

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-CX236/CX276

VPL-CW256/CW276

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

HDMI

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Network

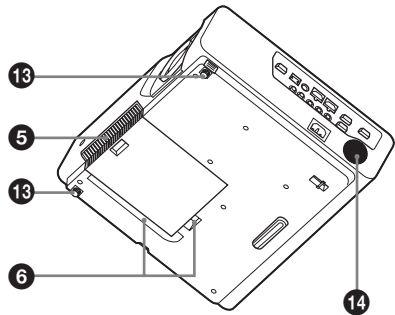
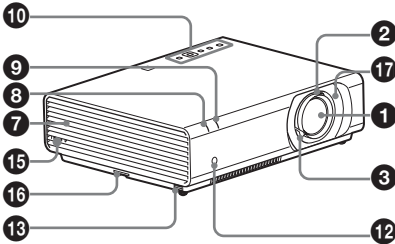
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Location and Function of Controls

Main unit



- 1 Projection lens
- 2 Focus ring (page 12)
- 3 Zoom lever (page 12)
- 4 Lamp cover (page 37)
- 5 Air filter cover/Ventilation holes (intake) (page 39)
- 6 Ventilation holes (intake)
- 7 Ventilation holes (exhaust)

Caution

Do not place anything near the ventilation holes as this may cause internal heat buildup. Do not place your hand or deformable items (plastic, etc.) near the ventilation holes or around the projector, as it may cause damage or personal injury.

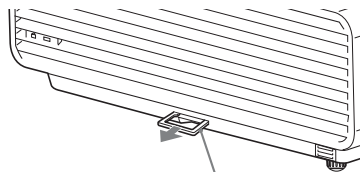
- 8 ON/STANDBY indicator (page 33)



- 9 LAMP/COVER indicator (page 33)
- 10 Control panel (page 5)
- 11 Connector panel (page 4)
- 12 Remote control detector
- 13 Front feet (adjustable) (page 14)
- 14 Speaker
- 15 Security lock

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

- 16 Security bar
- Connects to a commercially available security chain or wire. If it is difficult to pull out, pull out the Security bar using a screwdriver.

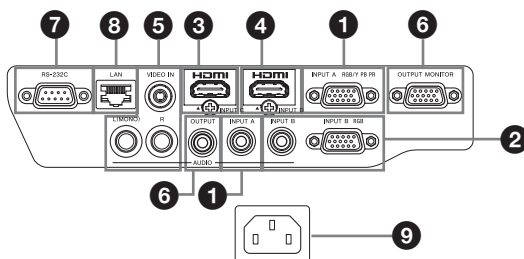


Security bar

- 17 Lens shift cover (page 13)
- For lens shift adjusting, remove this to access the lens shift screws inside the unit.

Connector Panel

VPL-CX236/CX276/CW256/CW276



Input (pages 7, 8)

- 1 INPUT A**
Video: RGB/YPbPr input connector (RGB/Y PB PR)
Audio: Audio input connector (AUDIO)
- 2 INPUT B**
Video: RGB input connector (RGB)
Audio: Audio input connector (AUDIO)
- 3 INPUT C**
Video: HDMI input connector (HDMI)
Audio: HDMI input connector (HDMI)
- 4 INPUT D**
Video: HDMI input connector (HDMI)
Audio: HDMI input connector (HDMI)
- 5 VIDEO (VIDEO IN)**
Video: Video input connector
Audio: Audio input connector (L [MONO]/R) (AUDIO)

Output (page 10)

- 6 OUTPUT**
Video: Monitor output connector (MONITOR)
Audio: Audio output connector (AUDIO)

Note

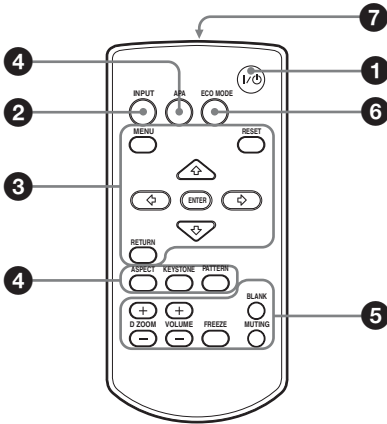
This connector outputs the projected image or audio. The image is output as a computer signal input from the RGB input connector (INPUT A/INPUT B) or a video signal input from the YPbPr input connector (INPUT A).

Others

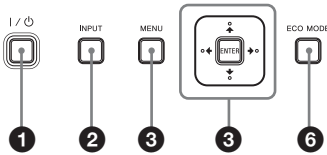
- 7 RS-232C connector**
RS-232C compatible control connector. Connects the computer's RS-232C connector and the RS-232C cross cables.
- 8 LAN connector (page 30)**
- 9 AC IN (~) socket**
Connects the supplied AC power cord.

Remote Commander and Control Panel

Remote Commander



Control Panel



1 Turning on the power/Going to standby mode

I/⏻ (On/Standby) key

2 Selecting an input signal (page 11)

INPUT key

3 Operating a menu (page 19)

MENU key
RESET key
ENTER /▲/▼/◀/▶ (arrow) keys
RETURN key

This function is not provided in this projector.

4 Adjusting the image (page 12)

ASPECT key

KEYSTONE key

PATTERN key

APA (Auto Pixel Alignment) key*

Note

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

5 Using various functions during projecting

D ZOOM (Digital Zoom) +/- key*1
Enlarges a portion of the image while projecting.

1 Press the D ZOOM + key to display the digital zoom icon on the projected image.

2 Press the ▲/▼/◀/▶ keys to move the digital zoom icon to the point on the image you wish to enlarge.

3 Press the D ZOOM + key or the D ZOOM – key repeatedly to change the enlargement ratio. The image can be enlarged up to 4 times.

Press the RESET key to restore the previous image.

BLANK key

Cuts off the image. Press again to restore the image.

MUTING key

Mutes the audio output. Press again to restore the previous volume.

VOLUME +/- key

For adjusting the volume output.

FREEZE key*2

Pauses a projected image. Press again to restore the image.

Notes

*1: Use this key when inputting a computer signal. But it may not be used depending on the resolution of the input signal.

*2: Use this key when inputting a computer signal.

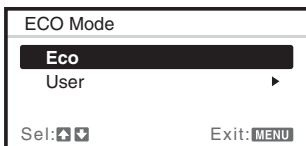
6 Setting the energy-saving mode easily

ECO MODE key

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

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

ECO Mode Menu



- 2 Press the ▲/▼ key or ECO MODE key to select Eco or User mode.

Eco: Sets each mode to the optimum energy-saving value.

Lamp Mode: Standard

With No Input: Standby

With Static Signal: Lamp

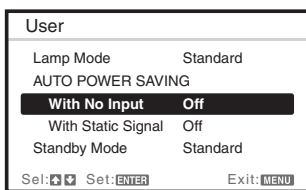
Dimming

Standby Mode: Low

(go to step 6)

User: Sets each item of the energy-saving mode menu as you desire (go to step 3).

- 3 Select “User” then press the ► key. The setting items appear.



- 4 Press the ▲/▼ key to select the item then press the ENTER key.
- 5 Press the ▲/▼ key to select the setting value.
- 6 Press the ENTER key to restore the User screen.

For details on ECO Mode settings, see “Lamp Mode” (page 27) and “Standby Mode” (page 28) on the INSTALL SETTING menu and “With No Input” (page 24), “With Static Signal” (page 24) on the SET SETTING menu.

Others

7 Infrared transmitter

About Remote Commander operation

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

Connecting the Projector

Notes

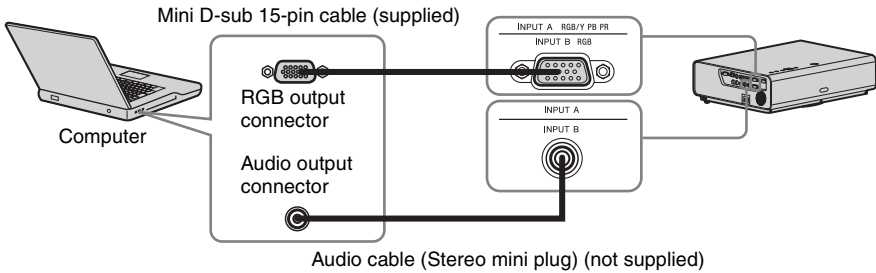
- Make sure all the equipment is powered off when connecting the projector.
- Use the proper cables for each connection.
- Insert the cable plugs firmly; Loose connections may reduce performance of picture signals or cause a malfunction. When pulling out a cable, be sure to grip it by the plug, not the cable itself.
- For more information, refer also to the instruction manuals of the equipment you are connecting.
- Use a no-resistance audio cable.

Connecting a Computer

Connection with a computer is explained for each input signal.

INPUT A/INPUT B

For connecting a computer with an RGB output connector.

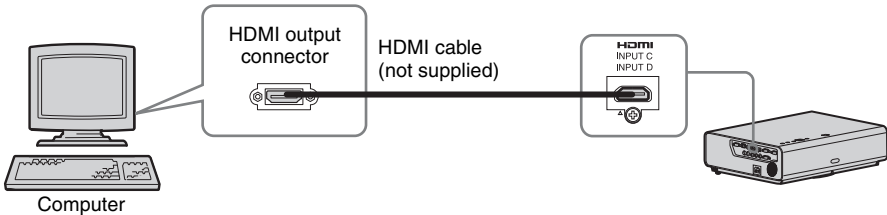


Note

It is recommended that you set the resolution of your computer to 1024 × 768 pixels (VPL-CX236/CX276) or 1280 × 800 pixels (VPL-CW256/CW276) for the external monitor.

INPUT C/INPUT D

For connecting video equipment with an HDMI output connector.



Notes

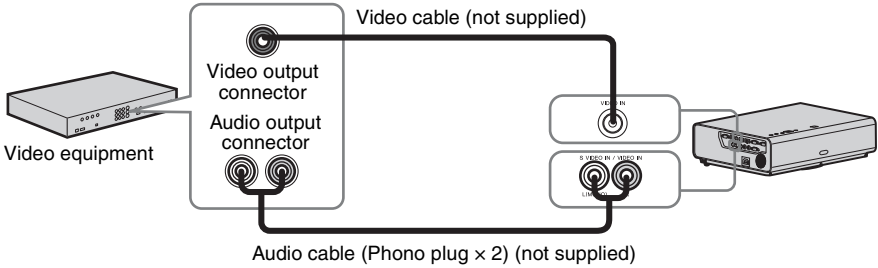
- Use HDMI-compatible equipment and cable(s) that have an HDMI logo on them.
- The HDMI connector of this projector is not compatible with DSD (Direct Stream Digital) Signal or CEC (Consumer Electronics Control) Signal.
- For a PC with DVI-D output connector, use an HDMI-DVI-D cable (not supplied).

Connecting a Video equipment

Connections with a DVD player, BD player, etc. are explained for each input signal.

