EPSON®

Home Theatre Projector

User's Guide

EMP-TW100

About The Manuals and Notations Used

Types of Manual

The documentation for your EPSON projector is divided into the following four manuals. Refer to the manuals in the order given below.

❶Unpacking and Installation Guide

This manual contains information on the procedures from unpacking the projector through to starting to use the projector, and also describes the included accessories.

❷Safety Instructions/ World-Wide Warranty Terms

This manual contains information on using the projector safely, and also includes safety instructions ,world-wide warranty terms and a troubleshooting check sheet.
Be sure to read this manual thoroughly before using the projector.

❸Setup Guide

This manual describes the preparations required in order to start using the projector (such as remote control preparation and connecting video equipment or a computer).

❹User's Guide (this manual)

This *User's Guide* contains information on basic operation, using the projector menus, troubleshooting and maintenance.

Notations used in this User's Guide

General information

⊙	Indicates procedures where personal injury or damage to the projector may occur if the procedures are not followed correctly.
💡	Indicates additional information and points which may be useful to know regarding a topic.
▸▸	Indicates that an explanation of the underlined word or words in front of this symbol appears in the glossary of terms. Refer to the "Glossary" in the "Appendix". (p.61)
Procedure	Indicates operating methods and the order of operations. The procedure indicated should be carried out in the order of the numbers.

Meaning of "unit" and "projector"

When "unit" or "projector" appears in the text of this *User's Guide*, they may refer to items which are accessories or optional equipment in addition to the main projector unit itself.
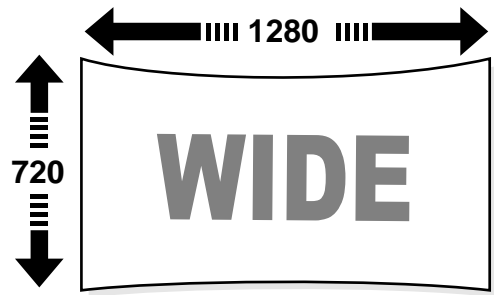
Contents

Features of the Projector

Adoption of a wide 1280 x 720 dot panel

This panel allows high-definition images to be reproduced accurately.

1280

720

WIDE

Adoption of a special high-resolution DCDi⁣ video circuit developed by Faroudja.

This circuit greatly reduces the jagged edges that resulted from conventional progressive conversion, to produce much smoother and natural movement. (p.29)
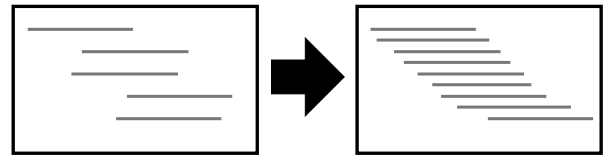
Adoption of a three-dimensional Y/C separation function in the video processing circuit

This greatly reduces the noticeable color interference at the color boundaries of composite video⁣ signals, resulting in sharper and smoother reproduction of images.

Adoption of a short focal-length lens that can project onto 80-inch screens at distances of 2.5m (8.2 ft.)

This lens is ideal for projecting onto large indoor screens. The projector can also project onto 100-inch screens in rooms with an area of about 10 m². (Refer to the *Setup Guide*.)

80-inch screen

2.5m
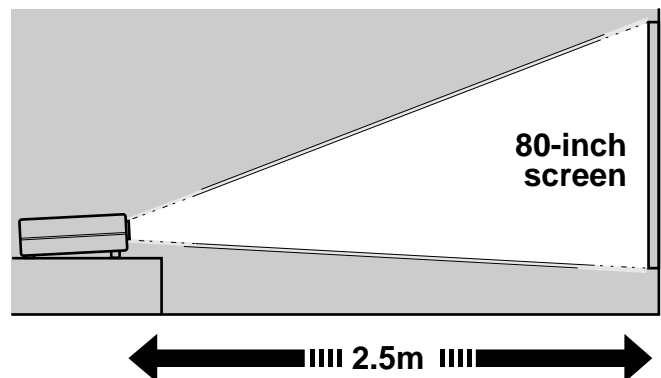
Uses five color modes

You can select the desired color mode to match the images being projected from five preset modes in order to obtain the optimum image quality. (p.13)

Includes a variety of color adjustment modes

Various color settings can be adjusted to suit your preferences, from individual RGB balance adjustment to setting the color temperature of your choice. The adjusted settings can then be stored in memory and recalled at a touch of a button on the remote control. (p.25, 27)

2
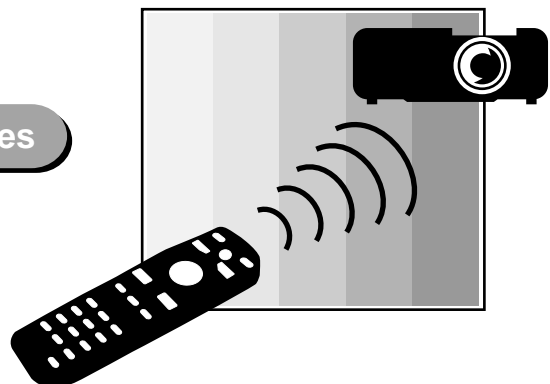
*Speakers are not included with the projector and must be purchased separately.

Basic Operations

This chapter describes basic operations such as turning the projector on and off and adjusting the projected images.

Turning On the Projector

This section describes the procedure from turning on the power to projecting images.

> ⚠ Be sure to read the separate *Safety Instructions/ World-Wide Warranty Terms* before using the projector.

Connecting the Power Cord

Procedure
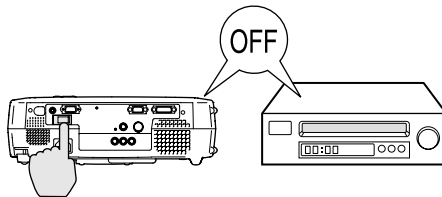
1 Check that the power is turned off for the projector and all components connected to the projector.

OFF

2 Connect the computer or other video source to the projector.
Refer to the *Setup Guide*.

3 Remove the lens cover.
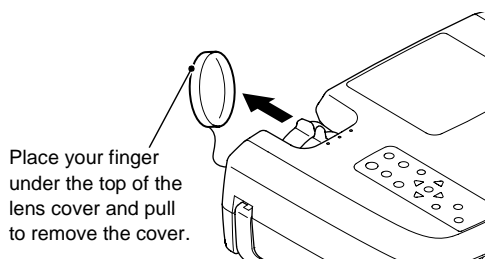
Place your finger under the top of the lens cover and pull to remove the cover.
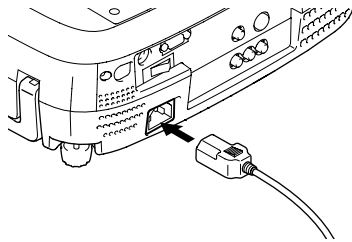
4 Connect the accessory power cord to the projector.
Check that the power cord connector is facing the same way as the power inlet on the projector, and then insert the power cord connector securely into the projector.

5 Connect the other end of the power cord to a grounded electrical outlet.
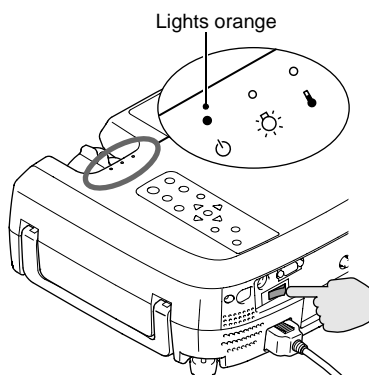
6 Turn on the main power switch at the rear of the projector.
The ⏻ indicator lights orange.

Lights orange

Turning On the Power and Projecting Images

Procedure
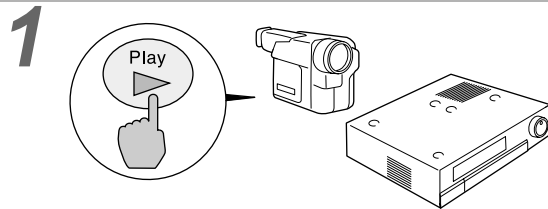
1 **Turn on the power for all equipment connected to the projector.**

For a video source, press the [Play] button at the video source to start playback if necessary.
Check that the ⏻ indicator on the projector has stopped flashing and lights orange.
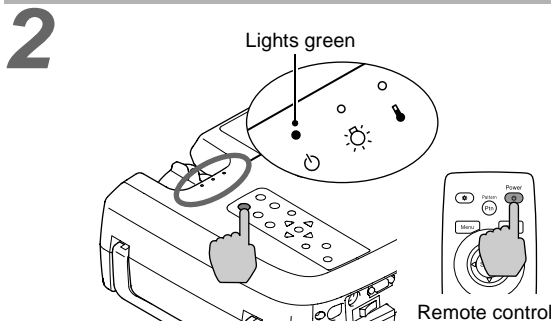
2 Lights green

Press the [Power] button on either the remote control or the projector's control panel to turn on the power.

The ⏻ indicator flashes green, and after a short period projection starts.
Check that the ⏻ indicator has stopped flashing and lights green. (This takes approximately 20 seconds.)

Remote control

The buttons on the remote control and the projector's control panel cannot be operated while the ⏻ indicator is flashing green. Wait until it lights steadily.
The message "No-Signal." may appear depending on the projector's menu settings.
 "Setting" - "No-Signal Msg." (p.30)

3 **If more than one signal source has been connected, use the remote control or control panel buttons to select the port which the signal source that you would like to use is connected to, while referring to the following table.**

| Port	Button to press		Display at top-right of screen *1
	Projector	Remote control	
InputA	The input signal source changes each time the [Source] button is pressed. If you do not press the [Source] button again while the signal name is appearing in the top-right corner of the screen, the signal source will not change to the next source.	[A]	INPUT A (<u>YCbCr</u>▶▶)*2 INPUT A (<u>YPbPr</u>▶▶)*2
InputB		[B]	INPUT B (RGB)*3 INPUT B (YCbCr)*3 INPUT B (YPbPr)*3
S-Video		[S-Video]	S Video
Video		[Video]	Video
D-RGB/ A-RGB <u>DVI-I</u>▶▶		[D-RGB]	D-RGB
		[A-RGB]	A-RGB

*1 The display disappears after 1 seconds.
*2 The signal set by "Input A" in the "Advanced" environment setting menu will be displayed.
*3 The signal set by "Input B" in the "Advanced" environment setting menu will be displayed.

- If only one signal source has been connected, the signals from that source will be projected without needing to press one of the above buttons.
- If the "No-Signal." message does not disappear, check the connections again.
- If a laptop computer or a computer with an LCD screen has been connected to the projector, the images may not be projected straight away. After making the connections, check the computer to make sure it has been set up to output signals.
  The following table shows examples of how to toggle output settings. For details, refer to the section of the documentation provided with your computer under a heading such as "External output", "Connecting an external monitor" or similar.

NEC	Panasonic	Toshiba	IBM	Sony	Fujitsu	Macintosh
[Fn]+[F3]	[Fn]+[F3]	[Fn]+[F5]	[Fn]+[F7]	[Fn]+[F7]	[Fn]+[F10]	After startup, change the Control Panel adjustments so that Mirroring is active.

Basic Operations

7

Turning Off the Projector

Follow the procedure below to turn off the power of the projector.

1

OFF
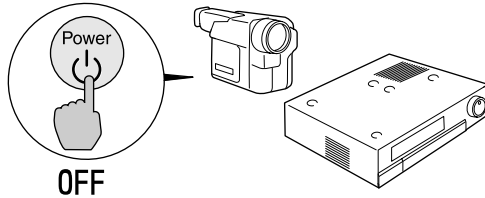
Turn off the power for the signal sources that are connected to the projector.

Check that the power for all connected components has been tuned off.

2

Power OFF?

Please press ⏻Power key again to power off.

Press the [Power] button on either the remote control or the projector's control panel.

The confirmation message shown at left will appear.
If you do not want to turn off the power, press any button except the [Power] button.
If you do not carry out any operation, the message will disappear after seven seconds. (The power will not turn off at this time.)

3

Projector   Remote control
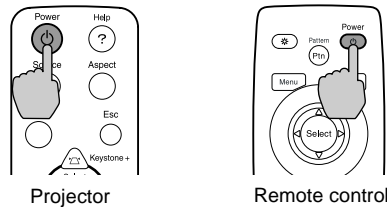
Press the [Power] button once more.

The lamp unit will turn off and the ⏻ indicator will flash red as the cool-down▸ period starts. After about 90 seconds, the ⏻ indicator will change to flashing orange.
The cool-down period lasts for approximately 5 minutes. (This varies depending on factors such as the ambient air temperature.)

> The remote control and projector control panel buttons cannot be operated while the ⏻ indicator is flashing red. When the ⏻ indicator is flashing orange, only the [Power] buttons on the remote control and the projector's control panel will work.

4
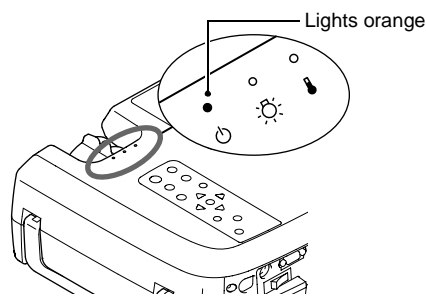
Lights orange

Check that the ⏻ indicator has changed to light orange.

When the ⏻ indicator lights orange, cool-down is complete.

5
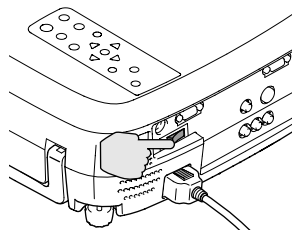
If not using the projector for long periods of time, turn off the main power switch at the rear of the projector.

> ⚠ Do not turn off the main power switch at the rear of the projector while the cool-down is in progress. If the main power switch is turned off before cool-down is complete, wait for the lamp to cool down (normally about one hour is required) before turning the power back on again. If the power is turned off and on before the lamp has cooled down, it may result in lamp operating errors.
> Refer to "Lamp operating error" on page 35.

6
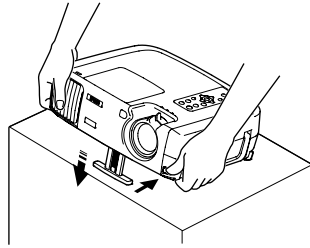
Retract the front adjustable foot if it is extended.

Gently push down on the projector while pressing the foot adjust button.

7
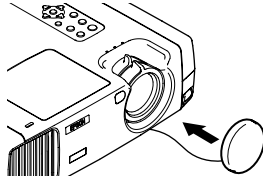
Attach the lens cover.

Attach the lens cover to the lens when not using the projector, in order to stop the lens from getting dusty or dirty.

Screen Image Adjustments

You can adjust the screen image in order to obtain the best possible picture.

Adjusting the Image Size

The size of the projected image is basically determined by the distance from the projector to the screen. (Refer to the *Setup Guide*.)
The following procedures explain how to adjust the screen image once the projector itself has been set up.

Procedure

Turn to Tele to reduce the size

Turn to Wide to increase the size
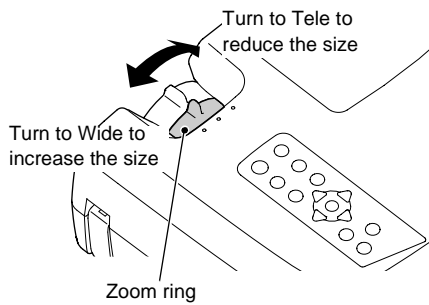
Zoom ring

Turn the zoom ring on the projector to adjust the image.

The image can be enlarged in this way to 1.35 times the normal size.
If you would like to enlarge the image further, move the projector further away from the screen. (Refer to the *Setup Guide*.)

Adjusting the Image Angle

The projector should be as perpendicular to the screen as possible.
If the projector cannot be set up so that it is exactly perpendicular to the screen, it can be set up so that it is tilting slightly horizontally or vertically. To tilt the projector upward, adjust the front adjustable foot to tilt the projector at an angle of up to a maximum 12°.

