes into standby mode.</p> <p><b>Off:</b> Disables the Power Saving function.</p>

# Function Menu

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

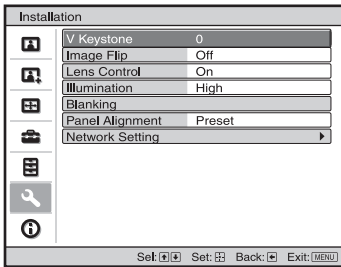




Setting items	Description
3D Settings	You can change the settings of the 3D function.
2D-3D Display Sel.	<p>For Switching the video images to “2D” or “3D.”</p> <p><b>Auto:</b> Displays 3D video images when HDMI signals with 3D information* are input. Displays 2D video images when other signals are input.</p> <p><b>3D:</b> 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><b>2D:</b> 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><b>3D Format:</b> Set the 3D system when the input HDMI signals do not include 3D information.</p> <p><b>Simulated 3D:</b> 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><b>Side-by-Side:</b> Select this to display 3D images as two similar images, side-by-side.</p> <p><b>Over-Under:</b> Select this to display 3D images as two similar images, one above the other.</p> <p><b>Tips</b></p> <ul style="list-style-type: none"> <li>• “2D-3D Display Sel.” cannot be set to “3D” for some video sources. For available 3D signals, see “Compatible 3D Signals” (page 53).</li> <li>• The simulated 3D feature may have limited effect, depending on the projection image size (100 to 120 inches recommended) and the video source.</li> <li>• The menu display has a ghost while a 3D video image is displayed and is best viewed with the 3D glasses.</li> </ul>

Setting items	Description
3D Brightness	For adjusting the brightness of the picture when watching 3D video images. You can select the brightness from “High” or “Standard.”
3D Depth Adjust	For adjusting the depth of the 3D video images on the projection surface. The setting can be made only when a 3D Format other than “Simulated 3D” is selected.  Depth    -2    -1    0    +1    +2 Front ←    Normal    → Depth  We recommend that “3D Depth Adjust” be set to “0.” The 3D video images may be difficult to perceive, depending on the setting of “3D Depth Adjust.”
Simulated 3D Effect	For adjusting the 3D effect when 2D content is converted to 3D video images. You can select the effect from among “High,” “Middle,” and “Low.”  <b>Tip</b> There are differences in perception of 3D video images converted by the simulated 3D function among individuals.
Dynamic Range	Sets the video input level for HDMI 1, 2, 3, and 4 connectors. <b>Auto:</b> Sets the video input level automatically. <b>Limited:</b> The video input level is set for signals of 16-235. <b>Full:</b> The video input level is set for signals of 0-255.  <b>Note</b> 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.
Test Pattern	Displays a test pattern according to the setting. <b>On:</b> A test pattern appears on the screen to be used when adjusting the lens with “Lens Focus,” “Lens Zoom,” and “Lens Corner Correction.” <b>Off:</b> A test pattern does not appear.  <b>Tip</b> While the test pattern is displayed, it is only displayed in green to allow you to adjust the focus easily.

# 🔧 Installation Menu

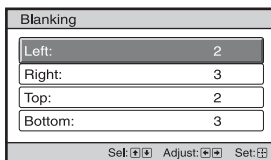
The Installation menu is used for changing the installation settings.



Setting items	Description
V Keystone	<p>Corrects the vertical trapezoidal distortion of the picture. <b>When the bottom of the trapezoid is longer than the top</b> (  ): Sets a lower value (– direction). <b>When the top of the trapezoid is longer than the bottom</b> (  ): Sets a higher value (+ direction).</p> <p><b>Note</b></p> <p>Depending on the picture position adjusted with the CORNER CORRECTION feature, the aspect ratio of the picture may change from the original or picture distortion may occur with V Keystone adjustment.</p>
Image Flip	<p>Flips the picture on the screen horizontally and/or vertically. <b>HV</b>: Flips the picture horizontally and vertically. <b>H</b>: Flips the picture horizontally. <b>V</b>: Flips the picture vertically. <b>Off</b>: The picture does not flip. Use this item for installation for the backside projection or ceiling installation.</p>
Lens Control	<p>Avoids any operation of the lens such as “Lens Zoom,” “Lens Focus,” and “Lens Corner Correction,” by mistake. <b>On</b>: Enables adjustment of the lens. <b>Off</b>: Prevents any adjustment of the lens.</p>
Illumination	<p>Changes the brightness of the LED indicator. <b>High</b>: The LED indicator lights brightly. <b>Low</b>: The LED indicator lights not so brightly. <b>Off</b>: The LED indicator does not light normally.</p>

Setting items	Description
---------------	-------------

**Blanking** This feature allows you to adjust the displayable region within the four directions of the projection surface. Select the edge to adjust by highlighting Left, Right, Top, or Bottom using the  $\uparrow/\downarrow$  buttons. Adjust the amount of blanking using the  $\leftarrow/\rightarrow$  buttons.



**Tip** Depending on the aspect ratio setting, right/left blanking may not be available.

**Panel Alignment** This feature allows you to adjust the gaps in the color of characters or the picture on the projection surface. **Adjust:** Adjusts the gaps in the colors selecting "Adjust Item" or "Adjust Color."