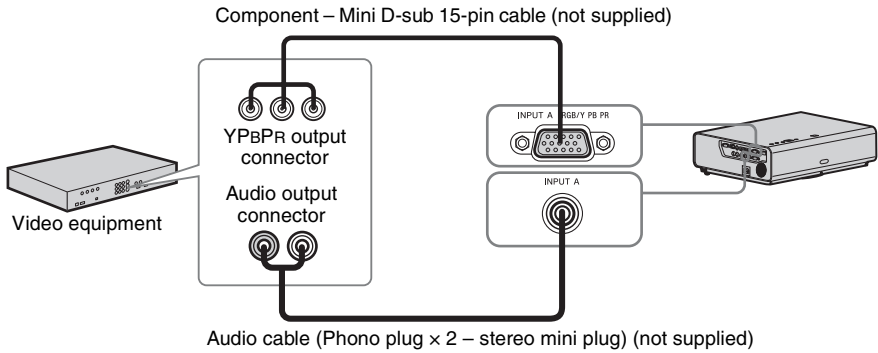
VIDEO IN

For connecting video equipment with a video output connector.



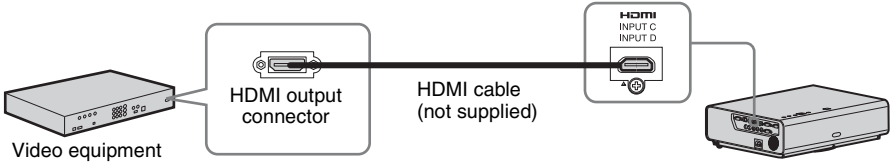
INPUT A

For connecting video equipment with a YPbPr output connector.



INPUT C/INPUT D

For connecting video equipment with an HDMI output connector.



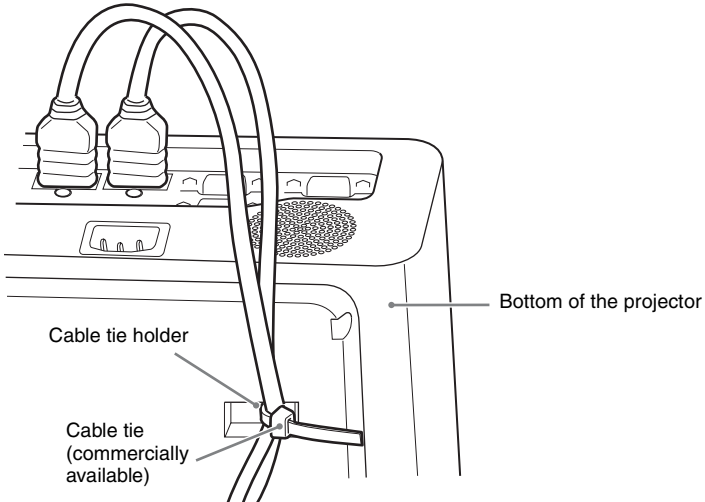
Notes

- Use HDMI-compatible equipment and cable(s) that have an HDMI logo on them.
- The HDMI connector of this projector is not compatible with DSD (Direct Stream Digital) Signal or CEC (Consumer Electronics Control) Signal.

To attach the HDMI cable

Fix the cable to the cable tie holder at the bottom of the projector, using a commercially available cable tie, as in the illustration.

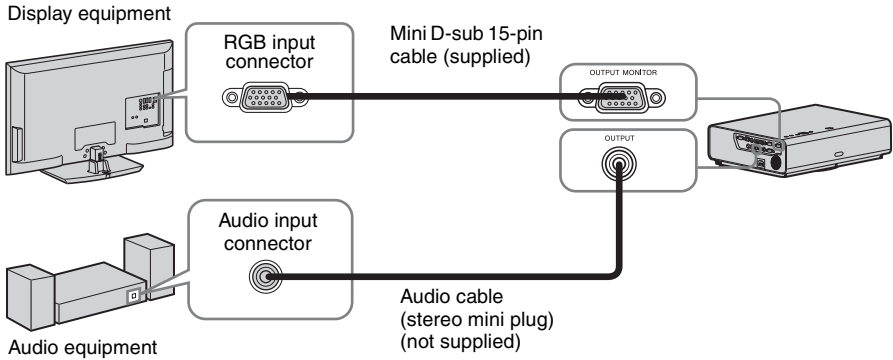
Use a cable tie of less than 1.9 mm × 3.8 mm in thickness.



Connecting an External Monitor and Audio Equipment

OUTPUT

Projected images and input audio can be output to display equipment such as a monitor and audio equipment such as speakers with a built-in amplifier. When an audio cable is connected to the audio output connector, no sound will be heard from the built-in speaker.

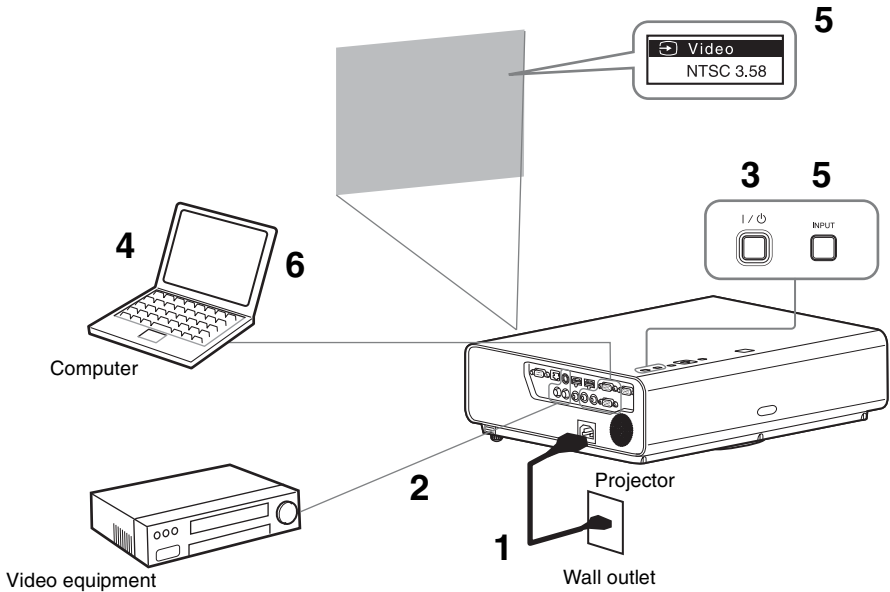


Note

Projected images and audio can be output. The image is output only as a computer signal input from the RGB input connector (INPUT A/INPUT B) or a video signal input from the YPBPr input connector (INPUT A).

Projecting an Image

The size of a projected image depends on the distance between the projector and screen. Install the projector so that the projected image fits the screen size. For details on projection distances and projected image sizes, see “Projection Distance and Lens Shift Range” (page 45).



1 Plug the AC power cord into the wall outlet.

2 Connect all equipment to the projector (page 7).

3 Press I/⏻ to turn on the unit.

4 Turn on the connected equipment.

5 Select the input source.
Each time you press the INPUT key on the projector, the input signal switches. Press the INPUT key repeatedly to select an image to be projected.

6 To project an image from a computer, set your computer to output to external display.

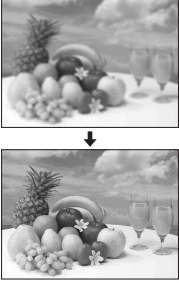

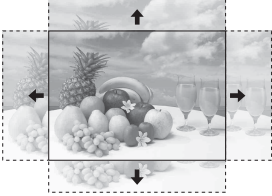
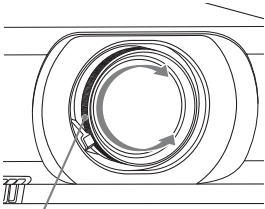
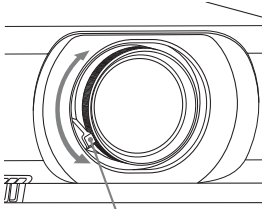
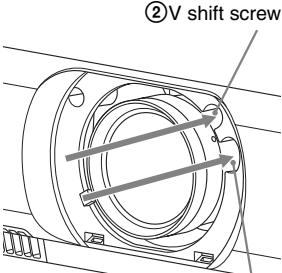
How to switch the computer to output to the projector varies, depending on the type of computer.

(Example)



7 Adjust the focus and position of the projected image (page 12).

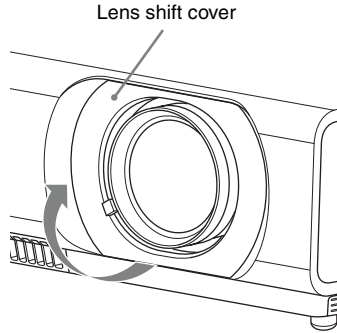
Adjusting the Projected image

Focus	Size (Zoom)	Position (Lens shift)
		
 <p data-bbox="135 810 230 836">Focus ring</p>	 <p data-bbox="512 823 613 849">Zoom lever</p>	 <p data-bbox="863 549 1003 574">② V shift screw</p> <p data-bbox="855 874 997 900">① H shift screw</p>

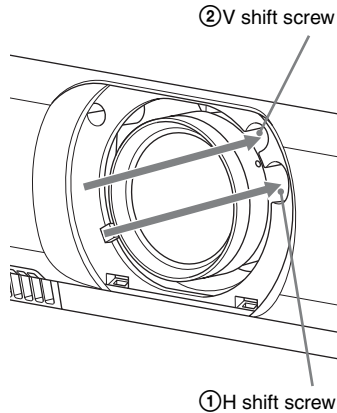
Adjusting the tilt of the projector by lens shift

You can adjust the position of the projected image by turning the screws for lens shift (V shift screw and H shift screw).

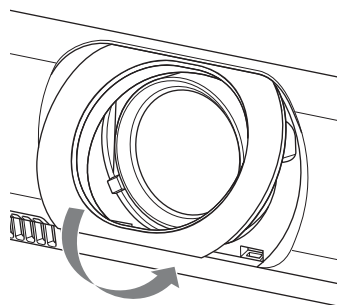
- 1 Lift up the lower end of the lens shift cover with your finger to remove it.



- 2 Insert a Philips screwdriver to the ①H shift screw inside the unit and turn it to adjust right or left, and to the ②V shift screw to adjust up or down. Be careful not to look into the lens. Continued turning of these screws will return the lens shift to its original position. Adjust the screws to set the lens shift to the optimum position. For details on the adjustment range, see the "Lens shift range" (page 49).



- 3 Return the lens shift cover to the unit.

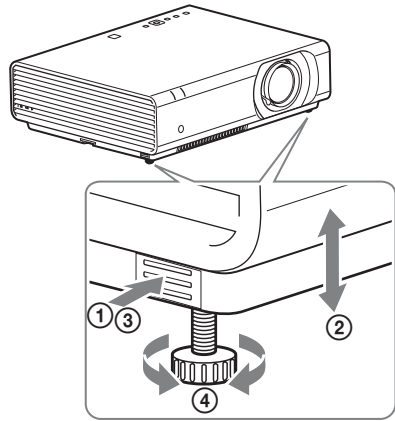


Adjusting the tilt of the projector with the front feet (adjustable)

You can adjust the height of the projector pushing the side button on this unit. By changing the slope of the projector with front feet (adjustable), you can adjust the position of the projected image.

How to alter the angle

- 1 Push in the foot adjust button at the side of the unit.
- 2 Keeping the button pushed in, raise the main unit to the desired angle.
- 3 Release the foot adjust button.
- 4 For fine positioning, turn the right and left front feet (adjustable) beneath the unit.