Seen from the side
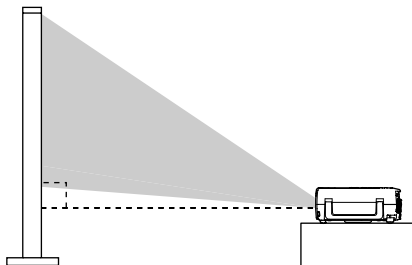
Seen from above
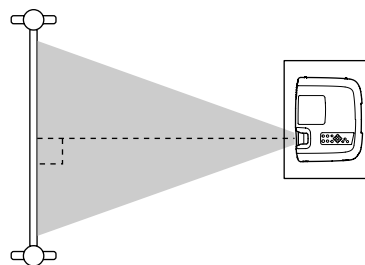
Procedure
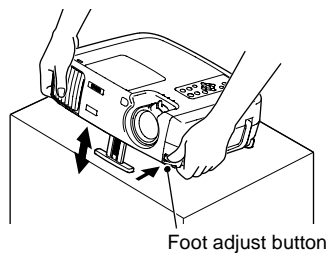
Foot adjust button

While pressing the foot adjust button, lift up the front of the projector so that the front adjustable foot can extend.

Extend the front adjustable foot until the desired angle is obtained, and then release the foot adjust button.
To retract the foot, press and hold the foot adjust button and gently lower the projector.

- When the foot is adjusted, it may cause the projected images to become distorted. Use the keystone correction function to adjust this distortion. (p.11)
- If the projector is tilted horizontally, adjust by turning the rear adjustable foot.

Rear adjustable foot

Extend   Retract

Basic Operations
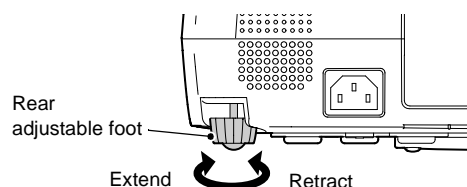
Correcting Keystone Distortion

If the projector is set up so that it is at an angle to the screen, a type of distortion known as "keystone distortion" may occur.
Keystone correction can be carried out if the angle of the projector is within a range of approximately 15° vertically from the perpendicular.

Approx. 15° above

Approx. 15° below

15°

15°
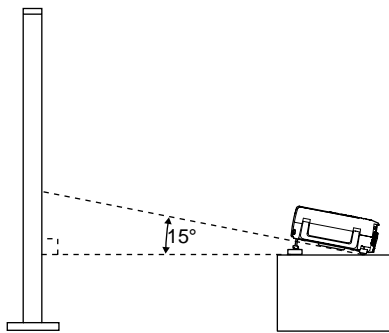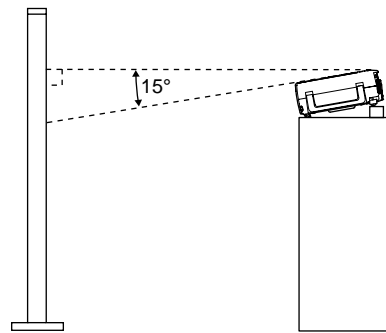
Procedure Keystone correction can be carried out using the projector's control panel and also using the environment setting menu. The procedure given here describes the method using the projector's control panel. For details on adjustment using the environment setting menu, see "Setting" – "Keystone" (p.30).

If the top is wider
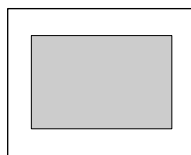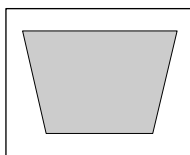
If the bottom is wider
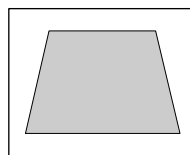
While holding down the [Shift] button on the projector's control panel, press the [Keystone +] or [Keystone -] button.

It may be helpful to display the test pattern while making the adjustment. (p.12)
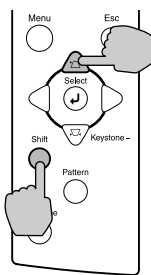
Projector
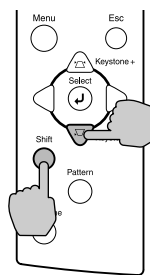
Projector

- When keystone correction is carried out, the projected image will become smaller.
- The keystone correction settings are memorized, so that if you change the position or angle of the projector, you may need to readjust the keystone correction settings.
- If the images become uneven in appearance after keystone correction is carried out, decrease the "Sharpness" setting. (p.24, 27)
- If the value displayed in the gauge on the screen stops changing when horizontal or vertical keystone correction is being carried out, it indicates that the limit for horizontal or vertical keystone correction has been exceeded. Check that the projector has not been set up at an angle which exceeds the proper limit.

11

Displaying a Test Pattern

When setting up the projector, you can project a test pattern onto the screen and use this test pattern to adjust the projected images before a video source has been connected. The following two types of test pattern are available.

● Crosshatch
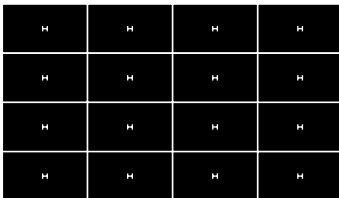
This can be used to adjust the focus and correct keystone distortion.

● Grayscale pattern
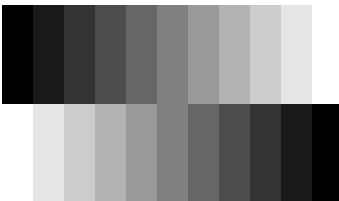
This can be used to adjust dark and light shades to the desired shade. The adjustment can be carried out using the "Color Temp.▶" or "RGB" setting in the "Color Adjustment" item of the projector's "Video" menu.

Procedure
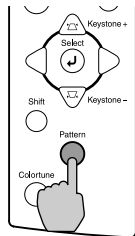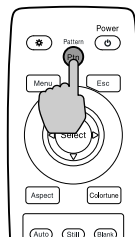
Projector   Remote control

The test pattern changes or turns off as shown below each time the [Pattern] button either the projector's control panel or the remote control is pressed.

Crosshatch → Grayscale pattern → No pattern

> The full environment setting menu cannot be displayed while a test pattern is being projected. If you need to change a setting, use the line menu or the [Keystone] buttons on the projector's control panel.

Basic Image Quality Adjustments

The quality of the screen images can be adjusted as follows.

Focusing the Screen Image

Procedure
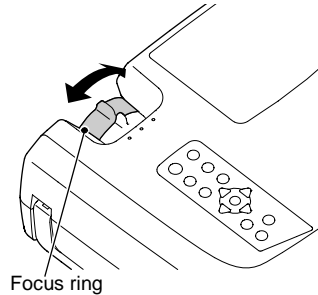
Turn the focus ring to adjust the image focus.

Focus ring

- If the surface of the lens is dirty or misted over as a result of condensation, it may not be possible to adjust the focus correctly. If this happens, clean or de-mist the lens. (p.46)
- If the projector is positioned outside the normal projecting range of 0.9 - 13 m (2.9 - 42.6 ft.), it may not be possible to obtain the correct focus. If you have trouble obtaining the correct focus, check the projection distance.

Selecting the Color Mode

The following five color modes have been preset for use with images with varying characteristics. You can use these color modes to obtain the optimum image quality easily, just by selecting whichever color mode best suits the images. The brightness of the projected images will vary depending on the mode.

Mode name	Gamma▸▸	Color Temp▸▸	Priority element	Use
Dynamic	Original 1	6700 K (adjustable)	Color	Ideal for projecting images with freshness and modulation.
Theatre	Original 2	6700 K (adjustable)	Color	Ideal for enjoying presentations such as movies.
Natural	2.2 (Basic)	6700 K (adjustable)	Color	Ideal for enjoying presentations with tints such as those from a studio monitor in a natural atmosphere.
PC	2.2 (Basic)	6700 K (adjustable)	Brightness	Ideal for use in making images as bright as possible when projecting computer images.
sRGB▸▸	2.2 (Basic)	6500 K (fixed)	Color	Images conform to the sRGB standard. If the connected video source has an sRGB mode, set both the projector and the video source to sRGB.

Procedure
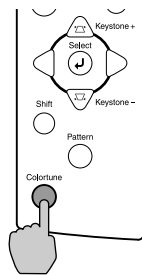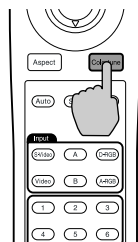
Projector   Remote control

The color mode changes as shown below each time the [Colortune] button on either the remote control or the projector's control panel is pressed.

Dynamic → Theatre → Natural → PC → sRGB

Theatre

The current setting appears in the top-right corner of the screen each time the color mode changes.

The color mode setting can also be changed using the "Color Mode" item of the projector's "Video" menu. (p.25, 27)

Selecting the Image Aspect Ratio

The aspect ratio⁺ for projected images can be selected from the following five types of setting. However, the aspect ratio settings that can be selected will vary depending on the input signal.

Input signal	Normal	Squeeze	Zoom	Through	Squeeze Through
Video (SDTV⁺)	O	O	O	O	O
Video (HDTV⁺)	O	-	-	O	-
Computer (SVGA⁺ or lower)	O	-	O	O	-
Computer (XGA⁺ or higher)	O	-	O	-	-

> Do not use the aspect mode function to elongate or compress image that are being projected for commercial purposes or in public places such as hotel lobbies or stores, as doing so may infringe the rights of the original copyright owner for the images under copyright protection laws.

Procedure
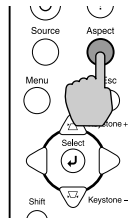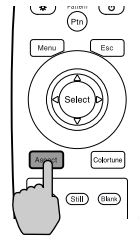
Projector   Remote control

The aspect ratio changes as shown below each time the [Aspect] button on either the remote control or the projector's control panel is pressed.

Normal → Squeeze → Zoom → Through → Squeeze Through

The current setting appears in the top-right corner of the screen each time the aspect ratio changes.

Normal

Details of each aspect ratio are as follows.

Normal mode

4:3 image

The aspect ratio of the images being input is maintained, and the images are projected into a 16:9 screen area. When 4:3 images are being projected, black bands will appear at the left and right of the image as shown in the illustration at left.

Basic Operations

Squeeze mode

When images in squeeze mode are displayed on a 4:3 TV screen

Viewed using the projector

Use this setting if the connected video source has a 16:9 output mode (Squeeze mode).
If images in squeeze mode are viewed on a 4:3 TV screen, the images are compressed horizontally and elongated vertically. If Squeeze mode is selected on the projector, the images are projected correctly in their native wide-screen (16:9) format.

Images output in 4:3 format

When the projector's squeeze mode is applied

When images output in 4:3 format are projected using the projector's squeeze mode, the images will be extended horizontally and the image will appear elongated.

Zoom mode

4:3 image cut at top and bottom

Resized to 16:9

Images output in 4:3 format are truncate at top and bottom by a set amount and then projected in a 16:9 format.

Through mode
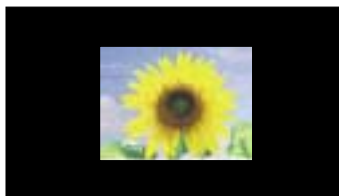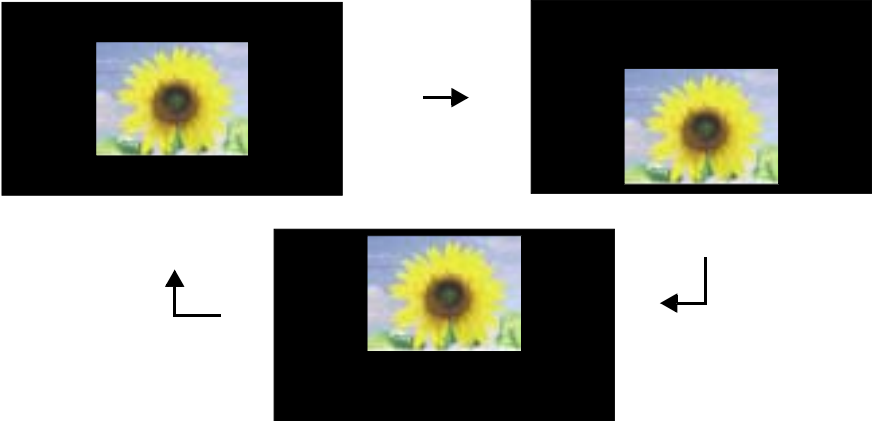
If the input signal resolution is 1280 x 720 dots or less, the images are projected onto the screen with the input signal resolution unchanged. Because of this, the size of the displayed images will change depending on the input resolution.
The picture quality will be best for sections of the image that are not resized. The portions that are not vertically resized will appear with higher image quality.

Squeeze Through mode

If the input signal resolution is 1280 x 720 dots or less, the input signal resolution is elongated horizontally and the images are projected at an aspect ratio of 16:9.
Because of this, the size of the displayed images will change depending on the input resolution.
The portions that are not vertically resized will appear with higher image quality.

Basic Image Quality Adjustments

If you press and hold the [Shift] button on the projector's control panel and then press the [Aspect] button during Through or Squeeze Through mode, the image display position can be changed to one of the following three positions.

Automatic Adjustment of Computer Images

This function lets you adjust computer images to the optimum settings.
Automatic adjustment involves adjustment of <u>tracking</u>▸▸ display position and <u>synchronization (sync)</u>▸▸.

Procedure
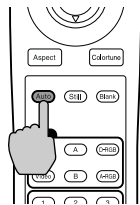
Remote control

While an image is being projected from the computer, press the [Auto] button on the remote control.

The screen will appear black while this function is running.

Automatic adjustment may not work properly with some types of signals which are output by computers. In such cases, you may need to adjust the tracking and synchronization manually using projector's environment setting menu. (p.27)

Advanced Operations

This chapter describes functions for enhancing the projection of images, and how to use the environment setting menus.

Functions for Enhancing Projection

This section describes the various useful functions that can be used to enhance projection.

Function	Summary	Reference page
Black level adjustment	Adjusts the brightness of dark shades.	p.21
White level adjustment	Adjusts the brightness of light shades.	p.21
Color adjustment	Adjusts the hues of light shades to the desired level.	p.21

Using the Environment Setting Menus

The functions described here are used to set the adjustment values using the projector's environment setting menus.
There are two types of projector's environment setting menus used:

- Full menus : These menus can be used to set all items in the environment setting menus.
- Line menus : The line menu shows the most commonly-used "Video" environment setting menu items in a single line, so that these items can be selected and the setting can be changed while viewing the images being projected. (p.20)

Displaying and Operating Full Menus

Menus can be operated using the projector's control panel and also by using the remote control.

Procedure
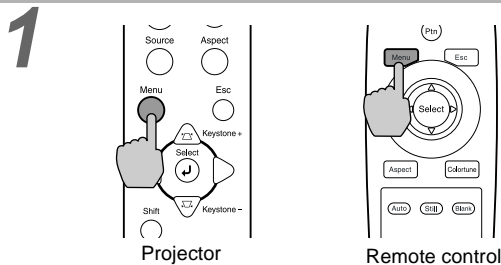
1

Projector   Remote control

Press the [Menu] button on either the remote control or the projector's control panel.

The environment setting menu appears.
Full menus consist of a main menu and sub-menus. The sub-menu that corresponds to the currently-selected item in the main menu (displayed in yellow) appears.

2

Projector   Remote control
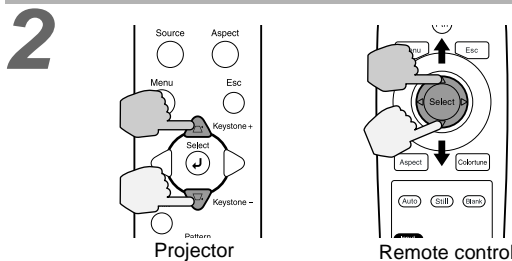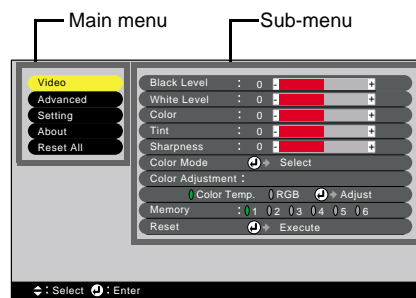
Select the items to be changed in the main menu.

If using the projector's control panel, press the ⌃ and ⌄ buttons.
If using the remote control, tilt the [Select] button up and down.