**Adjust Item:** Selects how to make adjustments from below.

**Shift:** Shifts the whole picture and makes adjustments.

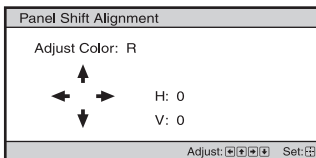
**Zone:** Selects the desired range and makes adjustments.

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

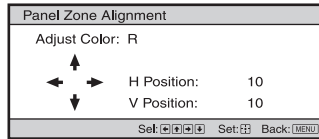
**Pattern Color:** Select "R/G" (Red and Green) or "R/G/B" (White, all colors) when "Adjust Color" is "R" (Red). Select "B/G" (Blue and Green) or "R/G/B" (White, all colors) when the "Adjust Color" is "B" (Blue).

**Adjust:** The shift adjustment and zone adjustment of the color selected in "Adjust Color" can be made with the  $\leftarrow/\rightarrow$ ,  $\uparrow/\downarrow$  buttons.

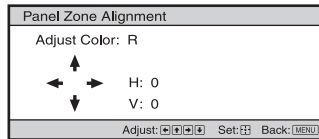
When "Shift" is selected: Assign the settings of the horizontal direction (H) with the  $\leftarrow/\rightarrow$  buttons and the vertical direction (V) with the  $\uparrow/\downarrow$  buttons on the shift adjustment screen.



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



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



**Reset:** Returns to the factory settings.

**Preset:** The optimized data has been preset.

#### Note

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

### Network Setting

Perform internet protocol settings.

#### IPv4 Setting

**IP Address Setup:** Selects the IP address setting method.

**Auto (DHCP):** The IP address is assigned automatically from the DHCP server such as a router.

**Manual:** Specifies the IP address manually.

When “Manual” is selected for “IP Address Setup,” select the item with the ←/→ buttons and input the value with the ↑/↓ buttons.

When all items are entered, select “Apply,” and then press the (↕) button. The entered settings will be registered.

**IP Address:** Sets the unit’s IP address.

**Subnet Mask:** Sets the unit’s subnet mask.

**Default Gateway:** Sets the unit’s default gateway.

**MAC Address:** Displays the unit’s MAC address. This cannot be changed.

**Apply:** Enables the IP address that is set manually.

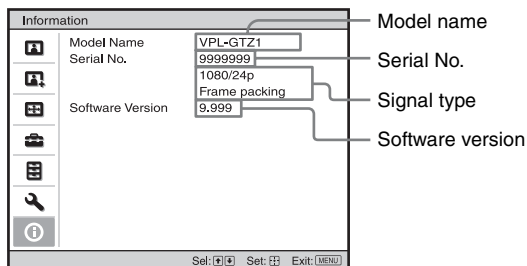
#### IPv6 Information

Displays the IPv6 information.

When you set the IPv6 IP address, set it on a Web browser (page 40).

# 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 type of the input signal. 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.

## Note

You cannot adjust or change the displays listed above.

## About the Preset Memory

This unit has default image data to adjust preset data for input signals appropriately according to the signals shown in “Preset Signals” (page 50) (the preset memory). When the preset signal is input, the unit automatically detects the signal type and recalls the data for the signal from the preset memory to adjust it to an optimum picture. The signal type is displayed in the Information  menu.

## Note

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

# Using Network Features

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

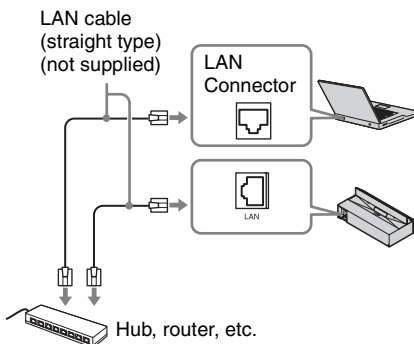
- Checking the current status of the unit via a Web browser.
- Making the network settings for the unit.
- Network monitoring and controlling with control protocol (SDAP [Advertisement], SDCP [PJ Talk], DDDP [AMX], Crestron RoomView, Control4).

## Notes

- When connecting this projector with the network, consult with the network administrator. The network must be secured.
- When using this projector connected with the network, access the Control window via a Web browser and change the access limitation of the factory preset values (page 41). It is recommended to change the password regularly.
- When the setting on the Web browser is completed, close the Web browser to log out.
- The menu displays used for the explanation below may be different depending on the model you are using.
- Supported Web browsers are Internet Explorer 8/9/10/11.
- The menu displays only English.
- If the browser of your computer is set to [Use a proxy server] when you have access to the unit from your computer, click the check mark to set accessing without using a proxy server.
- AMX DDDP is not compatible with IPv6.
- These network functions are available when the unit is turned on.

## Displaying the Control Window of the Unit with a Web Browser

- 1 Connect the LAN cable.



- 2 Set the network settings for the unit using “Network Setting” on the Installation menu (page 38).

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

`http://xxx.xxx.xxx.xxx`

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

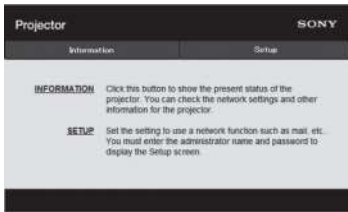
### When connecting by the IPv6 address

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

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



The following window appears in the Web browser:



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



Entry area for [Administrator]

Entry area for [User]

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

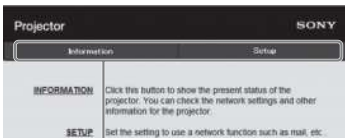
### Note

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

## Operating the Control Window

### Switching the Page

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



Page Switching buttons

### Setting the Access Limitation

You can limit a user for accessing any particular page.