Notes

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

Changing the aspect ratio of the projected image

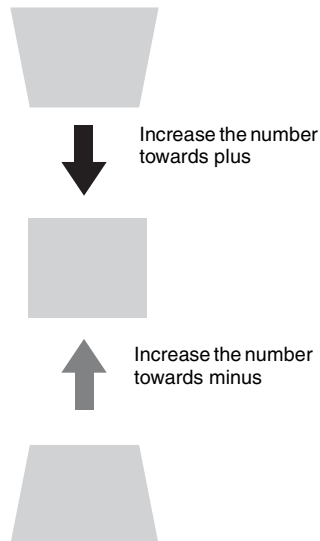
Press ASPECT on the remote commander to change the aspect ratio of the projected image. You can also change the setting in Aspect of the INPUT SETTING menu (pages 21, 22).

Correcting trapezoidal distortion of the projected image (Keystone feature)

When the projected image is a trapezoid, tapering to the top or bottom

When “V Keystone” is set to “Auto”, the keystone feature works automatically to correct the distortion. However, the keystone feature may not work properly when the screen is tilted, etc. In this case, set keystone manually.

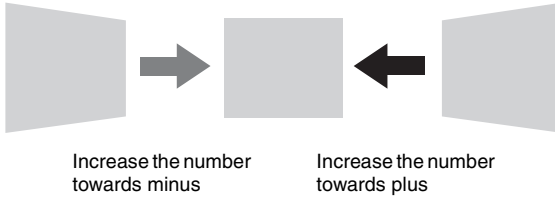
- 1 Press KEYSTONE on the remote commander once or select V Keystone in the INSTALL SETTING menu.
- 2 Use $\uparrow/\downarrow/\leftarrow/\rightarrow$ to set the value. The higher the setting, narrower the top of the projected image. The lower the setting, the narrower the bottom.



Press the RESET key to restore the projected image before adjustment.

When the projected image a trapezoid, tapering to the right or left

- 1 Press KEystone on the remote commander twice or select H Keystone in the INSTALL SETTING menu.
- 2 Use $\uparrow/\downarrow/\leftarrow/\rightarrow$ to set the value. The higher the setting, the narrower the right part of the projected image. The lower the setting, the narrower the left part.



Press the RESET key to restore the projected image before adjustment.

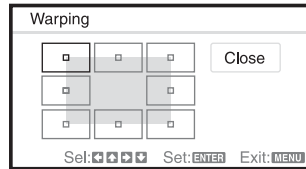
Notes

- Since the Keystone adjustment is an electronic correction, the image may be deteriorated.
- Depending on the position adjusted with the lens shift feature, the aspect ratio of the image may change from the original or projected image may be distorted with Keystone adjustment.

Correcting the image twist (Warp correction feature)

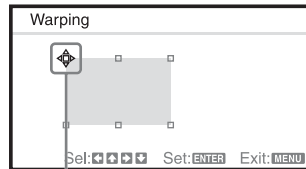
You can correct the image twist by the warp correction feature

- 1 Press KEystone on the remote commander three times, or select “Warping” in the INSTALL SETTING menu, and select “Adjust.”
- 2 The guide is displayed.



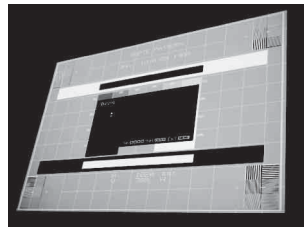
The corners of the image to be corrected

- 1 Move the \square by using $\uparrow/\downarrow/\leftarrow/\rightarrow$ to select the corner you want to correct. If you press ENTER, you will go back to the cursor display.



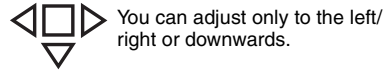
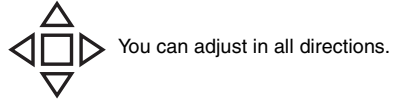
Adjust using this cursor.

- 2 Adjust the position of the corner you want to correct by using $\uparrow/\downarrow/\leftarrow/\rightarrow$.



- 3 The cursor will disappear if the adjustment range limit is reached.

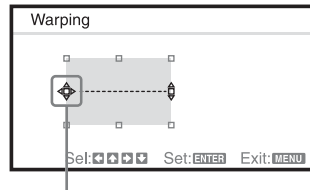
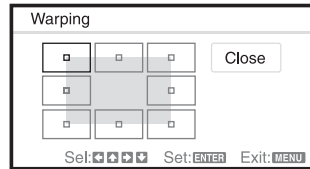
Example of cursor display:



Press the RESET key to restore the projected image before adjustment.

Correcting deflection ①-The right/left edges of the image

- 1 Move the □ by using ▲/▼/◀/▶ to select the corner you want to correct.
If you push ENTER, you can switch to the cursor display.

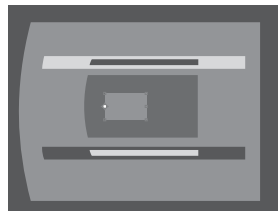
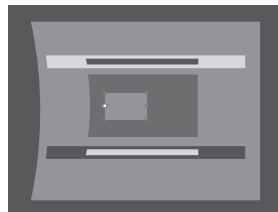


Adjust using this cursor.

- 2 You can adjust the deflection of the edges by using ▲/▼/◀/▶.
You can adjust the central position of the edges by using ▲/▼. For the range of deflection, use ◀/▶. You can adjust the right/left edge independently.

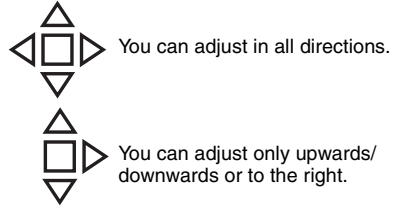
Note

When adjusting the central position of the edges, the right and left edges will be set at the same time.



- 3 The cursor will disappear if the adjustment range limit is reached.

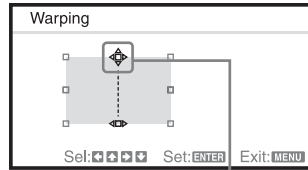
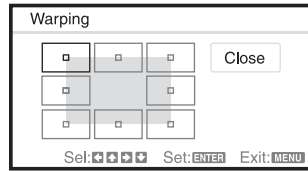
Example of cursor display:



Press the RESET key to restore the projected image before adjustment.

Correcting deflection ②-The top/bottom edges of the image

- 1 Move the □ by using ↑/↓/←/→ to select the corner you want to correct. If you push ENTER, you can switch to the cursor display.

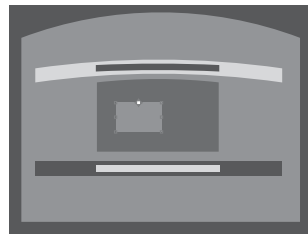
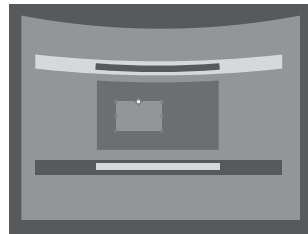


Adjust using this cursor.

- 2 You can adjust the deflection of the edges by using ↑/↓/←/→. You can adjust the top position of the edges by using ←/→. For the range of deflection, use ↑/↓. You can adjust the top/bottom edge independently.

Note

When adjusting the top position of the edges, the top and bottom edges will be set at the same time.



- 3 The cursor will disappear if the adjustment range limit is reached.

Example of cursor display:



You can adjust in all directions.



You can adjust only to the left/right or downwards.

Press the RESET key to restore the projected image before adjustment.

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

Press APA on the remote commander. Press again to cancel during the setting.
If Smart APA is set to On, executes APA automatically when a signal is input (page 24).

Turning Off the Power

- 1 Press the I/O key on the main unit or the Remote Commander.
The shutdown message appears.
If you do not press any of the keys for a while, the projector will turn off.
If you press I/O on the projector or remote commander while the shutdown message is on the screen, the projector will restart.

Note

Do not turn off the projector soon after the lamp lights. It may cause a malfunction of the lamp (does not light ,etc.).

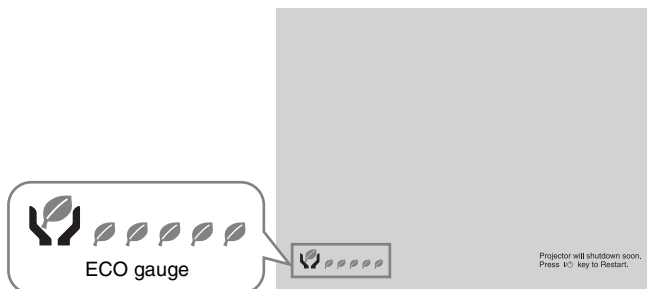
- 2 Unplug the AC power cord from the wall outlet.
After step 1, the fan continues to run for a while to reduce internal heat, however, you may also unplug the AC power cord before the fan stops.

To turn off without displaying confirmation message

Hold the I/O key on the main unit pressed for a few seconds.

ECO gauge

This gauge indicates the current effectiveness of the projector's ECO function. (For details on the ECO function, see "ECO MODE key" (page 6), "AUTO POWER SAVING" (page 24) and "Lamp Mode" (page 27)). The leaf icons are displayed when the projector is shut down. The number of displayed icons varies according to how much energy is saved as a result of using the ECO function.



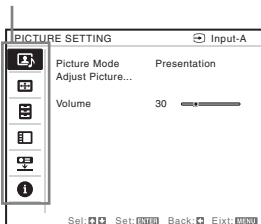
Using a MENU

Note

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

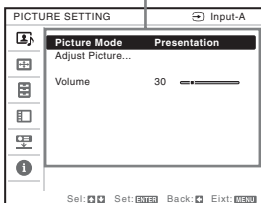
- 1 Press the MENU key to display the menu.
- 2 Select the setting menu.
Use the **▲** or **▼** key to select the setting menu then press **▶** or ENTER key.

Setting menu



- 3 Select the setting item.
Use the **▲** or **▼** key to select the setting menu then press **▶** or ENTER key.
To return to the selection screen of the setting menu, press the **◀** key.

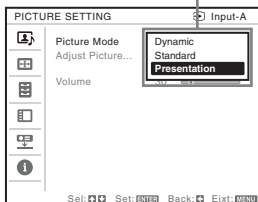
Setting items



- 4 Make the setting or adjustment for the selected item.
Menu operation differs depending on the setting item. If the next menu window is displayed, select the item according to the operations in step 3.
To return to the selection screen of the setting items, press the **◀** key. Also, to reset the setting value of an item to its

factory preset value, press the RESET key during setting or adjusting.

Selecting items

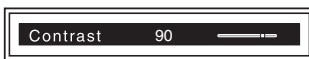


Using the setting menu

Press the **▲** or **▼** key to select the item. Press the ENTER key to restore the previous screen.

Using the adjustment menu

To increase the number, press the **▲** or **▶** key and to decrease the number, press the **▼** or **◀** key. Press the ENTER key to register the setting. The previous screen is restored.



- 5 Press the MENU key to clear the menu.
The menu disappears automatically if no key is pressed for a while.

The PICTURE SETTING Menu

For adjusting the picture for each input signal.