3

Projector   Remote control
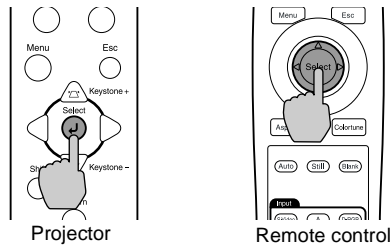
Select a menu item.

Press the [Select] button on either the projector's control panel or the remote control to accept a selection.

The sub-menu corresponding to the selected item in the main menu appears.

4

Video	Black Level	:	0	-	+
Advanced	White Level	:	0	-	+
Setting	Color	:	0	-	+
About	Tint	:	0	-	+
Reset All	Sharpness	:	0	-	+
	Color Mode		Select		
	Color Adjustment	:			
	Color Temp.	RGB	Adjust		
	Memory	1 2 3 4 5 6			
	Reset	Execute			

: Return ⬍: Select ◀▶: Adjust

Select a setting item in the sub-menu.

If using the projector's control panel, press the ⬆ and ⬇ buttons.
If using the remote control, tilt the [Select] button up and down.

The items appearing in the "Video" menu and "About" menu will vary depending on the input signal that is being projected.

5

Video	Black Level	:	0	-	+
Advanced	White Level	:	0	-	+
Setting	Color	:	0	-	+
About	Tint	:	0	-	+
Reset All	Sharpness	:	3	-	+
	Color Mode		Select		
	Color Adjustment	:			
	Color Temp.	RGB	Adjust		
	Memory	1 2 3 4 5 6			
	Reset	Execute			

: Return ⬍: Select ◀▶: Adjust

Confirm the selection.

If using the projector's control panel, press the ◁ and ▷ buttons. If using the remote control, tilt the [Select] button to the left and right.

- If a setting is executed or a sub-menu item continues to another level, " ⬦ Execute" or " ⬦ Select" appears after the item name. In such cases, press the [Select] button on either the projector's control panel or the remote control to select a setting value in the displayed menu.
- Refer to using the menu functions for details of each setting item. (p.24)

6

Set other items in the same way.

Repeat steps 2 to 5 to continue making settings. To return to a previous menu level, press the [Esc] button on the projector's control panel or the remote control.

7

Projector   Remote control

Exit the menu display.

Press the [Menu] button on either the projector's control panel or the remote control.

Advanced Operations

Displaying and Operating Line Menus
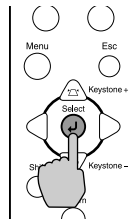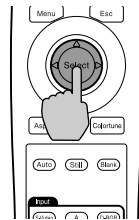
Procedure

1

Projector   Remote control

Press the [Select] button on either the projector's control panel or the remote control.

The line menu appears.

Black Level : 0

2
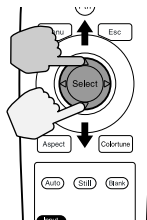
Projector   Remote control

Select an item to be set.

If using the projector's control panel, press the ⌃ and ⌄ buttons.
If using the remote control, press the [Select] button up and down.

The line menu item changes when a button is pressed.

3
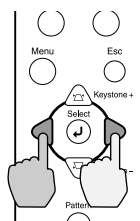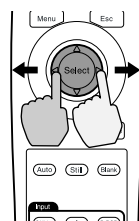
Projector   Remote control

Select the setting value.

If using the projector's control panel, press the ◁ and ▷ buttons.
If using the remote control, press the [Select] button to the left and right.

4

Set other items in the same way.

Repeat steps 2 and 3 to continue making settings.
To return to a previous menu level, press the [Esc] button on the projector's control panel or the remote control.

5
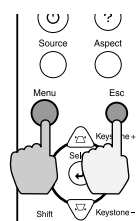
Projector   Remote control
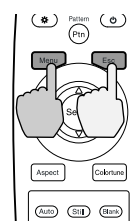
Exit the menu display.

Press the [Menu] button on either the projector's control panel or the remote control.

> If you do not press a button for 3 seconds while a line menu is displayed, the line menu disappears automatically.

Description of Commonly-used Functions

This section describes commonly-used functions.
"Black Level" and "White Level" adjustments are the adjustment values that are in effect before the signals are sampled by the A/D converter, and so they are adjusted to match the input signal so that they do not cause distortion. Use "Color Adjustment" to adjust the color and contrast.

Black Level Adjustment

This adjusts the brightness of dark shades. It lets you adjust dark shades without affecting the brightness of light shades.
Use the "Black Level" item in the "Video" menu to change the setting. (p.24)

Brightness

When adjusted to the + side

When adjusted to the - side

Input signal
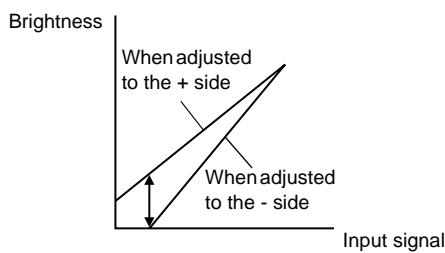
If adjusted to the + side, the luminosity of dark scenes increases and different tones become clearer, but contrast is reduced.

If adjusted to the - side, the brightness of dark shades is reduced and images with greater contrast are obtained, but differences in dark areas become less distinct.

White Level Adjustment

This adjusts the brightness of light shades. It lets you adjust light shades without affecting the brightness of dark shades.
Use the "White Level" item in the "Video" menu to change the setting. (p.24)

Brightness

When adjusted to the + side

When adjusted to the - side

Input signal
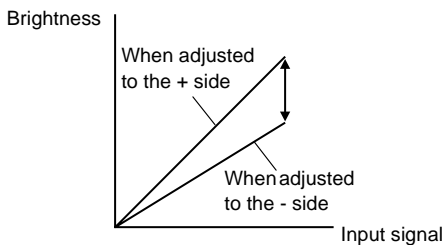
If adjusted to the + side, the luminosity of light scenes increases and contrast become clearer, but differences in light tones are reduced.

If adjusted to the - side, differences in light areas become more distinct, but contrast is reduced.

Color Adjustment

This adjusts the hues of light shades to the desired hues.
Modes for adjusting the Color Temperature▶ and for adjusting each individual R/G/B setting are available.
Use the "Color Adjustment" item in the "Video" menu to change the setting. (p.25, 27)

Color temperature setting

Flesh tone adjustment

6 Green
5
4
Red 3 White Blue
2
1
0 Purplish

Low (5000 K)

Color Temperature High (10000 K)
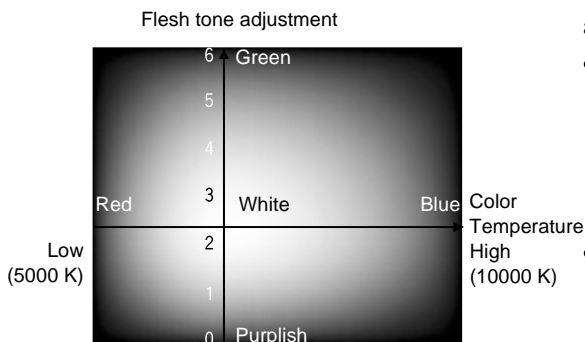
This mode can be used to adjust the color temperature and flesh tones.
- The "Color Temp." setting allows lighter colors to be adjusted so that they range from having a red tinge to having a blue tinge. When the color temperature is lower, the red content is greater and color tones appear softer. When the color temperature is higher, the blue content is greater and color tones appear fresher.
- The "Flesh Tone" setting adjusts the green component of image signals. If adjusted to the - side, the green component is reduced and colors appear purplish. If adjusted to the + side, the green component is increased. Adjust until the desired flesh tones are obtained.

Advanced Operations

Saving and Retrieving Image Quality Settings (Memory)

Up to a maximum of six adjustment values in the "Video" and "Advanced" menus can be memorize per input source, and settings for six different sources can be recorded, for a total of 36 possible settings. You can save the adjustment values for particular video scenes, and then use the memory button on the remote control to retrieve these settings at a single touch. (p.26, 28)

The following adjustment values can be stored in memory.
- Video menu:
  Black Level, White Level, Color, Tint, Sharpness, Color Mode, Color Adjustment
- Advanced menu:
  Progressive, Motion Detect, Noise Reduction, Setup Level
- Aspect ratio setting
  This is the aspect ratio that is selected using the [Aspect] button on the projector's control panel or the remote control.
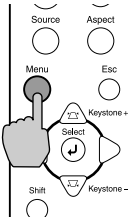
Saving Settings
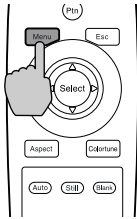
The full menus and the line menu can both be used to save settings. The following explanation uses the full menus as a guide.

Procedure

1

Projector   Remote control

Press the [Menu] button on either the projector's control panel or the remote control.

The environment setting menu will be displayed, with the adjustment values appearing as are currently set.

2

Select "Memory" from the "Video" sub-menu.

If using the projector's control panel, press the ⌃ and ⌄ buttons.
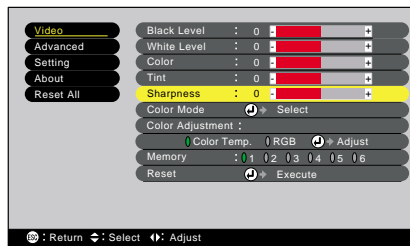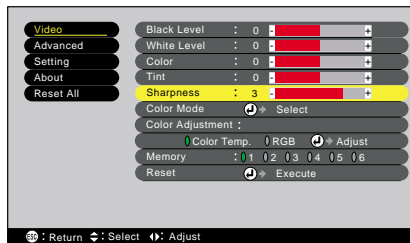If using the remote control, tilt the [Select] button up and down.
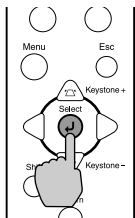
3
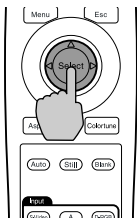
Select the memory number (1 - 6) to use for saving the settings.

If using the projector's control panel, press the ◁ and ▷ buttons.
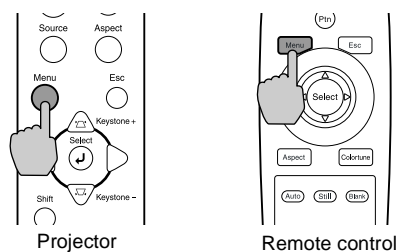If using the remote control, tilt the [Select] button to the left and right.
The numbers correspond to memory buttons [1] to [6] on the remote control.

4

Projector   Remote control

Confirm the memory number.
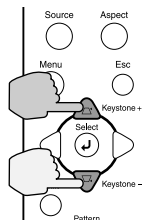
Press the [Select] button on either the projector's control panel or the remote control.
When the specified operation is carried out, the ◖ to the left of the number becomes orange. When a memory setting number is in use, the ◖ appears orange, and when the number is not in use, the ◖ appears grey.

Retrieving Saved Image Quality Settings

Procedure
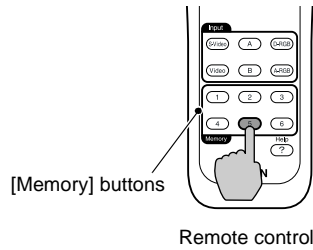
[Memory] buttons

Remote control

Press one of the remote control memory buttons [1] to [6] corresponding to the image quality settings to be retrieved.

The images being projected will be adjusted according to the settings that are retrieved.

> If the same video source is being used when the projector power is next turned on, the images will be projected at the same images quality settings that were saved in memory the last time images were projected will be used again.

Changing Saved Image Quality Settings

Using the same configuration described on the previous page, change the setting values until the new desired settings are obtained. Then use the "Memory" command in the "Video" menu to select the memory number for the changed settings.

> Memory settings cannot be erased once they have been saved. Even if you use the "Execute" command in the "Reset All" environment setting menu, the memorized settings will not be erased.

Advanced Operations

Using the Menu Functions

The environment setting menus can be used to carry out a variety of settings and adjustments. Two types of menu (full menus and line menus) can be used to make environment settings. This section describes all of the functions that are available in the environment setting menus using the full menus as examples. The menus have a hierarchical structure, with a main menu that is divided into sub-menus.
Refer to "Using the Environment Setting Menus" (p.18) for details on using the menus.
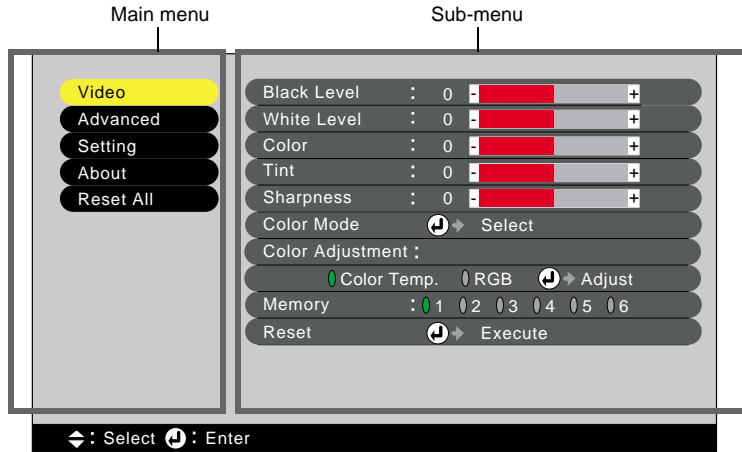
Video Menu

- "Video" environment setting menu adjustments other than the "Color" adjustment cannot be carried out when no image signal is being input.
- The items appearing in the "Video" menu will vary depending on the input signal that is being projected. Items in menus other than the menu for the signal currently being input cannot be adjusted.

Video (InputA (YCbCr➞, YPbPr➞), InputB (YCbCr, YPbPr), S-Video, Video)
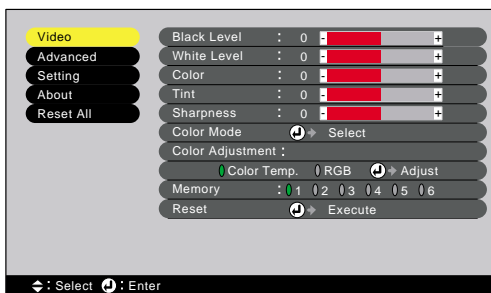
Sub-menu	Function	Default setting
Black Level	This lets you adjust dark shades without affecting the white level setting. (p.21)	0
White Level	This lets you adjust light shades without affecting the black level setting. (p.21)	0
Color	Adjusts the color intensity for the images.	0
Tint	(Adjustment is only possible for NTSC signals.) Adjust the image tint.	0
Sharpness	Adjusts the image sharpness.	0

Sub-menu	Function	Default setting
Color Mode	You can select from five different quality settings depending on the surroundings. ●Dynamic :Ideal for projecting images with greater modulation and intensity. ●Theatre :Ideal for enjoying presentations such as movies which have large numbers of dark scenes. ●Natural :Ideal for enjoying presentations in a natural atmosphere. ●PC :Ideal for use in making images as bright as possible when projecting computer images. ●sRGB▶ :Images conform to the sRGB standard.	Dynamic
Color Adjustment	Only one of the following settings can be made at any one time. It is not possible for both settings to be enabled at the same time. Color Temp.▶ setting (p.21) ●Color Temp. :Allows lighter colors to be adjusted so that they range from having a red tinge to having a blue tinge. When the color temperature is lower, the red content is greater and color tones appear softer. When the color temperature is higher, the blue content is greater and color tones appear fresher. ●Flesh tone adjustment:The "Flesh Tone" setting adjusts the green component of image signals. If adjusted to the - side, the colors appear purplish. If adjusted to the + side, the green component is increased. Adjust until the desired flesh tones are obtained. RGB setting (Individual adjustment mode) ●The Offset▶, Gain▶ and Gamma▶ can be adjusted separately for each RGB component. Offset adjusts coloration for darker shades, Gamma adjusts intermediate shades, and Gain adjusts brighter shades. The working of each adjustment is shown below. Offset adjustment Gain adjustment Gamma adjustment Brightness Brightness Brightness When adjusted to the + side When adjusted to the + side When adjusted to the + side When adjusted to the - side When adjusted to the - side When adjusted to the - side Input signal Input signal Input signal The "Color Adjustment" settings correct the digital data after the signals are sampled by the A/D converter. When the Offset setting is adjusted to the + side, dark colors can be set freely as desired. When the Gain setting is adjusted to the - side, light colors can be set freely as desired. When the Gain setting is adjusted to the + side, the brightness is automatically corrected in accordance with the setting value so that the color does not become saturated, so that an S-shaped gamma curve can be easily created. Brightness Input signal Each RGB component can be adjusted to give the desired level of coloration to dark, intermediate and light ranges.	Color Temp. : 6700K Flesh tone adjustment : 2 RGB : Offset R : 0 G : 0 B : 0 Gain R : 0 G : 0 B : 0 Gamma R : 2.2 G : 2.2 B : 2.2