**Administrator:** Allowed access to all pages

**User:** Allowed access to all pages except the Setup page

Set under [Password] of the Setup page. When you access the Setup page for the first time, enter “root” for user name and enter “Projector” for password. The name of the administrator is preset to “root.”

### Confirming the Information Regarding the Unit

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




Information area



## Troubleshooting


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

### Power


Symptom	Cause and Remedy	Page
The power is not turned on.	Check the LED indicators.	45
	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.”	33
	Set “Power Saving” to “Off.”	33

### Picture

Symptom	Cause and Remedy	Page
No picture.	Check that the connecting cable is connected to the external equipment properly.	14
	Depending on the external equipment or connecting cable, the unit may not function correctly via the HDMI 4 connector. In this case, use the HDMI 1/HDMI 2/HDMI 3 connector, then select the input.	–
	Select the input source correctly using the INPUT button.	16
The picture has ghosts.	Check that the computer signal is set for output to an external monitor.	–
	If a notebook computer and the signal is output to its display and an external monitor, the external monitor’s image may not be displayed correctly. Set your computer to output the signal to only an external monitor.	–
The picture has ghosts.	Video images are displayed in 3D. Watch the 3D video images using the 3D glasses, and set “2D-3D Display Sel.” to “3D.” To convert 3D video images to 2D video images, set “2D-3D Display Sel.” to “2D.”	17, 34
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.	35
The picture is too dark.	Adjust “Contrast” or “Brightness” on the Picture  menu properly.	25
The picture is not clear.	Adjust the focus and corner correction of the picture.	10
	Condensation has accumulated on the lens. Leave the unit for about 4 hours with the power on.	–

Symptom	Cause and Remedy	Page
The color of characters or the picture is not appropriate.	Select the desired color registration in “Panel Alignment” on the Installation  menu.	37
Image is left on the projection image. (Image retention)	When high contrast non-moving images are displayed for a long period of time, there may be some image retention on the projection image. This is only a temporary condition. Turning off the power for a while will eliminate the retained image.	–
The picture is distorted.	Check if the installing projecting surface is not distorted.	8
	Install the unit horizontally.	8
	Adjust the picture distortion with the CORNER CORRECTION function.	10

### On-screen display

Symptom	Cause and Remedy	Page
On-screen display does not appear.	Set “Status” on the Setup  menu to “On.”	32


### Remote control

Symptom	Cause and Remedy	Page
The remote control does not work.	Batteries could be weak. Replace them with new batteries.	–
	Insert the batteries with the correct polarities.	–
	If there is a light source near the remote control detector, the unit may work improperly or inadvertently.	–
	Confirm the position of the remote control detector on the unit.	4

### 3D video images

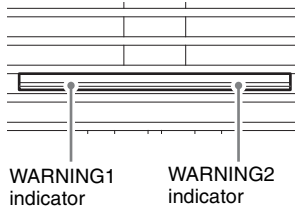
Symptom	Cause and Remedy	Page
The video image does not seem like 3D video images.	Check if the 3D glasses are turned on.	17
	Make sure that the battery in the 3D glasses is sufficiently charged.	–
	Set “2D-3D Display Sel.” to “Auto” or “3D.”	34
	Check if the input signals are compatible 3D signals.	53
	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.	17
	The projection image size is not appropriate. Set the zooming magnification to low or watch the image from farther away from the projection surface.	57
	For details, see “Precautions for use” of “Using the 3D Glasses.”	17

## Others

Symptom	Cause and Remedy	Page
The fan is noisy.	Check the setting of “Cooling Setting” on the Setup  menu.	32
	Make sure that the room temperature is not too high.	–
	Check the installation requirements of the unit. Fan speed increases to maintain the product reliability of the projector’s components in a room where the temperature is higher than normal. The fan noise becomes slightly louder in these rooms. The approximate normal temperature for the unit is 25°C (77°F).	–

# 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
<p>(Flashes in red)</p>	Three times	<p>The temperature of the light source is unusually high. Turn off the power and wait for the light source to cool, then turn on the power again.</p> <p>If the symptom persists, the light source may be at the end of its service life. In this case, consult with qualified Sony personnel.</p>
	Six times	<p>The unit detects a drop impact.</p> <p>If there is abnormality on the unit, consult with qualified Sony personnel.</p> <p>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.</p>
<p>(Flashes in red) (Flashes in red)</p> <p>Both indicators flash</p>	<p>Twice</p> <hr/> <p>Three times</p>	<p>The internal temperature is unusually high. Check to ensure that if nothing is blocking the ventilation holes or whether or not the unit is being used at high altitudes.</p> <hr/> <p>The fan is broken. Consult with qualified Sony personnel.</p>