Items	Item descriptions
Picture Mode	Dynamic: Emphasizes the contrast to produce a “dynamic and vivid” picture. Standard: Makes the picture be natural and well balanced. Presentation: Makes the picture bright to suit for a presentation.
Adjust Picture...	The unit can store the setting values of the following sub menu items for each picture mode separately.
Contrast	The higher the setting, the greater the contrast. The lower the setting, the lower the contrast.
Brightness	The higher the setting, the brighter the picture. The lower the setting, the darker the picture.
Color ^{*1*3}	The higher the setting, the greater the intensity. The lower the setting, the lower the intensity.
Hue ^{*1*3*4}	The higher the setting, the more greenish the picture becomes. The lower the setting, the more reddish the picture becomes.
Sharpness ^{*6}	The higher the setting, the sharper the picture. The lower the setting, the softer the picture.
Color Temp. ^{*2}	High/Middle/Low: The higher the temperature, the more bluish the picture. The lower the temperature, the more reddish the picture.
DDE (Dynamic Detail Enhancer) ^{*1*5}	Off: Plays back the interlace format without conversion. Progressive: Plays back the video signal of the interlace format converting to progressive. Film: Precisely reproduces the image from a film source to suit the original film source.
Gamma Mode	Graphics1: Gamma correction to make halftones brighter. This setting is suitable when projecting highly colorful images, such as photos, in a bright place. Graphics2: Gamma correction to improve the reproduction of halftones. Highly colorful images, such as photos, can be reproduced in natural tones. Text: Contrasts black and white. Suitable for images that contain lots of text.
Volume	The higher the setting, the higher an audio volume and the lower the setting, the lower the audio volume. The audio output level will work simultaneously.

Notes

- *1: When a video signal is input, this option is available.
- *2: When “Picture Mode” is set to the item other than “Presentation,” this option is available.
- *3: When a B & W signal is input, this option is not available.
- *4: When an analog TV signal is input, this option may not available, depending on the color system.
- *5: When a progressive signal or a 1080i signal is input, this option is not available.
- *6: This is not available when the input signal is HD(1080i/720p).

The INPUT SETTING Menu

For adjusting the size, position, and aspect ratio of the projected image for each input signal.

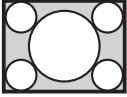
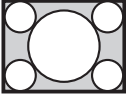
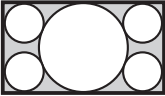
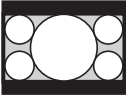

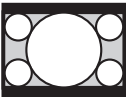
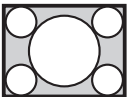
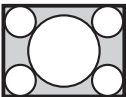
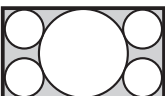

Items	Item descriptions
Adjust Signal	Adjusts the image of computer signal. Use this item if the edge of the image is cut and reception is bad.
Dot Phase ^{*1}	Adjusts the dot phase of the display pixel and the input signal. Set to the value where looks clearest.
H Size ^{*1}	The higher the setting, the wider the horizontal image elements (pitch). The lower the setting, the narrower the horizontal image elements (pitch).
Shift ^{*2}	H: The higher the setting, the farther right the image is projected on the screen. The lower the setting, the image farther left. V: The higher the setting, the farther up the image is projected on the screen. The lower the setting, the image farther down.
Aspect ^{*3}	Changes the aspect ratio of the projected image (page 22).
When the computer signal is input	Normal: Displays the image on the center point of the projected image without changing the resolution of the input signal or enlarging the image.
	Full1: Displays the image to fit the maximum projected image size without changing the aspect ratio of the input signal.
	Full2: Displays the image to fit the maximum projected image size.
When the video signal is input (VPL-CX236/CX276)	Full3^{*5}: Displays a 1280 × 720 dot picture on the screen without changing the aspect ratio of the original image.
	4:3: Displays the image to fit the maximum projected image size with an aspect ratio fixed to 4:3.
	16:9: Displays the image to fit the maximum projected image size with an aspect ratio fixed to 16:9. Zoom: Display the center point of the projected image to zoom.
When the video signal is input (VPL-CW256/CW276)	4:3: Displays the image with an aspect ratio fixed to 4:3.
	16:9: Displays the image with an aspect ratio fixed to 16:9.
	Zoom: Displays the image to enlarge without changing the aspect ratio of the original image. Wide Zoom: Displays the image to enlarge with minimum distortion.
Over Scan ^{*4}	On/Off: When set to “On”, the outer edges of the picture will be hidden. Select this setting when noise appears along the edge of the picture.

Notes

- *1: Available when a computer signal is input from the RGB input connector (INPUT A/INPUT B).
- *2: Available when a computer signal is input from the RGB input connector (INPUT A/INPUT B) or a video signal is input from the YPBPr input connector (INPUT A).
- *3:
 - Note that if the projector is used for profit or for public viewing, modifying the original picture by switching to the aspect mode may constitute an infringement of the rights of authors or producers, which are legally protected.
 - Depending on the input signal, setting items for aspect ratio or some other setting items cannot be set in some cases, or changing the aspect ratio setting may have no effect.
 - A part of the image may be displayed in black, depending on the setting item.
- *4: Available when a video signal is input from the YPBPr input connector (INPUT A) or the HDMI input connector (INPUT C/INPUT D).
- *5: VPL-CW256/CW276 only.

Aspect

VPL-CX236/CX276

	Input signal	Recommended setting value and projected image
Computer signal	(4:3) 	(Full1) ^{*1} 
	(16:9) 	(Full1) ^{*1 *2} 
	(16:10) 	(Full1) ^{*1 *2} 
Video signal	(4:3) 	(4:3) ^{*3} 
	(16:9) 	(16:9) ^{*4} 

*1: If you select “Normal,” the image is projected in the same resolution as the input signal without changing the aspect ratio of the original image.



*2: If you select “Full2,” the image is projected to fit the projected image size, regardless of the aspect ratio of the image.



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



*4: Depending on the input signal, the image may be projected as illustrated below. In this a case, select “Zoom.”

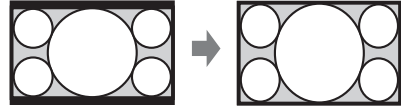


	Input signal	Recommended setting value and projected image
Computer signal	(4:3)	(Full1) ^{*1 *2 *3}
	(16:9)	(Full1) ^{*1 *2 *3}
	(16:10)	(Full1) ^{*3}
Video signal	(4:3)	(4:3) ^{*4 *5}
	(16:9)	(16:9)

*1: If you select “Normal,” the image is projected in the same resolution as the input signal without changing the aspect ratio of the original image.



*2: If you select “Full2,” the image is projected to fit the projected image size, regardless of the aspect ratio of the image.



*3: If you adjust the projected image position using an image with 16:9 aspect ratio and then switch the input source to 4:3 image, the top and bottom edge of the image may be hidden. In this a case, select “Full3.”



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



*5: Depending on the input signal, the image may be projected as illustrated below. In this a case, select “Zoom.”



The SET SETTING Menu

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

Items	Item descriptions
AUTO POWER SAVING	You can make various power reduction settings.
With No Input* ⁶	Lamp Cutoff: The lamp turns off automatically and power consumption is reduced if no signal is input for 10 minutes. The lamp lights again when a signal is input or any key is pressed. In Lamp Cutoff, the ON/STANDBY indicator lights in orange. (page 33) Standby: If no signal is input to the unit for approx. 10 minutes, the power turns off automatically, and the unit enters standby mode. Off: You can deactivate the With No Input.
With Static Signal	Lamp Dimming/Off: If “Lamp Dimming” is selected, the lamp dims slowly when little or no change occurs in the image. You can choose the period before the image darkens from “5,” “10,” “15,” “20” minutes or “Demo..” If you select “Demo..” the image will darken about 30 seconds later.
Smart APA	On/Off: When set to “On,” executes APA automatically when a signal is input.* ¹ * ²
Auto Input Search	On/Off: When set to “On,” the projector detects input signals in the following order: Input-A/Input-B/Input-C/Input-D/Video. It indicates the input channel when the power is turned on or the INPUT key is pressed.
Input-A Signal Sel.	Auto/Computer/Component/Video GBR: When set to “Auto,” selects the type of video signal input automatically when “Input-A” is selected with the INPUT key.* ³
Color System	Auto/NTSC^{3.58}/PAL/PAL-60/SECAM/NTSC^{4.43}/PAL-M/PAL-N: When set to “Auto,” selects the color system automatically when “Video” is selected with the INPUT key.* ³
IR Receiver	The front and rear remote control detectors of the projector. Front & Rear: The IR receivers on the front and rear of the unit are available. Front: The IR receiver on the front is available. Rear: The IR receiver on the rear is available.
Panel Key Lock	On/Off: When set to “On,” locks all the control panel keys of the projector. However, you can operate the following when set to “On”: <ul style="list-style-type: none"> • Press and hold the I/⏻ key for approximately 10 seconds during Standby mode. <ul style="list-style-type: none"> → The projector turns on. • Press and hold the I/⏻ key for approximately 10 seconds during power on. <ul style="list-style-type: none"> → The projector goes to Standby mode. • Press and hold the MENU key for approximately 10 seconds during power on. <ul style="list-style-type: none"> → “Panel Key Lock” is set to “Off” and enables operation of all keys on the projector.

Items	Item descriptions
CC Display ^{*5}	CC1/CC2/CC3/CC4/Text1/Text2/Text3/Text4: Select the closed caption service (Captions or Text). Off: Closed caption does not appear.
Network Setting ^{*4}	
IP Address Setup	Auto (DHCP): The IP address is assigned automatically from the DHCP server such as a router. Manual: To specify the IP Address manually.
IP Address/Subnet Mask/Default Gateway/DNS Server/Apply	When “Manual” is selected for “IP Address Setup,” select the item with the ◀ or ▶ key and input the value with ▲ or ▼ key. When all items are entered, select “Apply” then press the ENTER key. The entered settings will be registered.
Lamp Timer Reset	When replacing the lamp, resets the lamp timer (page 37).

Notes

- *1: Executes APA when a computer signal is input via the RGB input connector (INPUT A/INPUT B).
- *2: If the projected image includes large amount of black portion around it, the APA function will not work properly and a part of the image may not be displayed on the screen and also optimum image cannot be obtained, depending on the type of input signal. In this case, adjust the “Dot Phase,” “H size,” and “Shift” items manually.
- *3: The image may not be adjusted properly depending on the type of input signal. In such a case, adjust it manually to suit to the connected equipment.
- *4: “Network Setting” is not displayed while “REMOTE” is selected from “External Control” in the INSTALL SETTING menu.
- *5: This is available only when the video signal is NTSC.
- *6: Select “Off” to avoid entering standby mode when there is no input signal.







The MENU SETTING Menu

The MENU SETTING menu is used for setting for the operations by using the menu or the Remote Commander.

Items	Item descriptions
Status	On: All on-screen statuses are enabled. Off: Turn off the on-screen displays except for the menus, warning and confirmation messages.
Language	Selects the language used in the menu and on-screen displays.
Menu Position	Top Left/Bottom Left/Center/Top Right/Bottom Right: Selects the display position of the menu.
Start Up Image	On/Off: When set to “On,” the Start Up Image is displayed on the screen upon startup of the projector.

The INSTALL SETTING Menu

The INSTALL SETTING menu is used for installing the projector.