Advanced Operations

Sub-menu	Function	Default setting
Memory	This lets you save image adjustment settings and to retrieve them by pressing the corresponding remote control memory buttons. The images being projected will be adjusted according to the settings that are retrieved. (p.22) ● The current settings are saved to a particular recording area number when that number is selected.	-
Reset	Resets all adjustment values for the "Video" environment setting menu functions to their default settings, except for settings that are stored in memory. ● Press the [Select] on either the projector's control panel or the remote control to display the confirmation screen, and select Yes. ● Select "Reset All" to return all menu settings to their default settings. (p.32)	-

Computer (D-RGB/ A-RGB DVI-I, InputB (A-RGB))

A(Analog)-RGB

Video	Black Level	:	0	− +
Advanced	White Level	:	Auto Manual ↵ Adjust
Setting	Sharpness	:	0	− +
About	Color Mode	↵ Select
Reset All	Tracking	:	0
	Sync.	:	0
	Color Adjustment :
	Color Temp. RGB ↵ Adjust
	Memory	: 1 2 3 4 5 6
	Reset	↵ Execute

↕ : Select ↵ : Enter

D(Digital)-RGB

Video	Black Level	:	0	− +
Advanced	White Level	:	Auto Manual ↵ Adjust
Setting	Sharpness	:	0	− +
About	Color Mode	↵ Select
Reset All	Color Adjustment :
	Color Temp. RGB ↵ Adjust
	Memory	: 1 2 3 4 5 6
	Reset	↵ Execute

↕ : Select ↵ : Enter

Sub-menu	Function	Default setting
Black Level	This lets you adjust dark shades without affecting the white level setting. (p.21)	0
White Level	This lets you adjust light shades without affecting the black level setting. (p.21) When set to "Auto", the black & white extension function operates to emphasize the gradation differences (color densities) when projecting images in dark or light environments, in order to make the images easier to see.	Auto
Sharpness	Adjusts the image sharpness.	0
Color Mode	You can select from five different quality settings depending on the surroundings. •Dynamic :Ideal for projecting images with greater modulation and intensity. •Theatre :Ideal for enjoying presentations such as movies which have large numbers of dark scenes. •Natural :Ideal for enjoying presentations in a natural atmosphere. •PC :Ideal for use in making images as bright as possible when projecting computer images. •sRGB⟫ :Images conform to the sRGB standard.	PC
Tracking⟫	(A-RGB and InputB (A-RGB) only) Adjusts computer images when vertical stripes appear in the images.	0
Sync.⟫	(A-RGB and InputB (A-RGB) only) Adjusts computer images when flickering, fuzziness or interference appear in the images.	0
Color Adjustment	It is not possible for both settings to be enabled at the same time. Color Temp.⟫ setting (p.21) •Color Temp. :Allows lighter colors to be adjusted so that they range from having a red tinge to having a blue tinge. When the color temperature is lower, the red content is greater and color tones appear softer. When the color temperature is higher, the blue content is greater and color tones appear fresher. •Flesh tone adjustment:The "Flesh Tone" setting adjusts the green component of image signals. If adjusted to the - side, the colors appear purplish. If adjusted to the + side, the green component is increased. Adjust until the desired flesh tones are obtained. RGB setting (Individual adjustment mode) •The Offset⟫, Gain⟫ and Gamma⟫ can be adjusted separately for each RGB component. Offset adjusts coloration for darker shades, Gamma adjusts intermediate shades, and Gain adjusts brighter shades. The working of each adjustment is shown below.	Color Temp. : 7500K Flesh tone adjustment : 5 RGB : Offset R : 0 G : 0 B : 0

Advanced Operations

27

	Offset adjustment	Gain adjustment	Gamma adjustment	Gain R : 0 G : 0 B : 0 Gamma R : 2.2 G : 2.2 B : 2.2
	Brightness When adjusted to the + side When adjusted to the - side Input signal	Brightness When adjusted to the + side When adjusted to the - side Input signal	Brightness When adjusted to the + side When adjusted to the - side Input signal	

The "Color Adjustment" settings correct the digital data after the signals are sampled by the A/D converter.

When the Offset setting is adjusted to the + side, dark colors can be set freely as desired.

When the Gain setting is adjusted to the - side, light colors can be set freely as desired.

When the Gain setting is adjusted to the + side, the brightness is automatically corrected in accordance with the setting value so that the color does not become saturated, so that an S-shaped gamma curve can be easily created.

Brightness

Input signal

Each RGB component can be adjusted to give the desired level of coloration to dark, intermediate and light ranges.

Memory	This lets you save image adjustment settings and to retrieve them by pressing the corresponding remote control memory buttons. The images being projected will be adjusted according to the settings that are retrieved. (p.22) • The current settings are saved to a particular recording area number when that number is selected.	-
Reset	Resets all adjustment values for the "Video" environment setting menu functions to their default settings, except for settings that are stored in memory. • Press the [Select] on either the projector's control panel or the remote control to display the confirmation screen, and select "Yes". • Select "Reset All" to return all menu settings to their default settings. (p.32)	-

Advanced Menu

♦ : Select ♪ : Enter

Sub-menu	Function	Default setting
Progressive	(Adjustment is only possible when composite, S-Video, 525i or 625i signals are being input.) Changes signals from Faroudja's underlined interlaced▸▸ mode to progressive▸▸ (IP) conversion mode. ● OFF :Progressive (IP) conversion is carried out for the screens in each field. It is designed for use when viewing images with large amounts of movement. The DCDi function▸▸ does not operate. ● Video :Turns off the Film judgment function▸▸. The DCDi function operates. ● Film/ Auto:This setting should normally be used. The projector automatically determines whether the signal source is a film source or not. If the source is a film source, the 3-2 pull-down function▸▸ operates so that film images which match the original are reproduced. The DCDi function operates.	Film/Auto
Motion Detect	(Adjustment is only possible when composite, S-Video, 525i or 625i signals are being input.) Switches the three-dimensional Y/C separation function▸▸ and the operating mode for progressive (IP) conversion depending on whether the images are moving quickly or slowly. If a lower setting is used, flickering is reduced and images become sharper and more distinct. This mode is ideally suited for viewing still images. If a larger setting is used, images are projected more smoothly with less jerkiness. This mode is ideally suited for viewing moving images. Adjust to suit the type of images being viewed.	3
Noise Reduction	(Adjustment is only possible when composite, S-Video, 525i or 625i signals are being input.) Reduces image interference and makes the image quality softer. Two modes are available. Use the setting that best suits the images being viewed. It is recommended that you set this function to OFF when viewing images sources such as DVDs which are relatively free from interference.	OFF
Position	(Adjustment is not possible when D-RGB signals are being input.) Moves the image display position vertically and horizontally. ● Press the [Select] on either the projector's control panel or the remote control, and make the adjustment using the display position adjustment screen that appears.	Depends on connection
Video Signal	(Adjustment is only possible when composite or S-Video signals are being input.) Sets the video signal format. ● Press the [Select] on either the projector's control panel or the remote control, and select the setting using the menu that appears. ● When set to "Auto", the video signal format is set automatically, but if projecting signals in N-PAL format, the setting needs to be made manually.	Auto
Input A	(Can only be adjusted for 525p and 625p input signals) Selects the type of signal being input to the Input A port.	YCbCr
Input B	Selects the type of signal being input to the Input B port.	RGB

Advanced Operations

Sub-menu	Function	Default setting
Setup Level	(Adjustment is only possible when composite, S-Video, 525i/p or 625i/p signals are being input.) If using products designed for destinations such as the United States or South Korea that have different black level (setup level) settings, use this function to obtain correct images. Check the specifications of the connected equipment when changing this setting.	Depends on countries
Reset	Returns the adjustment values in the "Advanced" menu to the default values. • Press the [Select] on either the projector's control panel or the remote control to display the confirmation screen, and select "Yes". • Select "Reset All" to return all menu settings to their default settings. (p.32)	-

Setting Menu

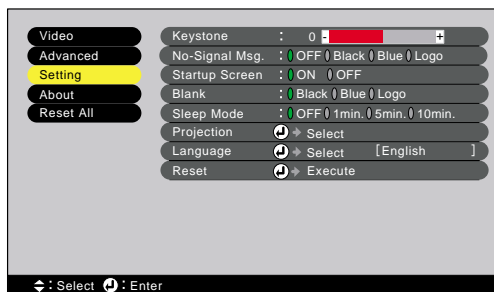| Sub-menu	Function	Default setting
Keystone	• Corrects keystone distortion in images. (p.11) • When keystone correction is carried out, the projected image will become smaller. • The keystone correction settings are memorized, so that if you change the position or angle of the projector, you may need to readjust the keystone correction setting. • If the images become uneven in appearance after keystone correction is carried out, decrease the "Sharpness" setting.	0
No-Signal Msg.	Sets the screen status when no video signal is being input. • OFF :Screen is completely black. • Black:Screen is completely black and a no signal message appears. • Blue :Screen is completely blue and a no signal message appears. • Logo :The user's logo is displayed and a no signal message appears.	Blue
Startup Screen	Sets whether the startup screen is displayed or not.	ON
Blank	Sets the screen status when the [Blank] button on the remote control is pressed. The screen status can be selected from "Black", "Blue" or "Logo".	Black
Sleep Mode	Use this function if you would like the projector's power to switch off automatically when image signals stop being input from the connected equipment. Setting value range : OFF, 1 minutes, 5 minutes, 10 minutes • If the clock has been set and the connected equipment has a timer off function, the projector's power will turn off after the timer function has operate and stopped signals from being input. This can be used to ensure that the lamp turns off even if the viewer falls asleep while viewing. • When sleep mode has been activated so that the projector is in standby mode, the lamp will not automatically turn back on again even if a image signal is input once more. Press the [Power] button on either the remote control or the projector's control panel to turn the power back on.	OFF

Sub-menu	Function	Default setting
Projection	Selects the projection method in accordance with the projector and screen setting-up method. •Front :Projection from the front of the screen •Front/ Ceiling :Projection from the front of the screen with the projector installed to the ceiling (upside down) •Rear :Projection from the rear of the screen •Rear/ Ceiling :Projection from the rear of the screen with the projector installed to the ceiling (upside down)	Front
Language	Sets the language for message, menu and help displays. •Press the [Select] on either the projector's control panel or the remote control, and select the language from the selection menu that appears.	English
Reset	Resets all adjustment values for the "Setting" environment setting menu functions to their default settings, except for the "Language" setting. •Press the [Select] on either the projector's control panel or the remote control to display the confirmation screen, and select "Yes". •Select "Reset All" to return all menu settings to their default settings. (p.32)	-

About Menu

- The "About" menu displays the settings for the input source for the images being projected, and also shows the lamp status.
- The "Lamp" shows times between 0 and 10 hours as 0H. Times greater than 10 hours appear in units of one hour.

Video (InputA ([YCbCr](#), [YPbPr](#)), InputB (YCbCr, YPbPr), S-Video, Video)

Sub-menu	Function	Default setting
Lamp	Displays the cumulative lamp operating time. When the lamp warning period is reached, the display characters appear in red.	0H
Reset Lamp Timer	Initializes the lamp operating time when the lamp is replaced. When this command is selected, the cumulative lamp operating time is reset to the initial default value.	-
Video Source	Displays the image source which is currently being projected.	Depends on connection
Video Signal	Displays the video signal format.	Auto

Advanced Operations

31

Computer (D-RGB/ A-RGB DVI-I, InputB (A-RGB))

```
Video          Lamp              :    0H
Advanced       Reset Lamp Timer  ⏎✦ Execute
Setting        Video Source      :
About          Input Signal      :
Reset All      Frequency         : H      kHz
                                 : V      Hz
               SYNC Polarity     : H
                                 : V
               SYNC Mode         :
               Resolution        :       x
               Refresh Rate      :       Hz

⬍ : Select  ⏎ : Enter
```

Sub-menu	Function	Default setting
Lamp	Displays the cumulative lamp operating time. When the lamp warning period is reached, the display characters appear in red.	0H
Reset Lamp Timer	Initializes the lamp operating time when the lamp is replaced. When this command is selected, the cumulative lamp operating time is reset to the initial default value.	-
Video Source	Displays the image source which is currently being projected.	Depends on connection
Input Signal	Displays the input signal settings.	-
Frequency	Displays the horizontal scanning frequency.	-
SYNC Polarity	Displays the synchronization▸ polarity.	-
SYNC Mode	Displays the synchronization attributes.	-
Resolution	Displays the input resolution.	-
Refresh Rate▸	Displays the refresh rate.	-

Reset All Menu

```
Video
Advanced
Setting
About
Reset All            ⏎✦ Execute




⬍ : Select  ⏎ : Execute
```

Sub-menu	Function	Default setting
Execute	Resets all items in all environment setting menus to their default settings. ● Press the [Select] on either the projector's control panel or the remote control to display the confirmation screen, and select "Yes". ● To return the settings for items in menus such as the "Video" and "Advanced" menu to the default settings, select "Reset" in the respective sub-menus. ● The Lamp, Language and memory settings will not return to their default settings.	-

Troubleshooting

This chapter describes troubleshooting procedures for the projector.
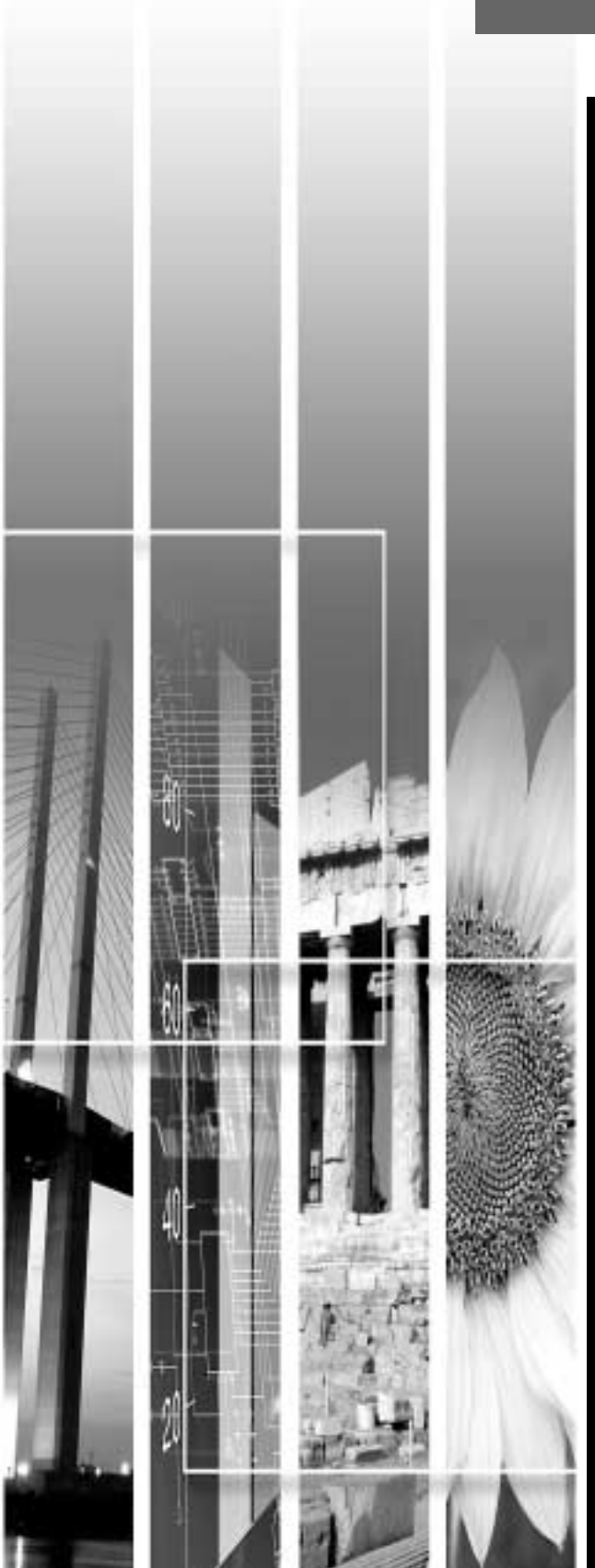
Using the Help

If a problem occurs with the projector, the Help function uses on-screen displays to assist you in solving the problem. It uses a series of menus in a question and answer format. The questions vary depending on the type of video source.