**Note**


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

# Message Lists

## Warning messages

Symptom	Cause and Remedy	Page
High temp.! Light off in 1 min.	Turn off the power.	–
	Check to ensure that nothing is blocking the ventilation holes.	5
Frequency is out of range!	Frequency is out of range. Input a signal that is within the acceptable frequency range of the unit.	50
Projector temperature is high. Cooling Setting should be “High” if projector is being used at high altitude.	Check to ensure that nothing is blocking the ventilation holes.	5
	When using the unit at high altitude, set “Cooling Setting” to “High.”	32
<p><b>Note</b></p> <p>When temperature inside the unit remains high, “Cooling Setting” is switched to “High” after 1 minute, then the fan speed increases.</p>		
Power Saving Mode is set. Projector will automatically enter Standby Mode in 1 minute.	“Power Saving” is set to “Standby.”	33
	<p><b>Note</b></p> <p>If no signal is input, the power turns off after 1 minute, and the projector goes into standby mode.</p>	

## Caution messages

Symptom	Cause and Remedy	Page
x 	No signal is input in the selected input. Check connections.	14
Not applicable!	Press the appropriate button. The operation to be activated by the button is currently prohibited.	–

## Updating the Software

You can download files to update the software of the unit. Copy the downloaded files to your USB memory, insert the USB memory to the USB terminal of the unit, then perform the update.

To use the features updated, insert a USB memory device into a PC connected to the internet.

Download the update files from the following Sony website:

<http://www.pro.sony.eu/pro/article/projectors-home-cinema-article>

The website also explains how to install the update.

## About x.v.Color

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

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## About the Simulated 3D Feature

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

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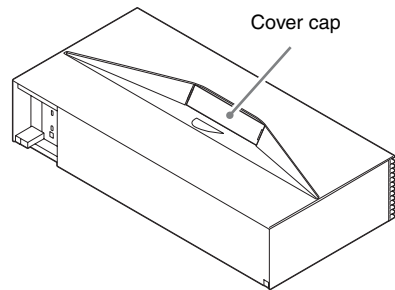
## Cleaning

### Cleaning the cabinet

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

### Cleaning the projection window

When removing dust from the projection window, remove the cover cap.



Clean the glass surface of the projection window with the cover cap removed.

#### **Note**

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



# Specifications

Item	Description	
Display System	Projection system	
Display device	SXRD 0.74-inch (18.8 mm) × 3	
	Number of pixels	4096 × 2160 × 3 pixels
Projection lens	Zoom	Powered (Approx. ×1.6)
	Focus	Powered
	Corner correction adjustment	Powered
Projection image size	66-inch to 147-inch (1,676 mm to 3,734 mm)	
Light source	Laser diode	
Accepted digital signals	See “Preset Signals” (page 50).	
Inputs/Outputs (Video/Audio/ Control)	HDMI Inputs	4
	REMOTE	RS-232C, D-sub 9-pin
	LAN	RJ45, 10BASE-T/100BASE-TX
	IR IN	Mini Jack
	USB	Type A, DC 5 V, Max. 500 mA
Operating temperature (Operating humidity)	5°C to 35°C (41°F to 95°F) (35% to 85% (no condensation))	
Storage temperature (Storage humidity)	–20°C to +60°C (–4°F to +140°F) (10% to 90% (no condensation))	
Power requirements	AC 100 V to 240 V, 5.9 A to 2.5 A, 50/60 Hz	
Power consumption	520 W	
Standby mode power consumption	0.5 W	
Dimensions (W×H×D)	1,100 mm × 265 mm × 535 mm (43.3 inches × 10.4 inches × 21.1 inches)	
	1,250 mm × 265 mm × 535 mm (49.2 inches × 10.4 inches × 21.1 inches) (when the handles are attached)	
Mass	Approx. 50 kg (110 lb 3.7 oz)	
	Approx. 55 kg (121 lb 4.1 oz) (when the handles are attached)	
Supplied accessories	See “Checking the Supplied Accessories” on the Quick Reference Manual.	
Optional accessories	Active 3D Glasses: TDG-BT500A	

## Notes

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

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

## Preset Signals

The following table shows the signals and video formats which you can project using this unit. When a signal other than the preset 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	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 × 720p)	90.000	60.000	–
19	720/50p (Frame packing)	720/50p (1280 × 720p)	75.000	50.000	–
20	1080/24p (Frame packing)	1080/24p (1920 × 1080p)	53.946	23.976	–
26	640 × 480	VESA 60	31.469	59.940	H-NEG, V-NEG
32	800 × 600	VESA 60	37.879	60.317	H-POS, V-POS
37	1024 × 768	VESA 60	48.363	60.004	H-NEG, V-NEG
45	1280 × 960	VESA 60	60.000	60.000	H-POS, V-POS
47	1280 × 1024	VESA 60	63.974	60.013	H-POS, V-POS
50	1400 × 1050	SXGA+	65.317	59.978	H-NEG, V-POS
55	1280 × 768	1280 × 768/60	47.776	59.87	H-NEG, V-POS
71	1920 × 1080/60i (Frame packing)	1080/60i (1920 × 1080i)	67.500	60.000	–
72	1920 × 1080/50i (Frame packing)	1080/50i (1920 × 1080i)	56.250	50.000	–
74	3840 × 2160/60p*	3840×2160/60p (3840 × 2160)	135.000	60.000	–
75	3840 × 2160/50p*	3840 × 2160/50p (3840 × 2160)	112.500	50.000	–
76	4096 × 2160/60p*	4096 × 2160/60p (4096 × 2160)	135.000	60.000	–

Preset memory no.	Preset signal (resolution)		fH (kHz)	fV (Hz)	Sync
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)	56.25	25	–
95	3840 × 2160/30p	3840 × 2160/30p (3840 × 2160)	67.4325	29.97	–
96	4096 × 2160/24p	4096 × 2160/24p (4096 × 2160)	54	24	–

\* Available for YCbCr 4:2:0/8 bit.