Items	Item descriptions
Screen Fitting	HV Keystone/ Warping: You can choose how to correct image twist.
V Keystone ^{*1*5}	This is displayed when “HV Keystone” is selected in the “Screen Fitting.” Auto: The Keystone adjustment is done automatically. If the screen is tilted, this function may not work properly. In that case, select “Manual” for Keystone adjustment. Manual: The higher the setting, the narrower the top of the projected image. The lower the setting, the narrower the bottom.
H Keystone ^{*1*5}	This is displayed when “HV Keystone” is selected in the “Screen Fitting.” The higher the setting, the narrower the right part of the projected image. The lower the setting, the narrower the left part.
Warping	This is displayed when “Warping” is selected in the “Screen Fitting.” Adjust: You can correct image twist. Reset: You can reset adjusted values back to the default values.
Image Flip	HV/H/V/Off: Flips the projected image horizontally and/or vertically according to the installation method.
Background	Black/Blue: Selects the background color of the projected image when no signal is input.
Lamp Mode	Auto ^{*6}/High/Standard/Low ^{*7}: When set to “High,” the image becomes brighter, and power consumption becomes higher. When set to “Auto,” brightness is adjusted automatically according to image content. Dark images are projected with brightness adjusted, leading to energy-saving. Bright images are projected brightly, without adjusting brightness.
High Altitude Mode ^{*2}	On/Off: Set to “On” when using the projector at an altitude of 1,500 m or higher. Continuing to use the wrong setting may affect component reliability.
Security Lock ^{*3}	On/Off: This function enables restriction of the projector to authorized users by password. The setting procedures for security locking are as follows: <ol style="list-style-type: none"> 1 Select “On” and press ENTER to display the setting menu. 2 Input the password with the MENU, , , , and ENTER keys. (The default password setting is “ENTER, ENTER, ENTER, ENTER.”) 3 Input a new password with the MENU, , , , and ENTER keys. 4 Enter the password again to confirm. Enter the password when you turn on the projector after disconnecting and reconnecting the AC power cord. When it is set to “Off,” you can cancel the security lock. You are required to input the password again. If you fail to enter the correct password after three consecutive times, the projector cannot be used. In this case, press the I/⏻ key to go Standby mode then turn on the power again.
Direct Power On	On/Off: When set to “On,” you can turn the power on without going to Standby mode when the AC power cord is connected to a wall outlet. Regardless of the Direct Power On setting, you can disconnect the AC power cord to turn off the power without going to the Standby mode.

Items	Item descriptions
External Control	REMOTE: Select to control the projector using RS-232C. NETWORK: Select to control the projector via network.
Standby Mode ^{*4}	Standard/Low: When set to “Low,” lowers power consumption in Standby mode.

Notes

- *1: Since the Keystone adjustment is an electronic correction, the image may be deteriorated.
- *2: When “High Altitude Mode” is set to “On,” the speed of the fan increases, and the fan noise becomes slightly louder.
- *3: You will not be able to use the projector if you forget your password. If you call qualified Sony personnel because you have forgotten the password, you will be asked to verify the projector’s serial number and your identity. (This process may differ in other countries/regions.) Once your identity has been confirmed, we will provide you with the password.
- *4: When “Standby Mode” is set to “Low,” the network and network control function cannot be operated while the projector is in standby mode.
- *5: Depending on the position adjusted with the lens shift feature, the aspect ratio of the image may change from the original or projected image may be distorted with Keystone adjustment.
- *6: VPL-CX276/CW276 only.
- *7: VPL-CX236/CW256 only.

The INFORMATION Menu

The INFORMATION menu enables you to confirm various information on the projector, such as the total usage hours of a lamp.

Items	Item descriptions
Model Name	Displays the model name.
Serial No.	Displays the serial number.
fH ^{*1}	Displays the horizontal frequency of the current input signal.
fV ^{*1}	Displays the vertical frequency of the current input signal.
Signal Type	Displays the type of the current input signal.
IP Address ^{*2*3}	Displays IP address.
Lamp Timer	Indicates the total usage time of a lamp.

Notes

- *1: These items may not be displayed depending on the input signal.
- *2: Not displayed when “REMOTE” is selected in “External Control” in the INSTALL SETTING menu.
- *3: If “000.000.000.000” is displayed as the IP Address, select the Information menu again.



Using Network Features

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

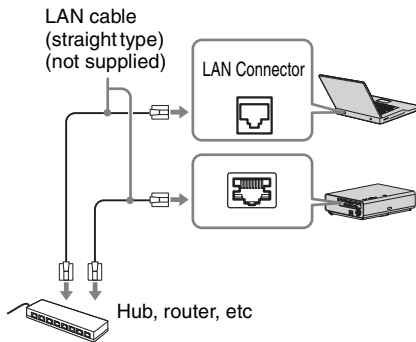
- Checking the current status of the projector via a Web browser.
- Remotely controlling the projector via a Web browser.
- Receiving the e-mail report for the projector.
- Making the network settings for the projector.
- Supports network monitoring, control protocol (Advertisement, PJ Talk, PJ Link, AMX DDDP [Dynamic Device Discovery Protocol]).

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 31). It is recommended to change the password regularly.
- When the setting on the Web browser is completed, close the Web browser to log out.
- The menu displays used for the explanation below may be different depending on the model you are using.
- Supported Web browsers are Internet Explorer 6/7/8.
- The menu displays only English.
- If the browser of your computer is set to [Use a proxy server] when you have access to the projector from your computer, click the check mark to set accessing without using a proxy server.

Displaying the Control Window of the Projector with a Web Browser

1 Connect the LAN cable.



2 Set the network settings for the projector using “Network Setting” on the SET SETTING menu (page 25).

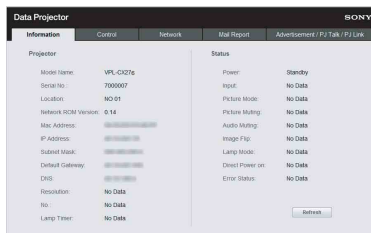
3 Start a web browser on the computer, enter the following in the address field, then press the Enter key on your computer.

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

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

You can confirm the IP address of the projector under “Network Setting” on the SET SETTING 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.

How to operate the Control window

Switching the page

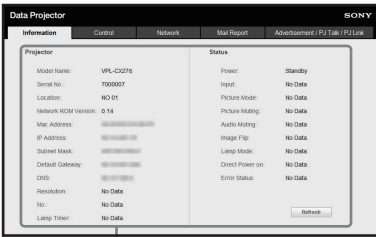
Click one of the Page Switching buttons to display the desired setting page.



Page Switching buttons

Confirming the Information regarding the Projector

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



Information area

Operating the Projector from a Computer

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



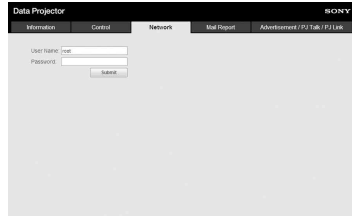
Operation area

The functions of the keys shown in the operation area are the same as those of the keys on the supplied Remote Commander.

Making the Network Settings

Setting the network password

The log-in screen appears after the Network page is selected.



No password is set by default. The user name is preset to “root.” Input required information after logging in.

Changing the password

- Enable:** Select to set a new password. Up to 15 characters can be input.
- Disable:** Select not to change the password.

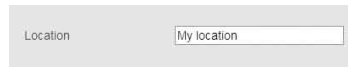


Note

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

Setting the location

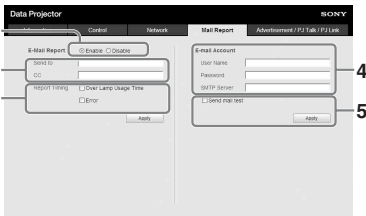
Location: Input information on where the projector is installed.



Using the e-mail report Function

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

- 1 Set the e-mail report function.
Enable: Select to activate the e-mail report function.
Disable: Select to deactivate the e-mail report function.



- 2 Enter the outgoing e-mail address in the Send To box then check the Report Timing check box of the e-mail report to be sent.
A message will be sent simultaneously to secondary recipients by entering their e-mail addresses in the CC box.

- 3 Set the timing to send e-mail report.
Over Lamp Usage Time: Tick the box to send a report that indicates the time for lamp replacement.
Error: Tick the box to send a report that indicates an error occurring.

- 4 Set the mail account for sending e-mail reports.
User Name: Enter the allocated user name. Up to 64 characters can be input.
Password: Enter the e-mail password.
SMTP Server: Enter the address of outgoing mail server (SMTP). Up to 64 characters can be input.

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

Notes

- The e-mail report function is not available because the network which Outbound Port25 Blocking is used cannot be connected to the SMTP server.
- You cannot use the following characters to enter the characters in the text box: “'”, “ ”, “&”, “<”, “>”.

Indicators

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

ON/STANDBY indicator

Status	Meaning/Remedies
Lights in red	The projector is in Standby mode.
Flashes in green	<ul style="list-style-type: none"> • The projector is ready to operate after having been turned on. • The lamp cools after the projector is turned off.
Lights in green	The projector's power is on.
Lights in orange	The projector is in AUTO POWER SAVING (lamp cut off). (page 24)
Flashes in red	The projector is in abnormal status. Symptoms are indicated by number of flashes. Address the problem in accordance with the following. If the symptom is shown again, consult with qualified Sony personnel.
Flashes twice	<p>The internal temperature is unusually high. Check the items below.</p> <ul style="list-style-type: none"> • Check to see if nothing is blocking the ventilation holes. • Check to see if the air filter is not clogged. (pages 3, 39)
Flashes six times	Unplug the AC power cord from a wall outlet. After checking that the ON/STANDBY indicator goes out, plug the power cord to a wall outlet again then turn on the projector.
Other number of flashes	Consult with qualified Sony personnel.

LAMP/COVER indicator

Status	Meaning/Remedies
Flashes in red	Symptoms are indicated by number of flashes. Address the problem in accordance with the following.
Flashes twice	The lamp cover or air filter cover is not attached securely. (pages 37, 39)
Flashes three times	<p>The temperature of the lamp is unusually high. Turn off the projector and turn it on again after the lamp has cooled. If the same symptom occurs, turn off the projector again and remove the lamp (page 37), then check if the lamp is not broken.</p> <p>If the lamp is not broken, reattach the lamp and turn on the projector again.</p> <p>If the symptom occurs again, the lamp may be exhausted. In this case, replace the lamp with a new one (page 37).</p> <p>If the lamp is broken, do not exchange the lamp by yourself. Consult a qualified Sony consultant.</p>

Messages List

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

Message	Meaning/Remedy	Page
High temp.! Lamp off in 1 min.	Check the items below. <ul style="list-style-type: none">• Check to see if nothing is blocking the ventilation holes.• Check to see if the air filter is not clogged.	3, 39
Frequency is out of range!	Change the output setting of the connected equipment to one for signals supported by the projector.	44
Please check Input-A Signal Sel.	Set "Input-A Signal Sel." to "Auto" or select the input signal type to suit to the input signal.	24
Please replace the Lamp and clean the Filter.	Replace the lamp with a new one and clean the air filter. The message appears whenever you turn on the power until you replace the lamp and reset the lamp timer.	37, 39
Not applicable!	Invalid key pressed.	–
The panel keys are locked!	"Panel Key Lock" is set to "On."	24