Procedure
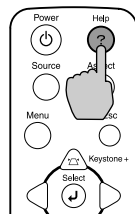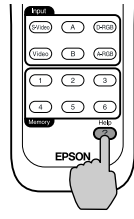
1 **Press the [Help] button on either the remote control or the projector's control panel.**

The Help menu will be displayed.
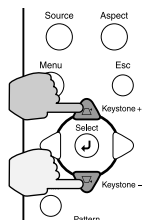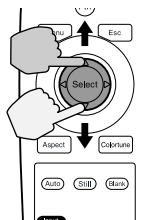
Projector   Remote control

2 **Select a menu item.**

If using the projector's control panel, press the ⌂ and ▽ buttons.
If using the remote control, tilt the [Select] button up and down.

Projector   Remote control

```
<  Help Menu  >
 Help for the image
 Language selection (Language)

If the suggested solution in Help doesn't solve the
problem, unplug the power from the wall outlet and contact
your local dealer.
 ↕ : Select  ↵ : Enter  ? : Exit
```
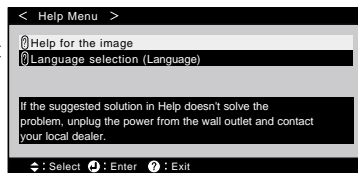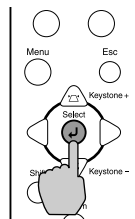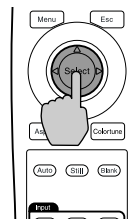
3 **Confirm the selection.**

Press the [Select] on either the projector's control panel or the remote control to confirm the selection.
The sub-menu appears.

Projector   Remote control
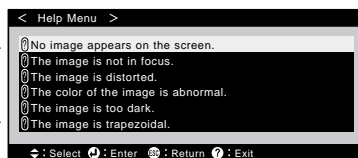
4 **Repeat the operations in steps 2 and 3 to proceed through the menu to more detailed items.**

```
<  Help Menu  >
 No image appears on the screen.
 The image is not in focus.
 The image is distorted.
 The color of the image is abnormal.
 The image is too dark.
 The image is trapezoidal.
 ↕ : Select  ↵ : Enter  ⊗ : Return  ? : Exit
```

To return to the previous menu, press the [Esc] button on either the remote control or the projector's control panel.
You can exit the Help menu at any time by pressing the [Help] button on either the projector's control panel or the remote control.

> If the Help function does not provide a solution to the problem, refer to "When Having Some Trouble" (p.35) or "When the Indicators Provide No Help" (p.38).

34

When Having Some Trouble

If you are having a problem with the projector, first check the projector's indicators.
The projector is provided with the following three indicators. These indicators alert you to problems with projector operation.

Operation indicator
Lamp indicator
Temperature indicator
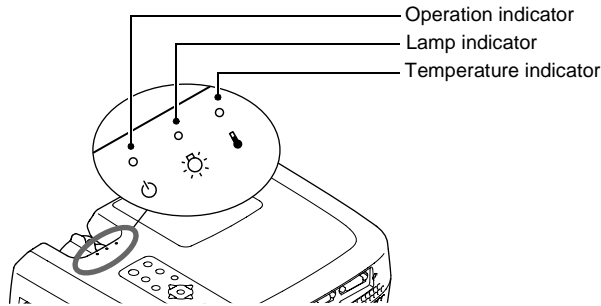
The following tables show what the indicators mean and how to remedy problems that they indicate.

● : lit ☀ : flashing ○ : off

Indicator status	Projector status	Problem and remedy	Reference page
Red Red Red ● ☀ ☀ ⏻ ☼ 🌡	Internal problem	Stop using the projector, disconnect the power cord from the electrical outlet, and contact your dealer or the nearest address provided at "International Warranty Conditions" in *Safety Instructions/ World-Wide Warranty Terms* included in the package.	
Red Red ● ○ ☀ ⏻ ☼ 🌡	Fan problem/ Sensor problem	Stop using the projector, disconnect the power cord from the electrical outlet, and contact your dealer or the nearest address provided at "International Warranty Conditions" in *Safety Instructions/ World-Wide Warranty Terms* included in the package.	
Red Red ● ● ○ ⏻ ☼ 🌡	Lamp problem	Replace the lamp with a new one. When replacing the lamp, check that the lamp and the lamp cover are securely installed. If the lamp or lamp cover is not securely installed, the projector power will not turn on.	p.48
		If the lamp is broken replace by a new lamp, or contact your local dealer for further advise. If replacing the lamp yourself, be careful to avoid pieces of broken glass. (Projection cannot be carried out until the lamp is replaced.)	
Red Red ● ☀ ○ ⏻ ☼ 🌡	Lamp operating error	This can happen when the main power switch at the rear of the projector was turned off before the cool-down▸ period had finished the last time the projector was turned off, and it was then turned back on again before one hour had passed. Wait about 2 minutes. After about 2 minutes, the cooling fan will stop. When the cooling fan stops, turn off the main power switch and then turn it back on again. When the main power switch is turned back on, the projector will return to its previous state, so press the [Power] button on either the projector's control panel or the remote control to turn it back on. If the lamp operating error happens again when the power is turned back on, remove the lamp and check if the lamp is broken. If it is not broken, reinstall it. If it is broken, replace it. Then turn on the main power switch at the rear of the projector and press the [Power] button on either the remote control or the projector's control panel. If the indicators still show a problem, stop using the projector, turn off the main power switch, disconnect the power cord from the electrical outlet, and contact your dealer or the nearest address provided at "International Warranty Conditions" in *Safety Instructions/ World-Wide Warranty Terms* included in the package.	p.48

Troubleshooting

● : lit ☀ : flashing ○ : off

Indicator status	Projector status	Problem and remedy	Reference page

Red   Red
● ○ ●
⏻ ☼ 🌡
	High temperature inside projector (overheating)	The lamp will turn off automatically and projection will stop. Wait for about 5 minutes without operating the projector. After 5 minutes have elapsed, the projector's cooling fan will stop. When the cooling fan stops, turn off the main power switch at the rear of the projector and then check the following two points and take any steps that are required.
		● Is the setting-up location well ventilated?
		  Check that the air inlet and air outlet are clear, and that the projector is not positioned against a wall.
		● Is the air filter blocked with dust?
		  If the air filter is dirty, it should be cleaned.
		When the main power switch is turned back on, the projector will return to its previous state. Press the [Power] button on either the projector's control panel or the remote control to turn the power back on.
		If the projector continues to overheat even after the above points have been checked, or if the indicators show a problem when the power is turned back on, stop using the projector, turn off the main power switch, disconnect the power cord from the electrical outlet, and contact your dealer or the nearest address provided at "International Warranty Conditions" in *Safety Instructions/World-Wide Warranty Terms* included in the package.
			Setup Guide
			
			p.46

Orange ☀ 🌡	High-speed cooling in progress	(This is not an abnormality, but if the temperature rises too high again, projection will stop automatically.) ● Set the projector up in a place which is well-ventilated, and so that the air inlet and exhaust vents are clear. ● Clean the air filter. * The ⏻ indicator and the ☼ indicator will change depending on the projector status at the time.	*Setup Guide* p.46
Orange ☀ ☼	Lamp will soon need to be replaced.	(No abnormality) Have a new replacement lamp ready. The lamp service life can become shorter than normal as a result of the usage conditions, and so the lamp should be replaced as soon as possible. * The ⏻ indicator and the 🌡 indicator will change depending on the projector status at the time.	p.47
Orange ● ○ ○ ⏻ ☼ 🌡	Standby condition	(No abnormality) Projection starts when the [Power] button on either the remote control or the projector's control panel is pressed.	p.6
Green ☀ ○ ○ ⏻ ☼ 🌡	Warm-up in progress	(No abnormality) Wait for a short while. The indicator will stop flashing and light with a green color.	p.7
Green ● ○ ○ ⏻ ☼ 🌡	Projecting in progress	(No abnormality)	p.7

Indicator status	Projector status	Problem and remedy	Reference page
Red ☀ ○ ○ ⏻ ☀ 🌡 or Orange ☀ ○ ○ ⏻ ☀ 🌡	Cool-down in progress	(No abnormality) ● Wait for a short while. The <u>cool-down</u>▸ (lamp cooling operation) period lasts for about 5 minutes. The actual time will vary depending on factors such as the ambient air temperature. ● The [Power] button on either the remote control or the projector's control panel will not operate while the indicator is flashing red. When the indicator changes to flashing orange, you can then use the [Power] buttons. ● If the main power switch at the rear of the projector is turned off before cool-down is complete, wait for the lamp to cool down (normally about one hour is required) before turning the power back on again.	p.8

- If the projector is not operating properly even though the indicators are all showing normal, refer to "When the Indicators Provide No Help" on the following page.
- If an indicator is showing a status which does not appear in the previous tables, contact your dealer or the nearest address provided at "International Warranty Conditions" in *Safety Instructions/ World-Wide Warranty Terms* included in the package.

Troubleshooting

When the Indicators Provide No Help
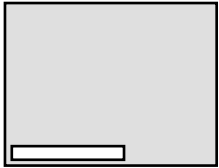
If any of the following problems occur and the indicators do not offer a solution, refer to the pages given for each problem.

No images appear	p.38, p.39	Images appear dark	p.42
Poor image quality	p.40	Images appear greenish	p.42
Only part of the image is displayed (Large/ small)	p.41	Images appear purplish	
The image colors are not right	p.41	The remote control does not work	p.43
		The power does not turn off	p.43

Condition

No images appear (Nothing at all appears)
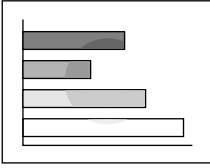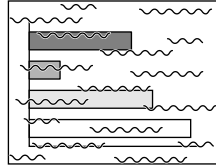
Probable cause		Remedy
Is the lens cover still attached?	➔	Remove the lens cover. (p.6)
Is the power cord disconnected?	➔	Check the power cable connection at the power inlet of the projector and at the wall outlet. (p.6)
Is the main power switch turned off?	➔	Turn on the main power switch at the rear of the projector. (p.6)
Was the power turned off and then straight back on again? While the ⏻ indicator is flashing red (during <u>cool-down</u>), the [Power] button on either the remote control or the projector's control panel will not operate.	➔	Wait until the ⏻ indicator changes to flashing orange. You can then use the [Power] button on either the remote control or the projector's control panel. (p.8)
Have you pressed the [Power] button on either the remote control or the projector's control panel?	➔	Press the [Power] button on either the remote control or the projector's control panel. (p.7)
Is sleep mode active? When a period of time has been set for the "Sleep Mode" function, the lamp turns off automatically if no operations are carried out for the set period of time while no video signal is being input. The ⏻ indicator lights orange at this time.	➔	Turn the projector power back on. To cancel the sleep mode setting, set "Sleep Mode" in the "Setting" menu to "OFF". "Setting" - "Sleep Mode" (p.30)
Is blank mode active?	➔	Press the [Blank] button on the remote control to cancel the blank function. "Setting" - "Blank" (p.30)
Is the projected image completely black? Some input images, such as screen savers, may be completely black.	➔	Cancel the screen saver, or re-check the images being input.
Is a image signal being input? If "No-Signal Msg." in the "Setting" menu has been set to "OFF", no messages will be displayed.	➔	Change the "No-Signal Msg." setting to "Black" or "Blue" for messages to be displayed. "Setting" - "No-Signal Msg." (p.30) If a message is displayed, refer to the item indicated.
Try resetting all of the current settings.	➔	"Reset All" (p.32)

Condition

No images appear (Messages do appear)

"Not Suppored." message appears on the screen.
"No-Signal."message appear on the screen.
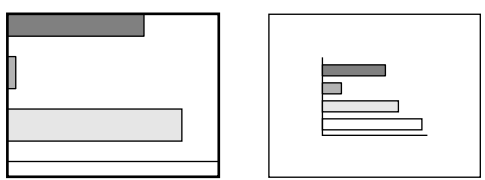
Probable cause		Remedy
Is the image signal format setting correct? Is "Input B" set to "RGB" even though a composite video signal source is connected to the Input B port? Is "Input B" set to "<u>YPbPr</u>▶▶" or "<u>YCbCr</u>▶▶" even though a computer is connected to the Input B port?	➡	If a <u>component video</u>▶▶ signal source or a RGB video or computer is connected to the Input B port, use the "Input B" command in the "Advanced" environment setting menu to select the signal format that matches the signal input source. "Advanced" - "Input B" (p.29) If a <u>composite video</u>▶▶ or <u>S-Video</u>▶▶ signal source is connected, use the "Video Signal" command in the "Advanced" environment setting menu to select the video signal format. "Advanced" - "Video Signal" (p.29)
Has the correct image input port been selected?	➡	Press the [Source] button on the projector's control panel (or the [D-RGB], [A], [B], [Video] or [S-Video] button on the remote control) to change the image source. (p.7)
Is the power for the computer or video source turned on?	➡	Turn on the power. (p.7)
Check the mode which corresponds to the frequency of the image signals being output from the computer.	➡	Refer to the documentation provided with your computer for details on changing the resolution and frequency of the image signals being output from the computer. (p.52)
If a laptop computer or a computer with a LCD screen has been connected to the projector, it is necessary to output the image signals to the projector rather than to the screen.	➡	Normally image signals are output to only the computer's LCD screen, so you need to change the output to an external destination. For some computer models, when the image signals are output externally, they no longer appear on the LCD screen. For details, refer to the section of the documentation provided with your computer under a heading such as "External output", "Connecting an external monitor" or similar. (p.7)

Troubleshooting
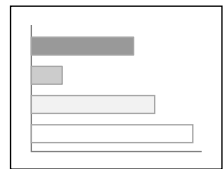
	Condition
	Poor image quality
	• The image is fuzzy
	• Part of the image is out of focus
	• The whole image is out of focus
	• The image is distorted
	• The image contains interference

Probable cause	Remedy
Has the focus been adjusted correctly?	➜ Adjust the focus. (p.13)
Has the front adjustable foot been adjusted so that the projection angle is too big? If the projection angle is too big, the image will be out of focus vertically.	➜ Adjust the projection angle. (p.10)
Is the projector at the correct distance?	➜ The recommended distance from the projector to the screen is within 0.9 - 13 m (2.9 - 42.6 ft.). Set up the projector so that the projection distance is within this range. (*Setup Guide*)
Is the projector beam perpendicular to the screen?	➜ Adjust the projection angle so that the projector beam is perpendicular to the screen. (p.10)
Is the lens dirty?	➜ Clean the lens. (p.46)
Has condensation formed on the lens? If the projector is suddenly taken from a cold environment to a warm environment, condensation may form on the lens, and this may cause the images to appear fuzzy.	➜ Turn off the power and wait for the condensation to disappear.
Does the input signal setting match the connected source?	➜ Use the "Video Signal", "Input A" or "Input B" commands in the "Advanced" menu to select the signal format that matches the connected source. "Advanced" - "Video Signal", "Input A", "Input B" (p.29)
Are the cables connected correctly?	➜ Check that all cables that are required for projection are connected correctly. (*Setup Guide*)
Is an extension cable being used? If an extension cable is used, electrical interference may increase.	➜ Use the accessory cables provided, or connect a signal amplifier and see if this helps.
Have the synchronization⸙ , tracking⸙ and display position been adjusted correctly? (When connected to a computer)	➜ Press the [Auto] button on either the remote control or the projector's control panel to adjust these settings. You can also use the environment setting menus to make the adjustment. (p.16, "Video" - "Tracking" , "Sync." p.27)
Has the correct resolution been selected? (When connected to a computer)	➜ Set the computer so that the signals that are output are compatible with this projector. Refer to the documentation provided with your computer for details on changing the settings. (p.52)

Condition
•Image is too large (Only part of the image is displayed)
•Image is too small

Probable cause		Remedy
The display mode (aspect ratio▸) setting may not be selected correctly.	→	Press the [Aspect] button on either the remote control or the projector's control panel. (p.14)
Has the "Position" setting been adjusted correctly?	→	Use the "Position" command in the "Advanced" menu to adjust. (p.29)
Has the correct resolution been selected?	→	Set the computer so that the signals that are output are compatible with this projector. Refer to the documentation provided with your computer for details on changing the settings. (p.52)
Change the resolution for the laptop computer or computer with a LCD screen.	→	Change the resolution so that the image is displayed in the whole of the projection area, or set the image signal to external output only. (p.7)
Has the computer been set for dual display?	→	If dual display has been activated in the "Display Properties" of the computer's "Control Panel", the projector will only project about half of the image on the computer screen. To display the whole of the image on the computer screen, turn off the dual display setting. Refer to the video driver manual for the computer's monitor for further details.