## Preset memory numbers for each input signal

### Digital signal

Signal	Preset memory number
Component signal (HDMI 1 to 4 connectors)	5 to 8, 10 to 14, 18 to 20, 71, 72, 74 to 79, 93 to 96
Video GBR signal (HDMI 1 to 4 connectors)	5 to 8, 10 to 14, 18 to 20, 71, 72, 78, 79, 93 to 96
Computer signal (HDMI 1 to 4 connectors)	10 to 13*, 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.



Others

## 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
Super Resolution	●	●	–
Laser Light Setting	●	●	●
Contrast Enhancer	●	●	–
Motionflow	●	●	–
Contrast	●	●	●
Brightness	●	●	●
Color	●	●	–
Hue	●	●	–
Color Temp.	●	●	●
Sharpness	●	●	–
NR	● (excluding preset memory numbers 18 to 20, 71, 72, 74 to 79, and 93 to 96)	● (excluding preset memory numbers 18 to 20, 71, 72, 78, 79, and 93 to 96)	–
MPEG NR	● (excluding preset memory numbers 18 to 20, 71, 72, 74 to 79, and 93 to 96)	● (excluding preset memory numbers 18 to 20, 71, 72, 78, 79, and 93 to 96)	–
Smooth Gradation	● (excluding preset memory numbers 18 to 20, 71, and 72)	● (excluding preset memory numbers 18 to 20, 71, and 72)	–
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, 78, 79, and 93 to 96)	–
Gamma Correction	●	●	●
Color Correction	●	●	●
Clear White	●	●	●
x.v.Color	●	–	–
Color Space	●	●	●

●: Can be adjusted/set

–: Cannot be adjusted/set

## Screen menu


Item	Input signal		
	Component signal	Video GBR signal	Computer signal
Aspect* <sup>1</sup>	● (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 55).

### Note

When connecting a cable such as an HDMI cable, check the type of signal in the Information  menu (page 39) and “Digital signal” (page 51), 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
Super Resolution	●	●	●	●
Laser Light Setting* <sup>1</sup>	●	●	●	●
Motionflow* <sup>2</sup>	●	●	●	●
NR	–	–	–	–
MPEG NR	–	–	–	–
Smooth Gradation	–	–	–	–

Item	3D signals			
	720/60p, 720/50p	1080/60i, 1080/50i	1080/24p	1080/60p, 1080/50p
Film Mode	–	●	–	–
x.v.Color	●	●	●	●
Aspect* <sup>3</sup>	●	●	●	●


●: Can be adjusted/set

–: Cannot be adjusted/set

\*1: “Dynamic Control” cannot be selected.

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

\*3: For further details, refer to the tables in “Aspect Mode” (page 55).

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
Super Resolution	●	●	●
Laser Light Setting* <sup>1</sup>	●	●	●
Motionflow* <sup>2</sup>	●	●	●
NR	–	–	●
MPEG NR	–	–	●
Smooth Gradation	–	–	●
Film Mode* <sup>3</sup>	–	●	●
x.v.Color	●	●	●
Aspect* <sup>4</sup>	●	●	●

●: 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 55).

## 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 50)	76 to 79, 96	74, 75, 93 to 95	7, 8, 10 to 14	5, 6	26, 32, 37, 45, 47, 50, 55
1.85:1 Zoom	–	–	●	●	–
2.35:1 Zoom	–	●	●	●	–
Normal	●* <sup>1</sup>	●	●	●	●* <sup>1</sup>
Stretch	–	–	–	●	–

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

### 3D

Acceptable signals	1920 × 1080, 1280 × 720			
3D format	Side-by-Side	Over-Under	Frame packing	Simulated 3D
Preset memory number (page 50)	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 adjustment/setting item is individually stored for each input connector. For further details, see the tables below.

### Preset memory numbers for each input signal

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

Others

## Picture menu

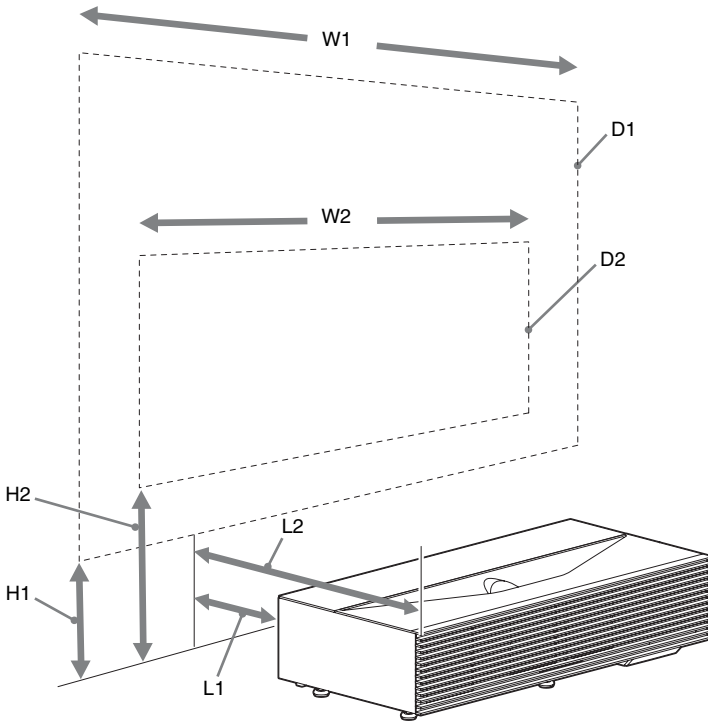
Item	Storage conditions
Calib. Preset	For each input connector
Reset	For each input connector and Calib. Preset
Super Resolution	
Laser Light Setting	
Contrast Enhancer	
Motionflow	
Contrast	
Brightness	
Color	
Hue	
Color Temp.	
D93-D55	
Custom 1-5	
Gain R	
Gain G	
Gain B	
Bias R	
Bias G	
Bias B	
Sharpness	For each input connector and Calib. Preset
NR	
MPEG NR	
Smooth Gradation	
Film Mode	
Gamma Correction	
Color Correction	
Clear White	
x.v.Color	
Color Space	