Troubleshooting

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

Symptom	Remedy	Page
The power is not turned on.	Check if the AC power cord is firmly connected.	–
	When the “Panel Key Lock” is set to “On,” you cannot turn on the projector using the I/⏻ key on the projector.	24
	If the lamp or lamp cover is not attached securely, the projector cannot be turned on.	37
No image.	Check if the connecting cable is connected to external equipment firmly.	–
	Check if the computer signal is set for output to an external monitor. If you set your computer, such as a notebook computer, to output the signal to both your computer’s display and an external monitor, the picture of the external monitor may not appear properly. Set your computer to output the signal to only an external monitor.	11
	Check if the input source is correctly selected.	11
	Check if the image is not cut off due to the BLANK key.	5
On-screen display does not appear.	The on-screen display does not appear when “Status” in the MENU SETTING menu is set to “Off.”	26
The aspect ratio of the display is not right/the image is displayed smaller /a portion of image does not appear.	Set “Aspect” manually.	5, 21, 22
The image is a trapezoid.	The images become trapezoidal because of the projection angle. In such a case, you can correct the trapezoidal distortion, using a Keystone feature.	5, 14, 27
	When the “V Keystone” is set to “Manual,” the keystone feature does not work automatically. Set “V Keystone” to “Auto” or “Manual” to set manually.	5, 14, 27
	When the projector is installed on an uneven surface, the feature may not work properly. In this case, select “Manual” to set “V Keystone” manually.	5, 14, 27
The image is dark/too bright.	The settings for “Brightness,” “Contrast,” and “Lamp Mode” affect brightness of the image. Check if the value is appropriate.	20, 27
	The image will be dark when the lamp is burnt out. Check “Lamp Timer,” and replace the lamp with a new one if necessary.	29
	When the temperature around the unit is high, the brightness will be reduced to protect the unit.	–

Symptom	Remedy	Page
The image is not clear.	Check if the projector is in focus.	12
	The picture will not be clear if condensation has accumulated on the lens. In such a case, let the projector sit for about two hours with the power on.	–
The image is noisy.	Check if the connecting cable is connected to external equipment properly.	7
No sound.	Check that the connecting cables between the projector and external video or audio equipment are securely connected.	7
	Check if the output setting of connected external audio equipment is set to output the audio signal from the projector.	–
	Check if the connecting cable is connected to external equipment firmly.	–
	Audio is not output if audio is muted with the MUTING key.	5
	Check if “Volume” is not set to minimum.	5, 20
The Remote Commander does not work.	Check that the batteries are installed correctly.	–
	Check that the batteries are not exhausted.	–
The fan is noisy.	The sound from the fan is often greater than normal to cool the lamp, etc. in the following cases. <ul style="list-style-type: none"> • “Lamp Mode” is set to “High.” • “High Altitude Mode” is set to “On.” • The unit is used in the location where the temperature is high. 	27
	If the ventilation holes are blocked, the internal temperature of the projector rises and the fan noise becomes larger.	3

Replacing the Lamp

Replace the lamp with a new one if a message displayed on the projected image or the LAMP/COVER indicator notifies you to replace the lamp (pages 33, 34).

Use an LMP-C280 (VPL-CX276/CW276), LMP-C240 (VPL-CX236/CW256) projector lamp (not supplied) for replacement.

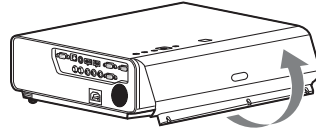
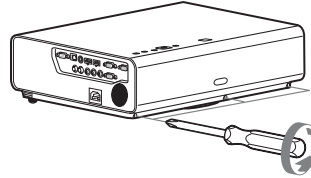
Caution

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

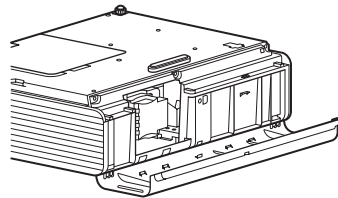
Notes

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

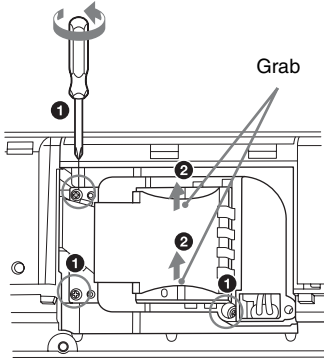
- 1 Turn off the projector, and disconnect the AC power cord from a wall outlet.
- 2 When the lamp has cooled sufficiently, open the lamp cover by loosening 3 screws.



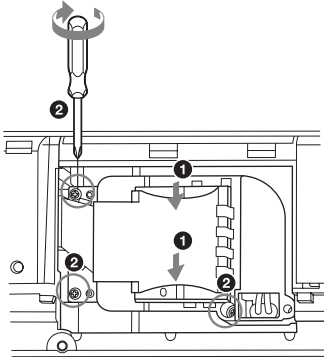
You can remove the lamp cover for a while when installing on the ceiling. Take care to prevent the lamp cover from falling down, as it is not fixed. Do not apply pressure to the lamp cover while it is open.



- 3 Loosen the 3 screws on the lamp (❶), then pull out the lamp by its grab (❷).



- 4 Insert the new lamp all the way in until it is securely in place (❶). Tighten the 3 screws (❷).



- 5 Close the lamp cover and tighten the 3 screws.

Note

Be sure to install the lamp and Lamp cover securely as it was. If not, the projector cannot be turned on.

- 6 Connect the AC power cord to a wall outlet and turn on the projector.

- 7 Reset the lamp timer for notification of the next replacement time.

Select “Lamp Timer Reset” on the SET SETTING menu then press the ENTER key. When a message appears, select “Yes” to reset the lamp timer (page 25).

Caution

**Disposal of the used lamp
For the customers in the USA**

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

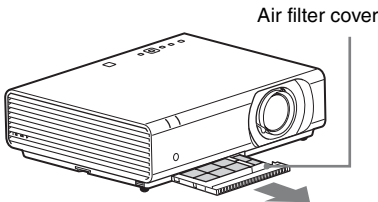
Cleaning the Air Filter

When a message appears on the projected image, clean the air filter (page 34). If the dust cannot be removed from the air filter even after cleaning, replace the air filter with a new one. For details on a new air filter, consult with qualified Sony personnel.

Caution

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

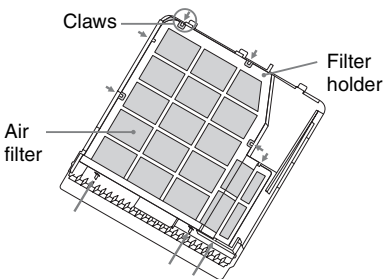
- 1 Turn off the projector, and disconnect the AC power cord from the AC outlet.
- 2 Draw out the air filter cover.



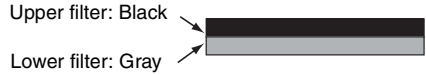
Note

If you remove the air filter cover when power is turned on and the AC power cord is not removed from the AC outlet, avoid touching the fan inside the unit, as it may cause injury.

- 3 Clean the air filter with a vacuum cleaner. Remove the filter holder to remove the air filter.



The air filter consists of 2 filters.



- 4 Attach the air filter cover to the unit.

Note

Be sure to attach the air filter cover firmly. Incorrect attachment of the cover may cause a malfunction.

Specifications

Item	Description	
Model	VPL-CX236/CX276/CW256/CW276	
Projection system	3 LCD system	
Display device	Effective display size	VPL-CX236: 0.63-inch (16.0 mm), 3 plate, Aspect ratio 4:3 VPL-CX276: 0.79-inch (20.1 mm), 3 plate, Aspect ratio 4:3 VPL-CW256/CW276: 0.75-inch (19.1 mm), 3 plate, Aspect ratio 16:10
	Effective picture elements	VPL-CX236/CX276: 2,359,296 pixels (1024 × 768 pixels, 3 plate panels) VPL-CW256/CW276: 3,072,000 pixels (1280 × 800 pixels, 3 plate panels)
Projection lens	Focus	Manual
	Zoom	Manual
Light source	VPL-CX236/CW256: 245 W type VPL-CX276/CW276: 280 W type	
Projected image size	40 inches to 300 inches (1.02 m to 7.62 m)	
Luminous flux (Brightness)	VPL-CX236: 4100 lm VPL-CW256: 4500 lm VPL-CX276: 5200 lm VPL-CW276: 5100 lm (when “Lamp Mode” is set to “High”)	
Speaker	10 W × 1 (monaural)	
Applicable scanning frequency *1	Horizontal: 19 kHz to 92 kHz, Vertical: 48 Hz to 92 Hz	
Resolution	When a computer signal is input	Maximum display resolution: 1600 × 1200 pixels (resize) Panel display resolution: VPL-CX236/CX276: 1024 × 768 pixels VPL-CW256/CW276: 1280 × 800 pixels
	When a video signal is input	NTSC, PAL, SECAM, 480/60i, 576/50i, 480/60p, 576/50p, 720/60p, 720/50p, 1080/60i, 1080/50i
Color system	NTSC ^{3.58} , PAL, SECAM, NTSC ^{4.43} , PAL-M, PAL-N, PAL60	

Item	Description
Model	VPL-CX236/CX276/CW256/CW276
INPUT OUTPUT (Computer/video)	<p>INPUT A RGB/YPbPr input connector: Mini D-sub 15 pin female, G with sync/Y: 1 Vp-p ± 2 dB, sync negative, 75 ohms terminated, RGB/PbPr: 0.7 Vp-p ± 2 dB, 75 ohms terminated, Sync signal: TTL level high impedance, positive/negative Audio input connector: Stereo mini jack, rated input 500 mVrms, input impedance more than 47 kohms</p> <hr/> <p>INPUT B RGB input connector: Mini D-sub 15-pin female, RGB: 0.7 Vp-p ± 2 dB, 75 ohms terminated, Sync signal: TTL level high impedance, positive/negative Audio input connector: Stereo mini jack, rated input 500 mVrms, input impedance more than 47 kohms</p> <hr/> <p>INPUT C HDMI input connector: HDMI 19-pin, HDCP support, Audio input connector: HDMI Audio support</p> <hr/> <p>INPUT D HDMI input connector: HDMI 19-pin, HDCP support, Audio input connector: HDMI Audio support</p> <hr/> <p>VIDEO IN Video input connector: Phono jack, 1 Vp-p ± 2 dB, sync negative, 75 ohms terminated Audio input connector: Stereo mini jack, rated input 500 mVrms, input impedance more than 47 kohms</p> <hr/> <p>OUTPUT MONITOR output connector: Mini D-sub 15-pin female, G with sync/Y: 1 Vp-p ± 2 dB, sync negative, 75 ohms terminated, RGB/PbPr: 0.7 Vp-p ± 2 dB, 75 ohms terminated, Sync signal: HD, VD 4 V (open), 1 Vp-p (75 ohms), positive/negative Audio output connector: Stereo mini jack, stereo, 1 Vrms (maximum volume, when inputting 500 mVrms), output impedance 5 kohms</p> <hr/> <p>Others connector RS-232C connector: D-Sub 9 pin male LAN connector: RJ45, 10BASE-T/100BASE-TX</p> <hr/> <p>Operating temperature/ Operating humidity 0 °C to 40 °C (32 °F to 104 °F)/20% to 80% (no condensation)</p> <hr/> <p>Storage temperature/ Storage humidity -10 °C to +60 °C (14 °F to 140 °F)/20% to 80% (no condensation)</p> <hr/> <p>Power requirements VPL-CX236/CW256: 100 V to 240 V AC, 3.5 A-1.5 A, 50/60 Hz VPL-CX276/CW276: 100 V to 240 V AC, 4.0 A-1.7 A, 50/60 Hz</p>