Condition
The image colors are not right
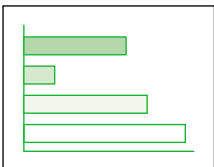
Probable cause		Remedy
Are the cables connected correctly?	→	Check that all cables that are required for projection are connected correctly. (*Setup Guide*)
Has the image contrast▸ been adjusted correctly?	→	Use the "White Level" command in the "Video" menu to adjust the contrast. "Video" - "White Level" (p.24, 27)
Has the color been adjusted correctly?	→	Use the "Color Adjustment" command in the "Video" menu to adjust the contrast. "Video" - "Color Adjustment" (p.25, 27)
Have the color intensity and tint been adjusted correctly? (The colors may not exactly match the colors in the image on the computer screen or LCD screen, but this is normal and is not the sign of a problem.)	→	Use the "Video" menu to adjust the "Color" and "Tint" settings "Video" - "Color", "Tint" (p.24)
Is the lamp due for replacement? If the ☼ indicator is flashing orange, it means that the lamp will soon be due for replacement. When the lamp is nearly due for replacement, the image will become darker and the tint will become poorer.	→	Replace the lamp with a new one. (p.47, 48)

Probable cause		Remedy
Is the image signal format setting correct? If the "Input B" command in the "Advanced" environment setting menu is set to "RGB" when component video signals are being input to the Input B port , the images will appear greenish. If the "Input B" command in the "Advanced" environment setting menu is set to "YCbCr▶" or "YpbPr▶" when a computer is connected, the images will appear purplish.	➔	If a component video▶ signal source or a RGB video or computer is connected to the Input B port, use the "Input B" command in the "Advanced" environment setting menu to select the signal format that matches the signal input source. "Advanced" - "Input B" (p.29) If a composite video▶ or S-Video▶ signal source is connected, use the "Video Signal" command in the "Advanced" environment setting menu to select the video signal format. "Advanced" - "Video Signal" (p.29)

	Condition
	Images appear dark

Probable cause		Remedy
Is the lamp due for replacement? If the ☼ indicator is flashing orange, it means that the lamp will soon be due for replacement. When the lamp is nearly due for replacement, the image will become darker and the tint will become poorer.	➔	Replace the lamp with a new one. (p.47, 48)

	Condition
	•Images appear greenish **•Images appear purplish**

Probable cause		Remedy
Is the image signal format setting correct? If the "Input B" command in the "Advanced" environment setting menu is set to "RGB" when component video signals are being input to the Input B port , the images will appear greenish. If the "Input B" command in the "Advanced" environment setting menu is set to "YCbCr▶" or "YpbPr▶" when a computer is connected, the images will appear purplish.	➔	If a component video▶ signal source or a RGB video or computer is connected to the Input B port, use the "Input B" command in the "Advanced" environment setting menu to select the signal format that matches the signal input source. "Advanced" - "Input B" (p.29) If a composite video▶ or S-Video▶ signal source is connected, use the "Video Signal" command in the "Advanced" environment setting menu to select the video signal format. "Advanced" - "Video Signal" (p.29)

Condition
The remote control does not work

Probable cause		Remedy
Is the remote control being pointed at the right angle?	→	The operating angle for the remote control is approximately 30° horizontally and approximately 30° vertically. Use the remote control within these ranges. (*Setup Guide*)
Is the projector too far away?	→	The operating distance for the remote control is approximately 10 m (30 ft.). Use the remote control within this distance. (*Setup Guide*)
Is direct sunlight or strong light from fluorescent lamps shining onto the remote control light-receiving area?	→	Avoid using projector in places where the remote control light-receiving area is exposed to strong light.
Are there batteries in the remote control?	→	Insert batteries into the remote control. (*Setup Guide*)
Are the batteries dead?	→	Replace the batteries with new ones. (*Setup Guide*)
Have the batteries been inserted correctly?	→	Insert the batteries so that they face in the correct direction. (*Setup Guide*)

Condition
The power does not turn off (after the [Power] button is pressed)

Probable cause		Remedy
Is the ⏻ indicator still orange? This projector is designed so that the ⏻ indicator remains lit even when after the power has been turned off.	→	When the main power switch at the rear of the projector is turned off, the ⏻ indicator switches off.
Is the fan still operating? After the [Power] button on either the remote control or the projector's control panel is pressed to turn off the power, the cool-down⯈ period starts.	→	After the cool-down period is complete, the ⏻ indicator changes to a steady orange, and you can then turn off the main power switch at the rear of the projector. * The cool-down period lasts for about 5 minutes. The actual time will vary depending on factors such as the ambient air temperature.

Troubleshooting

Appendices

This chapter provides information on maintenance procedures to ensure the best level of performance for the projector for a long time.

Maintenance

This section describes maintenance tasks such as cleaning the projector and replacing consumable parts.

Cleaning

You should clean the projector if it becomes dirty or if the quality of projected images starts to deteriorate.

> (!) Be sure to read the separate *Safety Instructions/ World-Wide Warranty Terms* before cleaning the projector.

Cleaning the Projector Case

Clean the projector case by wiping it gently with a soft cloth.
If the projector is particularly dirty, moisten the cloth with water containing a small amount of neutral detergent, and then firmly wring the cloth dry before using it to wipe the projector case. Then wipe the case again with a soft, dry cloth.

> (!) Do not use volatile substances such as wax, alcohol or thinner to clean the projector case. These can cause the case to warp and make the coating finish peel off.

Cleaning the Lens

Use a commercially-available air blower, or use a lens cleaning paper to gently wipe the lens.

> (!) Do not rub the lens with harsh materials or subject the lens to shocks, as it can easily become damaged.

Cleaning the Air Filter

If the air filter becomes clogged with dust, it can cause overheating and damage the projector.
Stand up the projector in order to prevent dust getting inside the projector, and then use a vacuum cleaner to clean away the dust from the air filter.
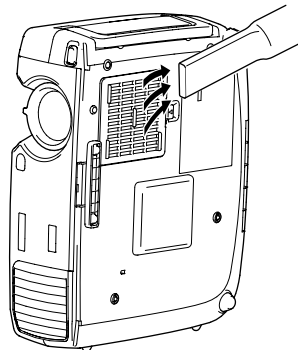
> • If the air filter is difficult to clean or if it is broken, it should be replaced. Contact your dealer for a spare air filter.
> • Replacement lamps are provided with a spare air filter. The air filter should also be replaced when the lamp is replaced.

Replacing Consumables

This section describes how to replace the lamp and the air filter.

Lamp Replacement Period

It is time to replace the lamp when:

● The message "Lamp Replace" appears on the screen when projection starts.

The message appears for 30 seconds, and disappears again after 30 seconds have passed.
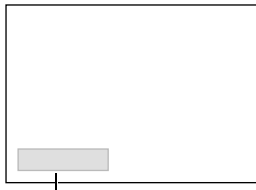
A message will be displayed.

● The ☼ indicator flashes orange or lights red.
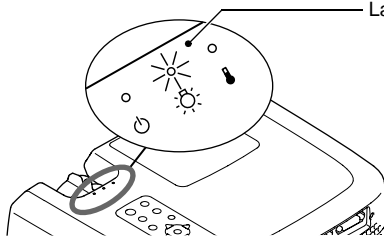
Lamp indicator flashes orange or lights red.

● The projected image gets darker or starts to deteriorate.

● In order to maintain the brightness and quality of the projected images, replace the lamp as soon as possible after the warning message appears.
● The replacement warning message is set to appear after 2900 hours of lamp use in order to maintain the brightness and quality of the projected images. If you continue to use the lamp after this period, the possibility of the lamp breaking becomes greater. When the lamp replacement message appears, replace the lamp with a new one as soon as possible, even if it is still working.
● The warning message appears after 2900 hours of use, but the actual life of each individual lamp will vary depending on the characteristics of the lamp and on the way it has been used. Some lamps may stop operating before 2900 hours of use, so you should always have a spare lamp ready in case.
● When the lamp replacement warning message appears, the user's logo will not appear even if the "Start-up screen" setting is "ON".
● Contact your dealer for a spare lamp.

Replacing the Lamp

> ⚠ • If the lamp stops working and needs to be replaced, there is the danger that the lamp may break when handled.
> If replacing the lamp of a projector which has been installed to the ceiling, you should remove the projector from the ceiling before replacing the lamp. If the projector cannot be removed from the ceiling, you should always assume that the lamp is broken and handle it with extreme care during removal. Furthermore, you should stand to the side of the projector, not underneath it.
> • Wait until the lamp has cooled down sufficiently before opening the lamp cover. After the cool-down⁺⁺ period has finished, it takes approximately a further 30 minutes for the lamp to be cool enough.

Procedure

1
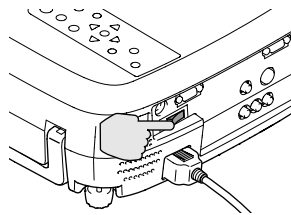
Turn off the main power switch at the rear of the projector. (p.8)

2
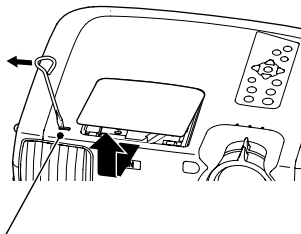
Lamp cover opening switch

Wait until the lamp has cooled down, and then remove the lamp cover.

After the cool-down period has finished, it takes approximately a further 30 minutes for the lamp to be cool enough.
Use the screwdriver that is provided with the replacement lamp or a separate flat-tipped screwdriver to slide the lamp cover opening switch so that the lamp cover lifts up. Hold the raised section of the lamp cover and then slide it forward to remove it from the projector.

3
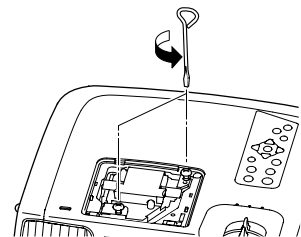
Loosen the two lamp fixing screws.

Use the screwdriver that is provided with the replacement lamp or a separate Phillips screwdriver to loosen the two lamp fixing screws that are securing the lamp to the projector.

4
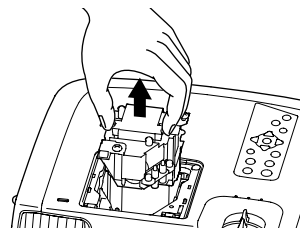
Take out the lamp.

Hold the lamp by the two recesses on the side to lift it up and out from the projector.
If the lamp is broken replace by a new lamp, or contact your local dealer for further advise.
If replacing the lamp yourself, be careful to avoid pieces of broken glass.
(Projection cannot be carried out until the lamp is replaced.)

5
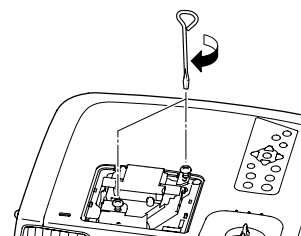
Install the new lamp.

Hold the lamp so that it faces the correct way to fit into the projector, and then insert the lamp until it clicks into place and tighten the two fixing screws.

6
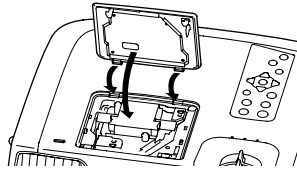
Install the lamp cover.

Insert the two cover tabs into the projector, and then press the other side of the lamp cover until it clicks into place.

- Install the lamp securely. If the lamp cover is removed, the lamp turns off automatically as a safety precaution. Moreover, the lamp will not turn on if the lamp or the lamp cover is not installed correctly.
- Replacement lamps are provided with a spare air filter. The air filter should also be replaced when the lamp is replaced.
- Dispose of used lamps properly in accordance with your local regulations.

Resetting the Lamp Operating Time

The projector has a built-in counter which keeps track of the lamp operating time. When the cumulative operating time reaches a certain point, it causes the replacement warning message to be displayed. Therefore, the counter needs to be reset after the lamp has been replaced with a new one. You can do this using the projector menu.

Do not reset the lamp operating time except after the lamp has been replaced, otherwise the lamp replacement period will not be indicated correctly.

Procedure

1
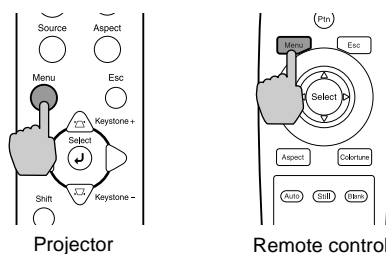
Projector   Remote control

Press the [Menu] button on either the remote control or the projector's control panel.

The environment setting menu will be displayed.

2

Lamp	: 2900H
Reset Lamp Timer	↵▸ Execute
Video Source	: Video
Video Signal	: Auto (------)
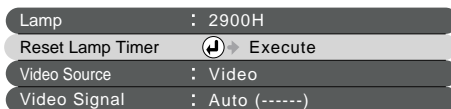
Select "Reset Lamp Timer" from the "About" menu.

Press the [Select] on either the projector's control panel or the remote control.

3

Reset Lamp Timer

Execute?

Yes   No
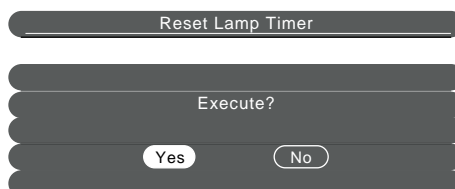
Reset the lamp operating time.

Select "Yes", and then press the [Select] on either the projector's control panel or the remote control.

Appendices

49

Replacing the Air Filter

Procedure
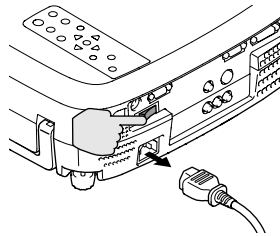
1 Turn off the power switch at the rear of the projector, and then disconnect the power cord. (p.8)
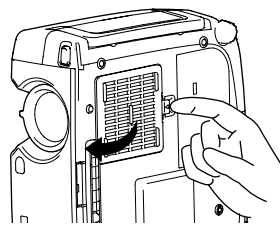
2 **Put your finger into the recess in the air filter hook, and lift up the air filter to remove it.**

In order to prevent any dust on the air filter from getting into the projector, be sure to stand up the projector so that the handle is at the top.
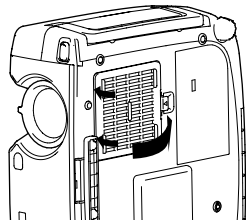
3 **Install the new air filter.**

First insert the tabs, and then press down on the opposite side until it clicks into place.

Dispose of used air filters properly in accordance with your local regulations.

Optional Accessories

The following optional accessories are available for purchase if required. This list of optional accessories is current as of October 2002. Details of accessories are subject to change without notice.

Spare lamp	ELPLP17

Use as a replacement for spent lamps.

60" screen	ELPSC07
80" screen	ELPSC08
100" screen	ELPSC10

Portable roll-up screen (Aspect ratio 4:3)

Component video cable (3 m (9.8 ft.) - for mini D-Sub 15-pin/ RCA male x 3)	ELPKC19

Use to connect a component video source.

Digital video cable (3 m (9.8 ft.) - DVI-D male-male)	ELPKC20

DVI⁺ cable for connecting the projector to a computer with a digital RGB output interface.