## Screen menu

Item	Storage conditions
Aspect	For Picture Position 1.85:1, 2.35:1, or Custom 1-3



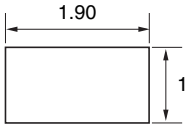
# Installation Distance and Projection Image Size



- L1: Distance from a projection surface to the rear of the unit
- L2: Distance from a projection surface to the front of the unit
- D1: Maximum projection image size
- D2: Minimum projection image size
- H1: Distance from a floor to the bottom of a projection image (D1)
- H2: Distance from a floor to the bottom of a projection image (D2)

Others

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



	Projection image size						Installation distance	
	Maximum			Minimum			From a projecting surface to the rear of the unit L1	From a projecting surface to the front of the unit L2
	Diagonal 1 (D1)	Width × Height	Bottom height (H1)	Diagonal 2 (D2)	Width × Height	Bottom height (H2)		
Maximum projection	147-inch (3.73 m)	3.30 m × 1.74 m (130 inches × 69 inches)	45 cm (18 inches)	92-inch (2.34 m)	2.07 m × 1.09 m (81 inches × 43 inches)	57 cm (22 inches)	17 cm (6.7 inches)	70.5 cm (27.8 inches)
Intermediate position	127-inch (3.23 m)	2.84 m × 1.50 m (112 inches × 59 inches)	41 cm (16 inches)	79-inch (2.03 m)	1.78 m × 0.94 m (70 inches × 37 inches)	51 cm (20 inches)	8.5 cm (3.3 inches)	62.0 cm (24.4 inches)
Shortest distance installation	106-inch (2.69 m)	2.39 m × 1.26 m (94 inches × 50 inches)	38 cm (15 inches)	66-inch (1.68 m)	1.49 m × 0.79 m (59 inches × 31 inches)	46 cm (18 inches)	0 cm (0 inch)	53.5 cm (21.0 inches)

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

Unit: cm (inches)

Maximum projection image size	Minimum projection image size
$L1 = 0.1857 \times W1 - 44.3090$ ( $L1 = 0.1857 \times W1 - 17.4445$ )	$L1 = 0.2964 \times W2 - 44.2027$ ( $L1 = 0.2964 \times W2 - 17.4026$ )
$L2 = 0.1857 \times W1 + 9.1910$ ( $L2 = 0.1857 \times W1 + 3.6185$ )	$L2 = 0.2964 \times W2 + 9.2973$ ( $L2 = 0.2964 \times W2 + 3.6604$ )

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

Unit: cm (inches)

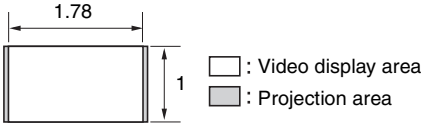
From a projecting surface to the rear of the unit	From a projecting surface to the front of the unit
$W1 = 5.3850 \times L1 + 238.6044$ ( $W1 = 5.3850 \times L1 + 93.9388$ )	$W1 = 5.3850 \times L2 - 49.4932$ ( $W1 = 5.3850 \times L2 - 19.4855$ )
$W2 = 3.3734 \times L1 + 149.1119$ ( $W2 = 3.3734 \times L1 + 58.7055$ )	$W2 = 3.3734 \times L2 - 31.3627$ ( $W2 = 3.3734 \times L2 - 12.3475$ )

### Formula 3 (calculates a distance from a floor to the bottom of a projection image)

Unit: cm (inches)

Maximum projection image size	Minimum projection image size
$H1 = 0.0798 \times W1 + 18.6804$ ( $H1 = 0.0798 \times W1 + 7.3545$ )	$H2 = 0.1830 \times W2 + 18.8798$ ( $H2 = 0.1830 \times W2 + 7.4330$ )