Item	Description
Model	VPL-CX236/CX276/CW256/CW276
Power consumption	VPL-CX236: 100 V AC: 350 W 220 V AC: 330 W VPL-CW256: 100 V AC: 346 W 220 V AC: 326 W VPL-CX276: 100 V AC: 389 W 220 V AC: 367 W VPL-CW276: 100 V AC: 395 W 220 V AC: 372 W
Power Consumption (Standby mode)	AC 100 V to 120 V: 0.5 W (when “Standby Mode” is set to “Low”) AC 220 V to 240 V: 0.5 W (when “Standby Mode” is set to “Low”)
Power Consumption (Networked Standby mode)	AC 100 V to 120 V: 3.0 W (LAN) (when “Standby Mode” is set to “Standard”) AC 220 V to 240 V: 3.0 W (LAN) (when “Standby Mode” is set to “Standard”)
Heat dissipation	VPL-CX236: 100 V AC: 1194 BTU/h 220 V AC: 1126 BTU/h VPL-CW256: 100 V AC: 1180 BTU/h 220 V AC: 1112 BTU/h VPL-CX276: 100 V AC: 1327 BTU/h 220 V AC: 1252 BTU/h VPL-CW276: 100 V AC: 1348 BTU/h 220 V AC: 1269 BTU/h
Standard dimensions (W/H/D)	Approx. 406 × 122.3 × 330.5 mm (15 ³¹ / ₃₂ × 4 ¹³ / ₁₆ × 13 inches) Approx. 406 × 113 × 330.5 mm (15 ³¹ / ₃₂ × 4 ⁷ / ₁₆ × 13 inches) (without projecting parts)
Mass	VPL-CX236/CW256: Approx. 5.6 kg (12 lb) VPL-CX276/CW276: Approx. 5.7 kg (13 lb)
Supplied accessories	See “Checking the Supplied Accessories” in the supplied Quick Reference Manual.
Optional accessories *2	Projector lamp LMP-C240 (replacement lamp for VPL-CX236/CW256) LMP-C280 (replacement lamp for VPL-CX276/CW276)

Notes

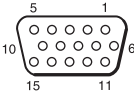
*1: For details, refer to “Acceptable Input Signals” on page 44.

*2: Information on accessories in this manual is current as of October 2014.

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

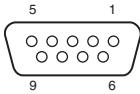
Pin assignment

RGB input connector (Mini D-sub 15-pin, female)



1	Video input (Red) R	9	Power supply input for DDC
2	Video input (Green) G	10	GND
3	Video input (Blue) B	11	GND
4	GND	12	DDC/SDA
5	RESERVE	13	Horizontal sync signal
6	GND (R)	14	Vertical sync signal
7	GND (G)	15	DDC/SCL
8	GND (B)		

RS-232C connector (D-Sub 9-pin, male)



1	NC	6	NC
2	RXDA	7	RTS
3	TXDA	8	CTS
4	DTR	9	NC
5	GND		

Others

Acceptable Input Signals

Computer signal

Resolution	fH [kHz]/ fV [Hz]	Input connector	
		RGB	HDMI
640 × 350	31.5/70	●	
	37.9/85	●	
640 × 400	24.8/56	●	
	31.5/70	●	
	37.9/85	●	
640 × 480	31.5/60	●	●
	35.0/67	●	
	37.9/73	●	
	37.5/75	●	
	43.3/85	●	
800 × 600	35.2/56	●	
	37.9/60	●	●
	48.1/72	●	
	46.9/75	●	
	53.7/85	●	
832 × 624	49.7/75	●	
1024 × 768	48.4/60	●	●
	56.5/70	●	
	60.0/75	●	
	68.7/85	●	
1152 × 864	64.0/70	●	
	67.5/75	●	
	77.5/85	●	
1152 × 900	61.8/66	●	
1280 × 960	60.0/60	●	●
	75.0/75	●	
1280 × 1024	64.0/60	●	●
	80.0/75	●	
	91.1/85	●	
1400 × 1050	65.3/60	●	●
1280 × 768	47.8/60	●	●
1280 × 720	44.8/60	●	●
1366 × 768	47.7/60	●	●

Resolution	fH [kHz]/ fV [Hz]	Input connector	
		RGB	HDMI
1440 × 900	55.9/60	●	●
1280 × 800	49.7/60	●	●
1600 × 1200	75/60	●	
1920 × 1200	74.0/59.95	●	

Video signal

Signal	fV [Hz]	Input connector		
		VIDEO	RGB/ YPbPr	HDMI
NTSC	60	●	–	–
PAL/ SECAM	50	●	–	–
480i	60	–	●	●
576i	50	–	●	●
480p	60	–	●	●
576p	50	–	●	●
1080i	60	–	●	●
1080i	50	–	●	●
720p	60	–	●	●
720p	50	–	●	●

Notes

- When a signal other than the signals listed in table is input, the picture may not be displayed properly.
- An input signal meant for screen resolution different from that of the panel will not be displayed in its original resolution. Text and lines may be uneven.

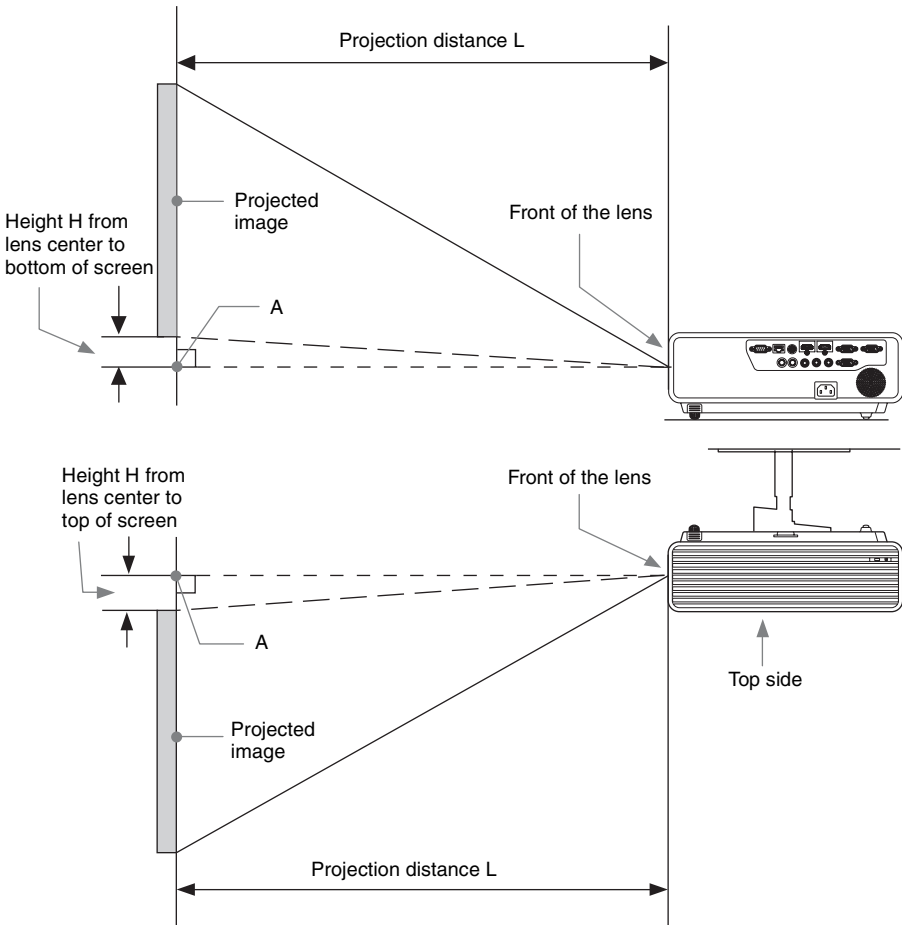
Projection Distance and Lens Shift Range

The following describes the projection distance and height from lens center to bottom of screen by each projected screen size.

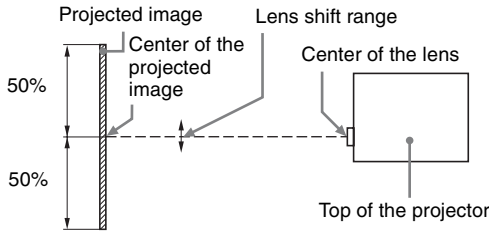
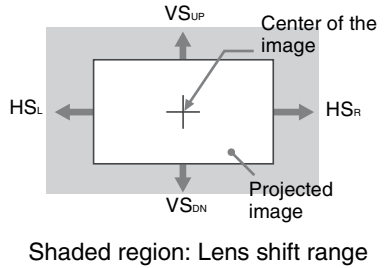
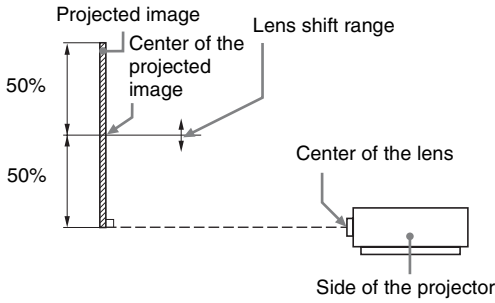
The projection distance is the distance between the front of the lens and the surface of the projected image.

Height H is the height from the bottom of the projected image (top for ceiling mount) to A (determined by drawing a perpendicular line from lens center to projected image surface). For this unit, the same projection distance calculations apply to both floor and ceiling installation.

Floor Installation/Ceiling Installation (Top side parallel to ceiling)



The lens shift range represents the distance in percent (%) by which the lens can be shifted from the initial position of the projected image, with full width or full height of the projected image regarded as 100%.