Digital video cable (3 m (9.8 ft.) - for DVI-D/ DFP 20-pin)	ELPKC21

DFP⁺ cable for connecting the projector to a computer with a digital RGB output interface.

DVI analog cable (3 m (9.8 ft.) - for DVI-I/ mini D-Sub 15-pin)	ELPKC25

Use to connect the projector to a computer with analog RGB output.

Ceiling mount *	ELPMB07

Use when installing the projector to a ceiling.

Ceiling plate *	ELPFC03
Pipe 370 (370 mm (14.57 inches)/ silver)*	ELPFP04
Pipe 570 (570 mm (22.44 inches)/ silver)*	ELPFP05
Pipe 770 (770 mm (30.31 inches)/ silver)*	ELPFP06

Use when installing the projector to a high ceiling or a ceiling with veneer panels.

*A special method of installation is required in order to suspend the projector from the ceiling. Please contact the place of purchase if you would like to use this installation method.

List of Supported Signal Resolutions

Component Video

Units: dots

Signal	Resolution	Aspect				
		Normal (Default)	Squeeze	Zoom	Through	Squeeze Through
SDTV▶ (525i, 60Hz) (D1)	640 × 480 640 × 360 (When zoomed)	960 × 720 (4:3 aspect)	1280 × 720 (16:9 aspect)	1280 × 720 (16:9 aspect)	590 × 442 (4:3 aspect)	786 × 442 (16:9 aspect)
SDTV (625i, 50Hz)	768 × 576 768 × 432 (When zoomed)	960 × 720 (4:3 aspect)	1280 × 720 (16:9 aspect)	1280 × 720 (16:9 aspect)	700 × 525 (4:3 aspect)	934 × 525 (16:9 aspect)
SDTV (525p) (D2)	640 × 480 640 × 360 (When zoomed)	960 × 720 (4:3 aspect)	1280 × 720 (16:9 aspect)	1280 × 720 (16:9 aspect)	590 × 442 (4:3 aspect)	786 × 442 (16:9 aspect)
HDTV▶ (750p) 16:9 (D4)	1280 × 720	1280 × 720 (16:9 aspect)	–	–	1178 × 664 (16:9 aspect)	–
HDTV(1125i)16:9 (D3)	1920 × 1080	1280 × 720 (16:9 aspect)	–	–	886 × 498 (16:9 aspect)	–

Composite Video/S-Video

Units: dots

Signal	Resolution	Aspect				
		Normal (Default)	Squeeze	Zoom	Through	Squeeze Through
TV (NTSC)	640 × 480 640 × 360 (When zoomed)	960 × 720 (4:3 aspect)	1280 × 720 (16:9 aspect)	1280 × 720 (16:9 aspect)	590 × 442 (4:3 aspect)	786 × 442 (16:9 aspect)
TV (PAL, SECAM)	768 × 576 768 × 432 (When zoomed)	960 × 720 (4:3 aspect)	1280 × 720 (16:9 aspect)	1280 × 720 (16:9 aspect)	700 × 525 (4:3 aspect)	934 × 525 (16:9 aspect)

RGB Video/Computer

Units: dots

Signal	Resolution	Aspect		
		Normal (Default)	Zoom	Through
PC98	640 × 400	1152 × 720	1280 × 720	640 × 400
EGA	640 × 350	1280 × 700	1280 × 700	640 × 350
VGA▶▶ 60 *, SDTV (525p)	640 × 480 640 × 360 (When zoomed)	960 × 720	1280 × 720	640 × 480
VESA 72/75/85, iMac[1]	640 × 480 640 × 360 (When zoomed)	960 × 720	1280 × 720	640 × 480
SVGA▶▶ 56/60*/72/75/85/, iMac[1]	800 × 600 800 × 450 (When zoomed)	960 × 720	1280 × 720	800 × 600
XGA▶▶ 43i/60*/70/75/85, iMac[1]	1024 × 768 1024 × 576 (When zoomed)	960 × 720	1280 × 720	–
1152 × 864 70/75/85	1152 × 864 1152 × 648 (When zoomed)	960 × 720	1280 × 720	–
QVGA 60*/75/85	1280 × 960 1280 × 720 (When zoomed)	960 × 720	1280 × 720	–
SXGA▶▶ 43i/60*/75/85	1280 × 1024 1280 × 720 (When zoomed)	900 × 720	1280 × 720	–
MAC13"	640 × 480	960 × 720	1280 × 720	640 × 480
MAC16"	832 × 624	960 × 720	1280 × 720	832 × 624
MAC19"	1024 × 768	960 × 720	1280 × 720	–
MAC21"	1152 × 870	954 × 720	1280 × 720	–
SDTV▶▶ (525i, 60Hz)	640 × 480 640 × 360 (When zoomed)	960 × 720	1280 × 720	590 × 442
SDTV (625i, 50Hz)	768 × 576 768 × 432 (When zoomed)	960 × 720	1280 × 720	700 × 525
SDTV (625p)	768 × 576 768 × 432 (When zoomed)	960 × 720	1280 × 720	700 × 525
HDTV▶▶ (750p*)	1280 × 720	1280 × 720	–	1280 × 720[2]
HDTV (1125i, 1125p)	1920 × 1080	1280 × 720	–	886 × 498

* indicates resolutions that are compatible with both analog and digital formats.

*1 This connection is not possible for models which are not equipped with a VGA output port.

*2 Images are displayed at a zoom ratio of 100%.

It may also be possible to project signals with specifications that are not listed above. However, not all projector functions may be available for such signals.

Specifications

Product name	Home Theatre Projector EMP-TW100			
Dimensions	348 (W) x 104 (H) x 274 (D) mm (13.7 (W) x 4.09 (H) x 10.79 (D) inches) (not including protruding parts)			
Panel size	0.87 inches			
Display method	Polysilicon TFT active matrix			
Resolution	921,600 pixels (1280 (W) x 720 (H) dots) x 3			
Focus adjustment	Manual			
Scanning frequency	Analog	Pixel clock	14 – 160MHz	
		Horizontal	15 – 92KHz	
		Vertical	50 – 85Hz	
	Digital	Pixel clock	21 – 153MHz	
		Horizontal	24 – 91KHz	
		Vertical	56 – 85Hz	
Zoom adjustment	Manual (approx. 1:1.35)			
Lamp (light source)	UHE lamp, 150 W, Model No.: ELPLP17			
Power supply	100 – 120 VAC, 2.7A 200 – 240 VAC, 1.3A 50/ 60 Hz			
Operating temperature	+5°C – +35°C (41°F - 95°F) (No condensation)			
Storage temperature	-10°C – +60°C (14°F - 140°F) (No condensation)			
Weight	Approx. 4.2 kg (9.3 lbs)			
Connectors	A-RGB/ D-RGB DVI-I	1		DVI-I
	InputA	1		3RCA pin jack
	InputB	1		Mini D-Sub 15-pin (female)
	Video	1		RCA pin jack
	S-Video	1		Mini DIN 4-pin
	RS-232C	1		D-Sub 9-pin (male)
	Trigger	1		3.5 mm mini jack

Safety

USA
  UL1950 3rd Edition
Canada
  CSA C22.2 No.950 -95 (cUL)
European Community
  The Low Voltage Directive (73/23/EEC)
    IEC60950 2nd Edition, +Amd.1, +Amd.2, +Amd.3, +Amd.4

EMC

USA
  FCC 47CFR Part15B Class B (DoC)
Canada
  ICES-003 Class B

European Community
  The EMC Directive (89/336/EEC)
    EN55022, 1998 Class B
    EN55024, 1998
      IEC61000-4-2, IEC61000-4-3, IEC61000-4-4, IEC61000-4-5,
      IEC61000-4-6, IEC61000-4-8, IEC61000-4-11,
      IEC61000-3-2, IEC61000-3-3

Australia/New Zealand
  AS/NZS 3548:1995, A1:1997, A2:1997 Class B
  CISPR Pub.22:1993, A1:1995, A2:1996, Class B

Appendices

Appearance

Centre of projector

Centre of lens

104
(4.09)

2.4
(0.09)

55.4*
(2.18)

EPSON

10
(0.39)

79 (3.11)

348
(13.7)
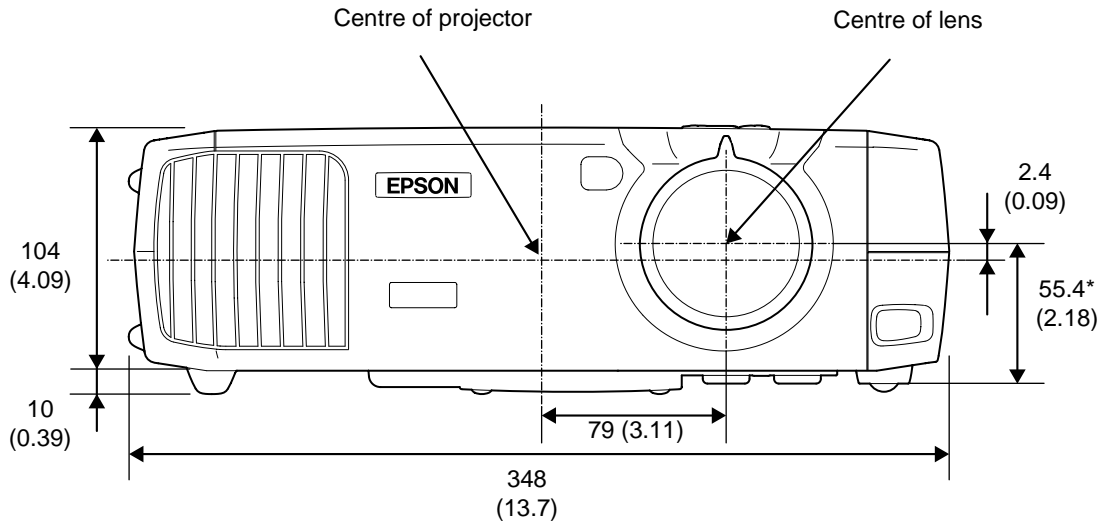
*Distance from center of lens to suspension bracket fixing point

4-M4×10

67.3
(2.65)

23
(0.91)

136
(5.35)

274
(10.79)

18
(0.71)

55.2
(2.17)

72.9
(2.87)

187.1
(7.37)
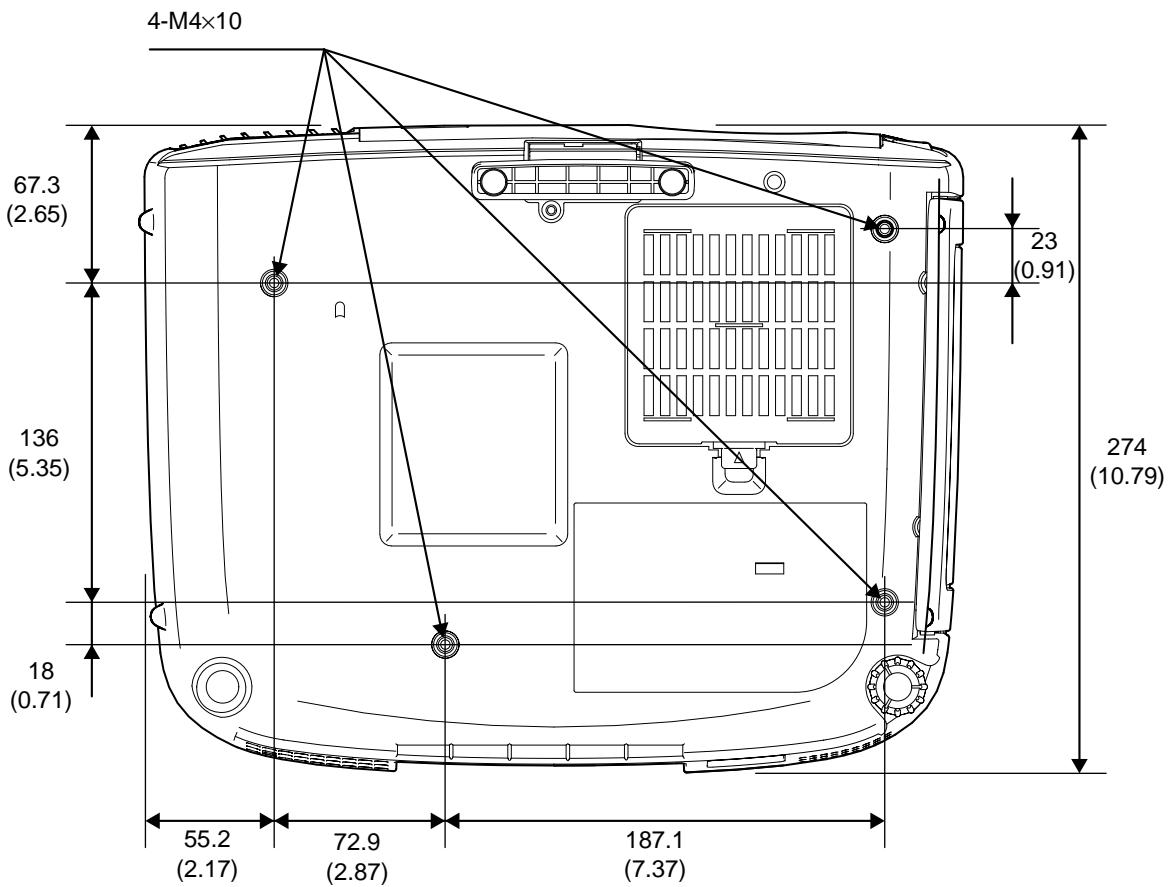
Units: mm (inch)

Part Names and Functions

Front/ Top

Zoom ring (p.10)
Adjusts the image size.

Focus ring (p.13)
Adjusts the image focus.

Lamp cover (p.48)
Open this cover when replacing the lamp unit inside the projector.

Lamp cover opening switch (p.48)
Slide this switch to unlock the lamp cover when removing it.

Security lock (🔒) (p.62)

Air exhaust vent

Remote control light-receiving area (*Setup Guide*)
Receives signals from the remote control.

Front adjustable foot (p.10)
Extend and retract to adjust the projection angle.

Lens cover
Attach when not using the projector to prevent the lens from becoming dirty or damaged.

🌡 Temperature indicator (p.35)
Indicates abnormalities in the internal projector temperature.

☼ Lamp indicator (p.35)
Indicates a problem with the projection lamp or that the lamp needs to be replaced.

⏻ Operation indicator (p.35)
Flashes or lights to indicate the operating status of the projector.

Control panel (p.58)

EPSON

Handle
Hold this handle when lifting and transporting the projector.

Foot adjust button (p.10)
Press this button while lifting up the projector in order to make fine adjustments to the adjustable foot or to retract it.

Appendices

57

Control Panel

[Power] button (p.7)
Press to turn the projector power on and off.

[Source] button (p.7)
Switches the input source between InputA → InputB → S-Video → Video → D-RGB → A-RGB each time the button is pressed.

[Menu] button (p.18)
The environment setting menus turn on and off each time the [Menu] button is pressed.

[Keystone] buttons (p.11)
Press to select an item in an environment setting menu or help menu.
Press and hold the [Shift] button while pressing these buttons to correct keystone distortion of images.

[Shift] button (p.11)
This button does not function by itself. Press and hold this button while pressing the [Keystone +] button or the [Keystone -] button to correct keystone distortion of images.
If you press and hold this button and then press the [Aspect] button during Through or Squeeze Through mode, the image display position can be changed to one of three positions.

[Colortune] button (p.13)
Switches the color mode between Dynamic → Theatre → Natural → PC → sRGB⁑ each time the button is pressed.

[Help] button (p.34)
Displays the online help menu to assist you if you have a problem.

[Aspect] button (p.14)
Selects the aspect ratio⁑ for projected images from one of five settings.
The aspect ratio switches between Normal → Squeeze → Zoom → Through → Squeeze Through each time the button is pressed.

[Esc] button (p.19, 34)
Pressing [Esc] while viewing an environment setting menu or the online help displays the previous screen or menu.

[Select] button (p.18, 20, 34)
Displays the line menu.
Pressing the [Select] button while viewing an environment setting menu or the online help selects the menu item and proceeds to the next display.

◁ and ▷ buttons (p.20)
These buttons select adjustment values in environment setting menus and the online help.