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



	Projection image size						Installation distance	
	Maximum			Minimum			From a projecting surface to the rear of the unit L1	From a projecting surface to the front of the unit L2
	Diagonal 1 (D1)	Width × Height	Bottom height (H1)	Diagonal 2 (D2)	Width × Height	Bottom height (H2)		
Maximum projection	140-inch (3.56 m)	3.10 m × 1.74 m (122 inches × 69 inches)	45 cm (18 inches)	88-inch (2.24 m)	1.94 m × 1.09 m (76 inches × 43 inches)	57 cm (22 inches)	17 cm (6.7 inches)	70.5 cm (27.8 inches)
Intermediate position	120-inch (3.05 m)	2.67 m × 1.50 m (105 inches × 59 inches)	41 cm (16 inches)	75-inch (1.91 m)	1.67 m × 0.94 m (66 inches × 37 inches)	51 cm (20 inches)	8.5 cm (3.3 inches)	62.0 cm (24.4 inches)
Shortest distance installation	101-inch (2.57 m)	2.24 m × 1.26 m (88 inches × 50 inches)	38 cm (15 inches)	63-inch (1.60 m)	1.40 m × 0.79 m (55 inches × 31 inches)	46 cm (18 inches)	0 cm (0 inch)	53.5 cm (21.0 inches)

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

Unit: cm (inches)

Maximum projection image size	Minimum projection image size
$L1 = 0.1980 \times W1 - 44.3078$ (L1 = 0.1980 × W1 - 17.4444)	$L1 = 0.3163 \times W2 - 44.2027$ (L1 = 0.3163 × W2 - 17.4097)
$L2 = 0.1980 \times W1 + 9.1922$ (L2 = 0.1980 × W1 + 3.6190)	$L2 = 0.3163 \times W2 + 9.2793$ (L2 = 0.3163 × W2 + 3.6533)

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

Unit: cm (inches)

From a projecting surface to the rear of the unit	From a projecting surface to the front of the unit
$W1 = 5.0502 \times L1 + 223.7640$ (W1 = 5.0502 × L1 + 88.0961)	$W1 = 5.0502 \times L2 - 46.4218$ (W1 = 5.0502 × L2 - 18.2763)
$W2 = 3.1620 \times L1 + 139.8246$ (W2 = 3.1620 × L1 + 55.0490)	$W2 = 3.1620 \times L2 - 29.3402$ (W2 = 3.1620 × L2 - 11.5513)

### Formula 3 (calculates a distance from a floor to the bottom of a projection image)

Unit: cm (inches)

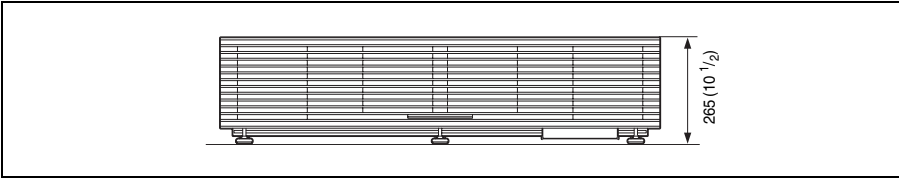
Maximum projection image size	Minimum projection image size
$H1 = 0.0851 \times W1 + 18.6809$ (H1 = 0.0851 × W1 + 7.3547)	$H2 = 0.1953 \times W2 + 18.8687$ (H2 = 0.1953 × W2 + 7.4286)

Others

# Dimensions

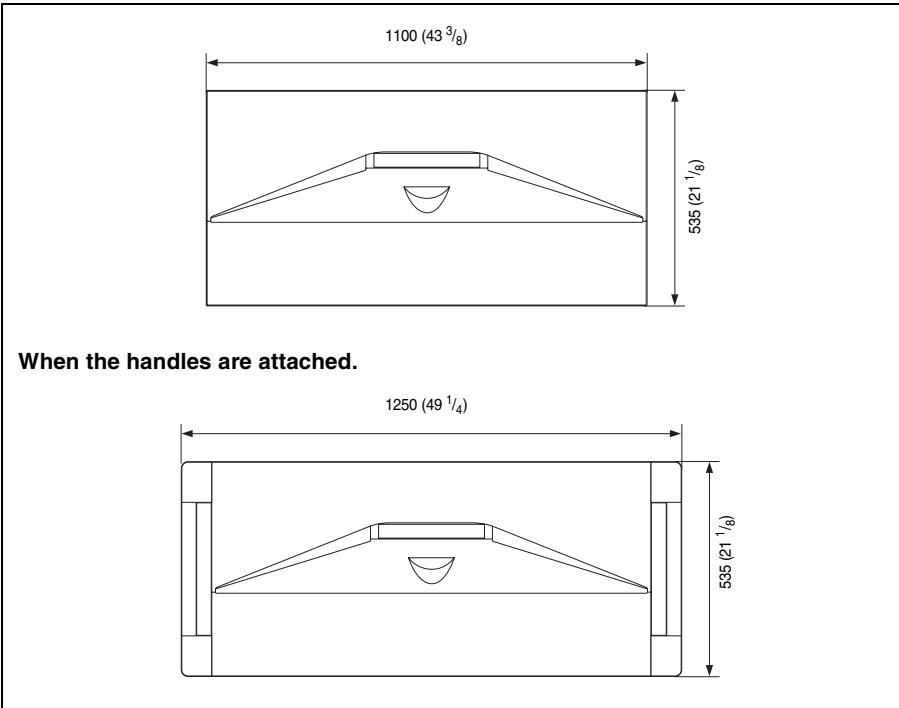
Front

Unit: mm (inches)