- VS_{UP}: Vertical lens shift range (up) [%]
- VS_{DN}: Vertical lens shift range (down) [%]
- HS_R: Horizontal lens shift range (right) [%]
- HS_L: Horizontal lens shift range (left) [%]

Projection distance/Projection distance formula

Projection distance (VPL-CX236)

Unit: m (inches)

Projected image size		Projection Distance L	Height H from lens center to bottom of screen	
Diagonal D	Width × Height		Projection Distance L (min.)	Projection Distance L (max.)
80 inch (2.03 m)	1.63 × 1.22 (64 × 48)	2.65 – 3.88 (105 – 152)	0.03 (1)	0.03 (1)
100 inch (2.54 m)	2.03 × 1.52 (80 × 60)	3.33 – 4.86 (131 – 191)	0.04 (2)	0.04 (2)
120 inch (3.05 m)	2.44 × 1.83 (96 × 72)	4.00 – 5.84 (158 – 230)	0.05 (2)	0.05 (2)
150 inch (3.81 m)	3.05 × 2.29 (120 × 90)	5.01 – 7.32 (198 – 288)	0.06 (2)	0.06 (2)
200 inch (5.08 m)	4.06 × 3.05 (160 × 120)	6.70 – 9.77 (264 – 384)	0.08 (3)	0.08 (3)

Projection distance formula (VPL-CX236)

D: Projected image size (Diagonal)

H: Distance between the bottom edge of the image and the center of the lens

Expression#1

Unit: m (inches)

Projection Distance L (min.)	Projection Distance L (max.)
$L=0.033708 \times D - 0.0490$ ($L=1.327085 \times D - 1.9300$)	$L=0.049125 \times D - 0.0482$ ($L=1.934037 \times D - 1.8982$)

Expression#2

Height H from lens center to bottom of screen	
Projection Distance L (min.)	Projection Distance L (max.)
$H=0.00038 \times D+0.00000$ ($H=0.01500 \times D+0.00000$)	$H=0.00038 \times D+0.00000$ ($H=0.01500 \times D+0.00000$)

Projection distance (VPL-CW256)

Unit: m (inches)

Projected image size		Projection Distance L	Height H from lens center to bottom of screen	
Diagonal D	Width × Height		Projection Distance L (min.)	Projection Distance L (max.)
80 inch (2.03 m)	1.72 × 1.08 (68 × 42)	2.22 – 3.25 (88 – 128)	0.00 (0)	0.00 (0)
100 inch (2.54 m)	2.15 × 1.35 (85 × 53)	2.79 – 4.08 (110 – 160)	0.00 (0)	0.00 (0)
120 inch (3.05 m)	2.58 × 1.62 (102 × 64)	3.36 – 4.91 (133 – 193)	0.00 (0)	0.00 (0)
150 inch (3.81 m)	3.23 × 2.02 (127 × 79)	4.21 – 6.15 (166 – 242)	0.00 (0)	0.00 (0)
200 inch (5.08 m)	4.31 × 2.69 (170 × 106)	5.63 – 8.21 (222 – 323)	0.00 (0)	0.00 (0)

Projection distance formula (VPL-CW256)

D: Projected image size (Diagonal)

H: Distance between the bottom edge of the image and the center of the lens

Expression#1

Unit: m (inches)

Projection Distance L (min.)	Projection Distance L (max.)
$L=0.028357 \times D - 0.0490$ ($L=1.116434 \times D - 1.9300$)	$L=0.041327 \times D - 0.0482$ ($L=1.627044 \times D - 1.8982$)

Expression#2

Height H from lens center to bottom of screen	
Projection Distance L (min.)	Projection Distance L (max.)
$H=0.00000 \times D+0.00000$ ($H=0.00000 \times D+0.00000$)	$H=0.00000 \times D+0.00000$ ($H=0.00000 \times D+0.00000$)

Others

Projection distance/Projection distance formula

Projection distance (VPL-CX276)

Unit: m (inches)

Projected image size		Projection Distance L	Height H from lens center to bottom of screen
Diagonal D	Width × Height		
80 inch (2.03 m)	1.63 × 1.22 (64 × 48)	2.12 – 3.10 (84 – 122)	-0.13 (-5)
100 inch (2.54 m)	2.03 × 1.52 (80 × 60)	2.66 – 3.88 (105 – 153)	-0.17 (-7)
120 inch (3.05 m)	2.44 × 1.83 (96 × 72)	3.20 – 4.67 (126 – 184)	-0.20 (-8)
150 inch (3.81 m)	3.05 × 2.29 (120 × 90)	4.01 – 5.85 (158 – 230)	-0.25 (-10)
200 inch (5.08 m)	4.06 × 3.05 (160 × 120)	5.36 – 7.82 (211 – 308)	-0.33 (-13)

Projection distance formula (VPL-CX276)

D: Projected image size (Diagonal)

H: Distance between the bottom edge of the image and the center of the lens

Expression#1

Unit: m (inches)

Projection Distance L (min.)	Projection Distance L (max.)
$L=0.027010 \times D - 0.0490$ $(L=1.063369 \times D - 1.9300)$	$L=0.039363 \times D - 0.0482$ $(L=1.549709 \times D - 1.8982)$

Expression#2

Height H from lens center to bottom of screen
$H=-0.00165 \times D+0.00000$ ($H=-0.06502 \times D+0.00000$)

Projection distance (VPL-CW276)

Unit: m (inches)

Projected image size		Projection Distance L	Height H from lens center to bottom of screen
Diagonal D	Width × Height		
80 inch (2.03 m)	1.72 × 1.08 (68 × 43)	2.22 – 3.25 (88 – 128)	0.00 (0)
100 inch (2.54 m)	2.15 × 1.35 (85 × 53)	2.79 – 4.08 (110 – 160)	0.00 (0)
120 inch (3.05 m)	2.58 × 1.62 (102 × 64)	3.36 – 4.91 (133 – 193)	0.00 (0)
150 inch (3.81 m)	3.23 × 2.02 (127 × 79)	4.21 – 6.15 (166 – 242)	0.00 (0)
200 inch (5.08 m)	4.31 × 2.69 (170 × 106)	5.63 – 8.21 (222 – 323)	0.00 (0)

Projection distance formula (VPL-CW276)

D: Projected image size (Diagonal)

H: Distance between the bottom edge of the image and the center of the lens

Expression#1

Unit: m (inches)

Projection Distance L (min.)	Projection Distance L (max.)
$L=0.028357 \times D - 0.0490$ $(L=1.116434 \times D - 1.9300)$	$L=0.041327 \times D - 0.0482$ $(L=1.627044 \times D - 1.8982)$

Expression#2

Height H from lens center to bottom of screen
$H=0.00000 \times D+0.00000$ ($H=0.00000 \times D+0.00000$)

Lens shift range

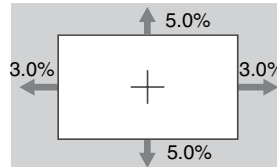
VPL-CX236



$$VS_{UP}=VS_{DN}=5.0[\%]$$

$$HS_R=HS_L=4.0[\%]$$

VPL-CW256



$$VS_{UP}=VS_{DN}=5.0[\%]$$

$$HS_R=HS_L=3.0[\%]$$

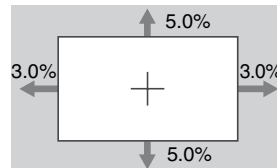
VPL-CX276



$$VS_{UP}=VS_{DN}=3.3[\%]$$

$$HS_R=HS_L=2.5[\%]$$

VPL-CW276

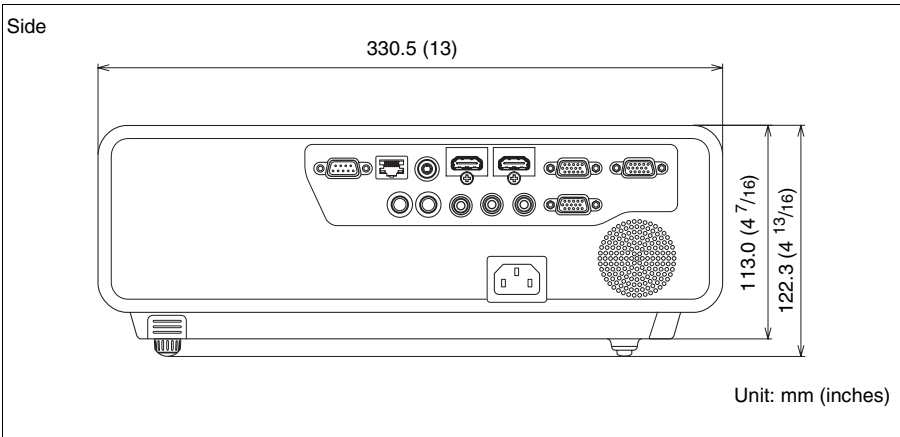
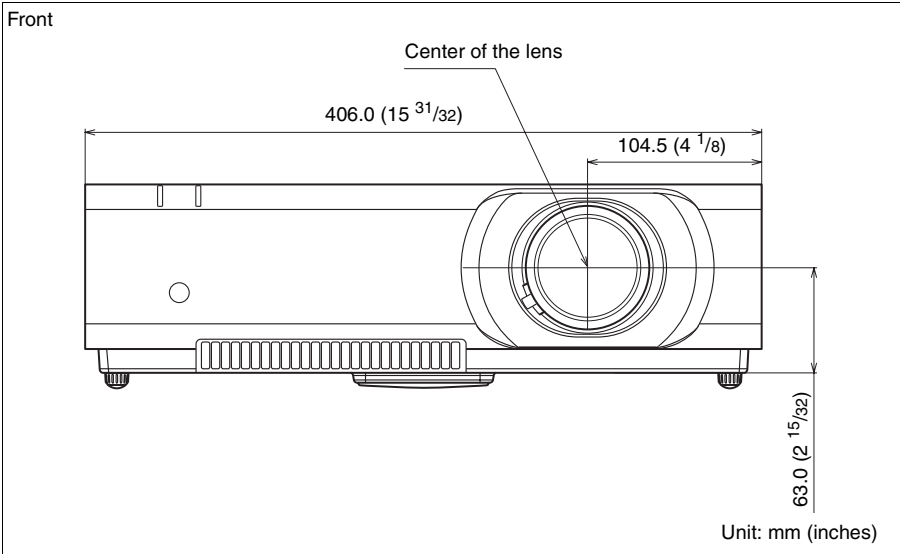


$$VS_{UP}=VS_{DN}=5.0[\%]$$

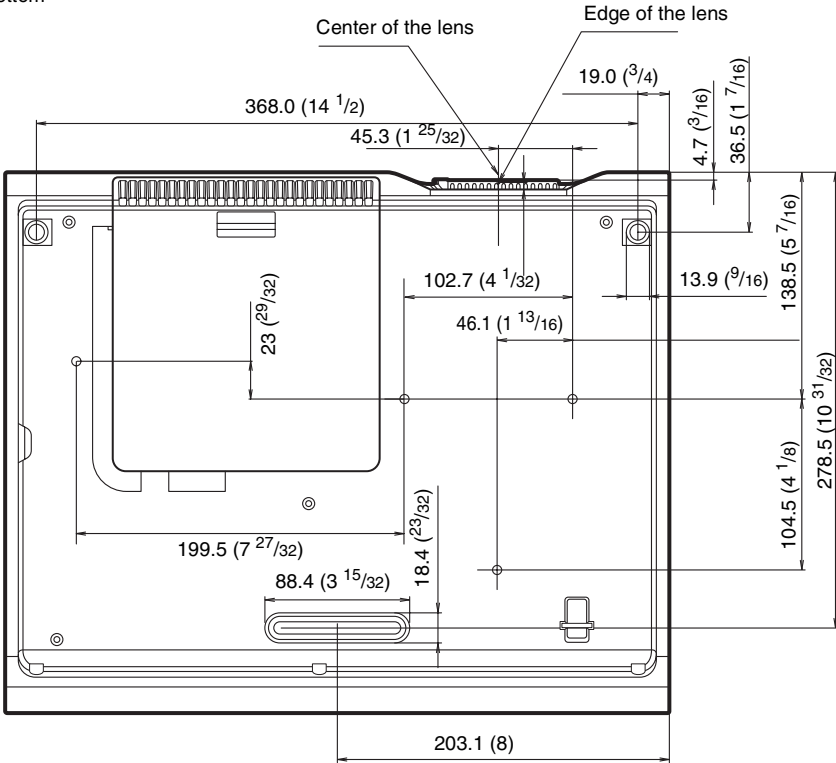
$$HS_R=HS_L=3.0[\%]$$

Others

Dimensions



Bottom



Unit: mm (inches)

Others

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