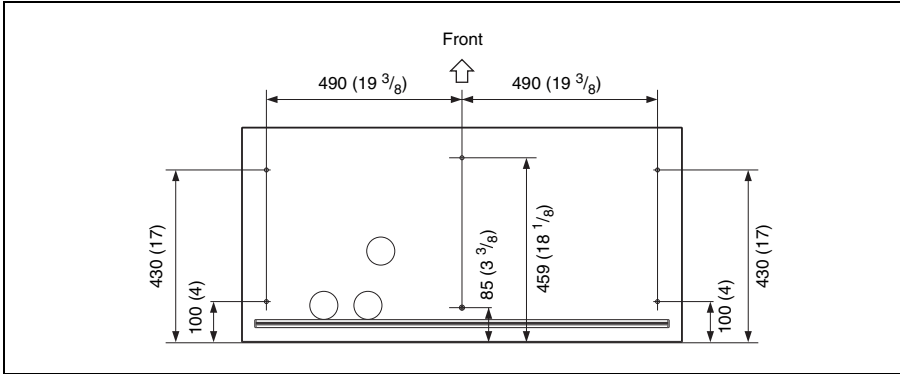
Top

Unit: mm (inches)



**Bottom**

Unit: mm (inches)

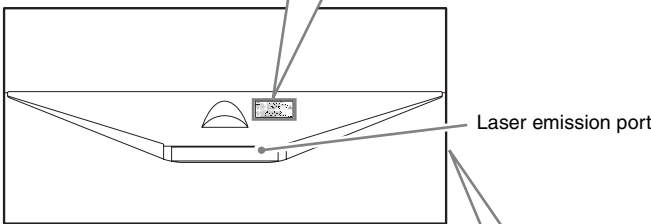


**Location of the label**

**Warning label**

	<p><b>警告</b> レンズのぞかない。投影中にプロジェクターのレンズをのぞくと、強い光が目に影響を与えます。</p> <p><b>Caution</b> Do not look into the lens while in use.</p> <p><b>Attention</b> Ne regardez pas dans l'objectif pendant son utilisation.</p> <p><b>Vorsicht</b> Schauen Sie nicht in das Objektiv, während es verwendet wird.</p> <p><b>Precaución</b> No examine la lente mientras la utilice.</p> <p><b>ОСТОРОЖНО</b> Не смотрите сквозь линзу при использовании.</p> <p><b>Attenzione</b> Non guardare nella lente durante l'uso.</p> <p><b>注意</b> 使用时请不要看镜头。</p>	
	<p>レンズ面のすぐ前で光を遮らないでください。</p> <p><b>Do not obstruct the light just before the lens of the projector.</b></p> <p><b>Ne pas obstruer la lumière juste devant l'objectif du projecteur.</b></p> <p><b>Nicht das Licht direkt vor dem Projektorobjektiv blockieren.</b></p> <p><b>No obstruya la luz justo delante del objetivo del proyector.</b></p> <p><b>Не загрожать свет непосредственно перед линзой проектора.</b></p> <p><b>Non ostruire il passaggio della luce davanti all'obiettivo del proiettore.</b></p> <p>不要在投影机的镜头前面遮挡光线。</p>	

4-539-766-



**Explanation label**

<p><b>LASER RADIATION</b></p> <p>DO NOT STARE INTO BEAM</p> <p>CLASS 2 LASER PRODUCT</p> <p>WAVE LENGTH: 455-470nm MAX OUTPUT &lt; 20mW</p> <p><b>LASERSTRÄHLUNG</b></p> <p>TITTEL INE / STRALEN</p> <p>LASERPRODUKT KLASSE 2</p> <p>WÄVLÄNGD: 455-470nm MAX UTEFFEKT &lt; 20mW</p> <p>レーザ放射</p> <p>レーザ光を直接見ないこと</p> <p>クラス 2 レーザ製品 波長: 455-470nm 最大出力 &lt; 20mW</p>	<p>IEC60825-1:2007</p> <p>JIS C6802:2005</p> <p>4-541-415-01</p>
--	--



Others

**Laser Diode Properties**

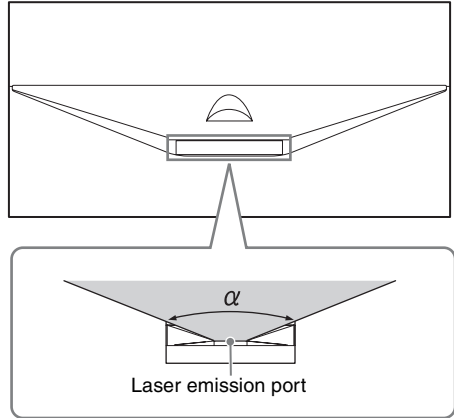
3.5 W, 28 Laser diodes (440 to 455 nm)

2.4 W, 7 Laser diodes (455 to 470 nm)

**Beam divergence angle from the projection window of this unit**

Wide:  $\alpha = 144^\circ$

Tele:  $\alpha = 123^\circ$



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## GPL/LGPL LICENSED SOFTWARE

The following GPL executables and LGPL libraries are used in this product and are subject to the GPL/LGPL License Agreements included as part of this documentation:

### Package list:

linux-kernel  
alsa-lib  
busybox  
crypto  
directfb  
dosfstools  
e2fsprogs  
exceptionmonitor  
fuse  
gdisk  
glib  
glibc  
iptables  
libmicrohttpd  
libnuma (in numactl)  
procps  
pump-autoip  
XZ utils

Source code for these executables and libraries, as well as other executables and libraries, can be obtained using the following link:  
<http://www.sony.net/Products/Linux/>

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