[Pattern] button (p.12)
Projects a test pattern for image adjustment.
The test pattern switches between Crosshatch → Grayscale Pattern → Off each time the button is pressed.

Rear

Trigger port
When the projector power is turned on, 12 V DC is output from this port. When the projector's power is turned off, the output becomes 0 V to communicate the projector's power ON/ OFF status to an external device.

Remote control light-receiving area (*Setup Guide*)
Receives signals from the remote control.

Main power switch (p.6)
Press to turn the main projector's power on and off. When the power is off, the power consumption is 0 W.

Rear adjustable foot
Extend and retract to adjust the horizontal projection angle.

Power inlet (p.6)
Connects the power cord.

Video port (*Setup Guide*)
Inputs composite video⁺ signals to the projector from other video sources.

RS-232C port
Connects the projector to a computer using an RS-232C cable.
This port is for service use, and should not normally be used.

InputB port (*Setup Guide*)
Inputs analog RGB video signals from a computer and component video⁺ signals from other video sources.

A-RGB/ D-RGB DVI-I port (*Setup Guide*)
Inputs digital/ analog RGB video signals from a computer.

S-Video port (*Setup Guide*)
Inputs an S-Video signal to the projector from other video sources.

InputA port (*Setup Guide*)
Inputs component video signals from other video sources.

Base

Front adjustable foot

Air filter (air inlet) (p.46, 50)
Prevents dust and other foreign particles from being drawn into the projector. When replacing the lamp, replace the air filter also.

Rear adjustable foot

Suspension bracket fixing points (4 points) (p.51, 56, *Setup Guide*)
Install the optional ceiling mount here when suspending the projector from the ceiling.

Appendices

Remote Control

[Pattern] button (p.12)
Projects a test pattern for image adjustment.
The test pattern switches between Crosshatch → Grayscale Pattern → Off each time the button is pressed.

[Power] button (p.7)
Press to turn the projector power on and off.

[Esc] button (p.19, 34)
Pressing [Esc] while viewing an environment setting menu or the online help displays the previous screen or menu.
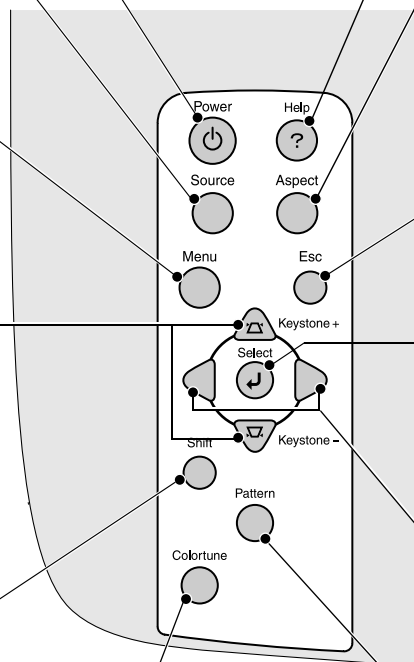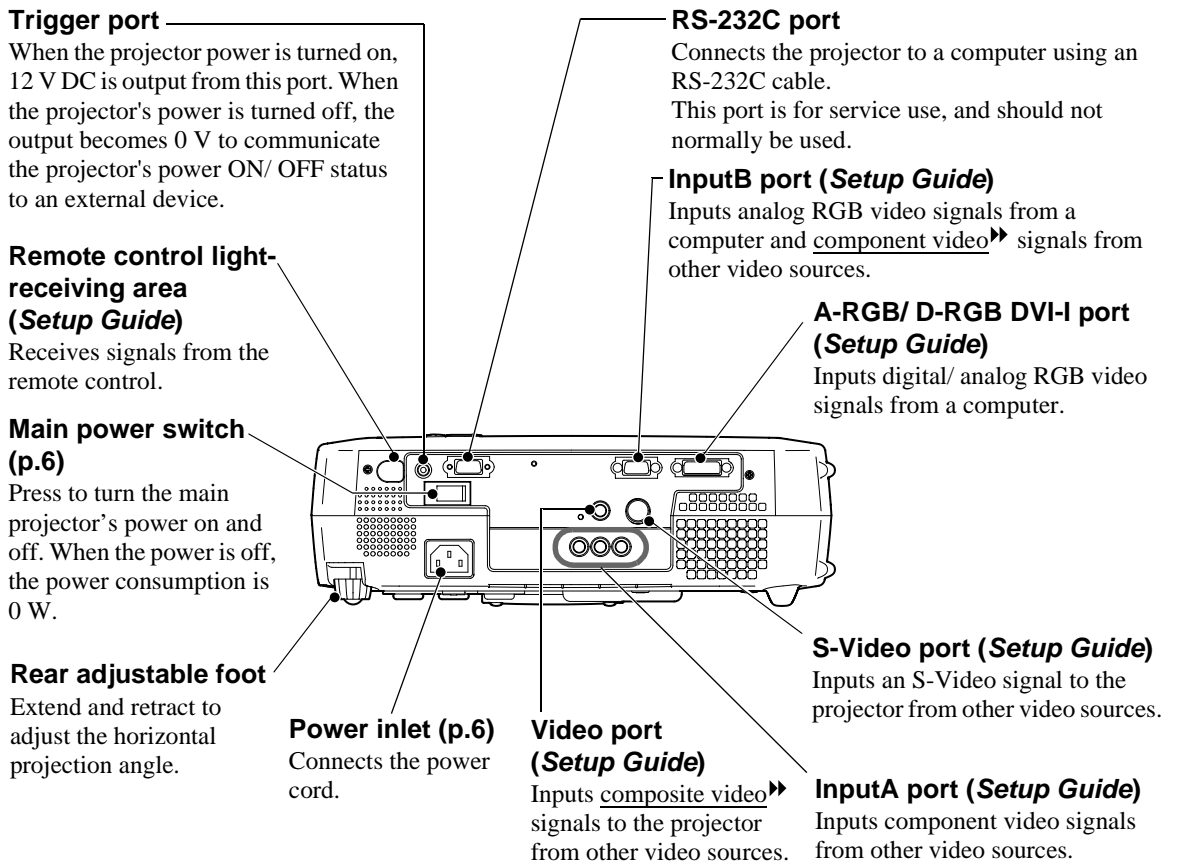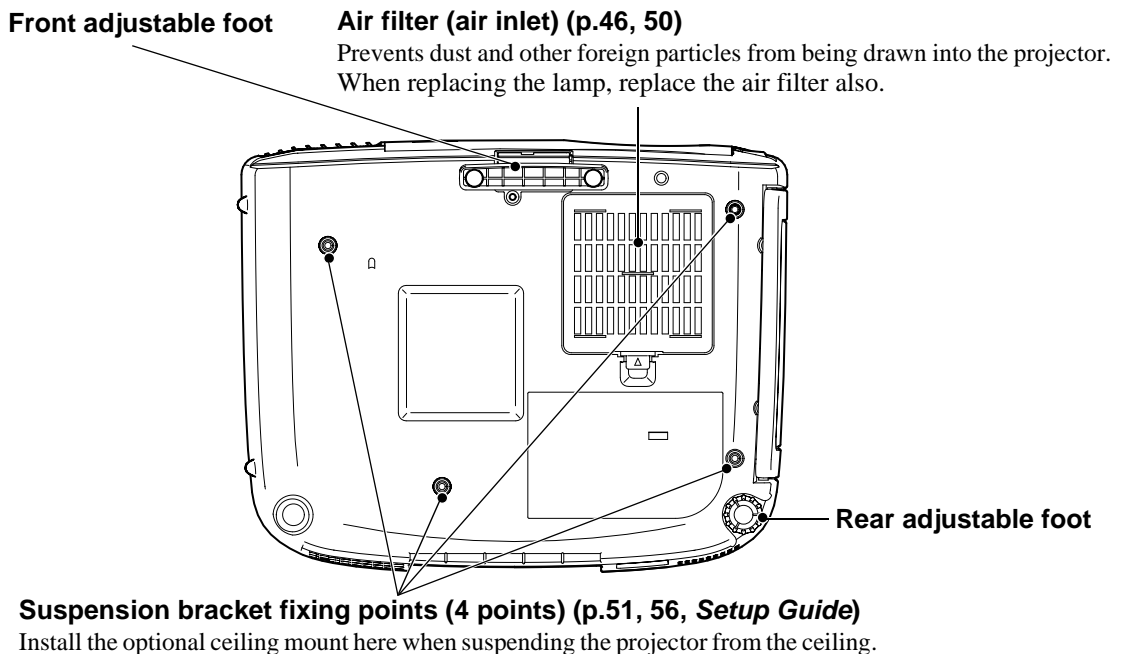
[Select] button (p.18, 20, 34)
Press to display the line menu.
When viewing an environment setting menu or the online help, tilt the [Select] button up, down or to the left and right to select menu items, and press the [Select] button to select the menu item and proceed to the next display.

[Colortune] button (p.13)
Switches the color mode between Dynamic → Theatre → Natural → PC → sRGB** each time the button is pressed.

[Blank] button (p.30)
The projected images and audio switch off and on each time the [Blank] button is pressed.
When the images and audio are switched off, the screen will appear in accordance with the setting made using the "Blank" command in the "Setting" menu.
However, the video and audio playback still continues while moving images are paused, so image playback will not resume exactly from the point where playback was paused.

[Memory] buttons (p.22)
Retrieves settings that have been saved using the "Memory" command in the "Video" menu and adjusts the images being projected.

[Help] button (p.34)
Displays the online help menu to assist you if you have a problem.

Remote control light-emitting area (*Setup Guide*)
Outputs infrared remote control signals.

⊛ (Illumination) button (*Setup Guide*)
The [Power], [Pattern], [Menu], [Esc], [Aspect] and [Colortune] buttons illuminate for 10 seconds each time this button is pressed.

[Menu] button (p.18)
The environment setting menus turn on and off each time the [Menu] button is pressed.

[Aspect] button (p.14)
Selects the aspect ratio** for projected images from one of five settings.
The aspect ratio switches between Normal → Squeeze → Zoom → Through → Squeeze Through each time the button is pressed.

[Auto] button (p.16)
Automatically adjusts computer images to the optimum images.
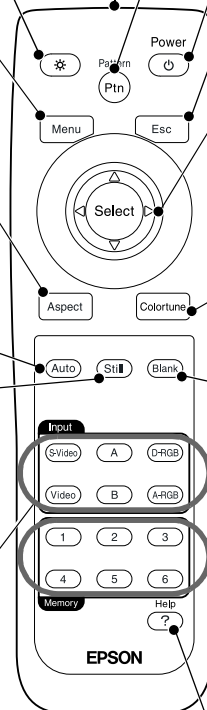
[Still] button
Screen image playback pauses and resumes each time the [Still] button is pressed. However, the video and audio playback still continues while moving images are paused, so image playback will not resume exactly from the point where playback was paused.

[Input] button (p.7)
[S-Video] : Changes video input to the source connected to the S-Video port.
[Video]   : Changes video input to the source connected to the Video port.
[A]   : Changes video input to the source connected to the InputA port.
[B]   : Changes video input to the source connected to the InputB port.
[D-RGB]   : Changes video input to the source connected to the D-RGB port.
[A-RGB]   : Changes video input to the source connected to the A-RGB port.

Glossary

Following is an explanation of some of the terms used in this guide which may be unfamiliar or which were not explained in the manual itself. Further information can be obtained by referring to other commercially-available publications.

3-2 pull-down function	This function directly converts image sources that have been recorded in the same 24-frame format used for movies into 60-frame progressive signals. This allows data such as DVD software that has been recorded in 24-frame format to be played back on large screens with more natural and accurate reproduction, without any loss of image quality from the original movie.
Aspect ratio	The ratio between an image's length and its height. HDTV images have an aspect ratio of 16:9 and appear elongated. The aspect ratio for standard images is 4:3.
Color temperature	The temperature of an object which is emitting light. If the color temperature is high, the colors tend to take on a bluish tinge. If the color temperature is lower, the colors tend to take on a reddish tinge.
Component video	Video signals which have the video brightness signals and color signals separated, in order to provide better image quality. In high-definition TV (HDTV), it refers to images which consist of three independent signals: Y (luminance signal), and Pb and Pr (color difference signals).
Composite video	Video signals which have the video brightness signals and color signals mixed together. The type of signals commonly used by household video equipment (NTSC, PAL and SECAM formats). Video signals which consist of a carrier signal Y (luminance signal) within the color bar signal, and a chroma or color signal (CbCr).
Contrast	The relative brightness of the light and dark areas of an image can be increased or decreased in order to make text and graphics stand out more clearly, or to make them appear softer.
Cool-down	This is the process by which the projector's lamp is cooled down after it has become hot through use. It is carried out automatically when the [Power] button on either the remote control or the projector's control panel has been pressed to turn off the projector. Do not disconnect the power cord while cool-down is in progress, otherwise the cool-down process will not work properly. If the cool-down period is not allowed to finish normally, the projector's lamp and internal components will remain at high temperatures, and this may shorten the useful life of the lamp or cause problems with the operation of the projector. The cool-down period lasts for about 5 minutes. The actual time will vary depending on the external air temperature.
DCDi function	An abbreviation for Directional Correlational Deinterlacing. Refers to a high-resolution image circuit function developed by Faroudja. It incorporates the latest in edge cutting technology to smooth the jaggedness from the edges of images that have been converted from interlaced to progressive video, in order to provide more natural images.
DFP	Abbreviation for Digital Flat Panel. Refers to a standard method for digital transmission of video signals.
Dolby Digital	A proprietary sound format developed by Dolby Laboratories. Normal stereo is a 2-channel format that uses two speakers. Dolby Digital is a 6-channel (5.1 channel) format that adds to this a center speaker, two rear speakers and a sub-woofer.
DVI	Abbreviation for Digital Visual Interface. Refers to a standard method for digital transmission of video signals. DVI is a standard which has also been applied to digital household electronic equipment other than computers. It allows images to be transmitted at higher resolutions than for DFP.
Film judgment function	This function determines whether or not the video source is a 24 Hz progressive film source.
Gain	The adjustment of minute changes in color that occur as result of factors such as differences in the equipment used to display images. It adjusts the coloration in brighter ranges separately for R, G and B components.
Gamma	The adjustment of minute changes in color that occur as result of factors such as differences in the equipment used to display images. It adjusts the coloration in intermediate ranges separately for R, G and B components.

HDTV	An abbreviation for High-Definition Television. It refers to high-definition systems which satisfy the following conditions. • Vertical resolution of 750p or 1125i or greater (p = <u>progressive scanning</u>▸, i = <u>interlaced scanning</u>▸) • Screen aspect ratio of 16:9 • <u>Dolby Digital</u>▸ audio reception and playback (or output)
Interlaced scanning	A method of image scanning whereby the signal bandwidth used is approximately half that required for sequential scanning when images with the same still picture resolution are broadcast.
Offset	The adjustment of minute changes in color that occur as result of factors such as differences in the equipment used to display images. It adjusts the coloration in darker ranges separately for R, G and B components.
Progressive scanning	A method of image scanning whereby the image data from a single image is scanned sequentially from top to bottom to create a single image.
Refresh Rate	The light-emitting element of a display maintains the same luminosity and color for an extremely short time. Because of this, the image must be scanned many times per second in order to refresh the light emitting element. The number of refresh operations per second is called the "refresh rate", and is expressed in hertz (Hz).
S-Video images	A video signal which has the luminance component and color component separated in order to provide better image quality. It refers to images which consist of two independent signals: Y (luminance signal), and C (color signal).
SDTV	An abbreviation for Standard Definition Television. It refers to standard television systems which do not satisfy the conditions for High-Definition Television.
Security lock	A device consisting of a protector case with a hole in it that a commercially-available theft-prevention cable can be passed through in order to secure the device to a table or pillar. This projector is compatible with the Microsaver Security System manufactured by Kensington.
sRGB	An international standard for color intervals that was formulated so that colors which are reproduced by video equipment can be handled easily by computer operating systems (OS) and the Internet.
SVGA	A type of image signal with a resolution of 800 (horizontal) x 600 (vertical) dots which is used by IBM PC/ AT-compatible computers.
SXGA	A type of image signal with a resolution of 1280 (horizontal) x 1024 (vertical) dots which is used by IBM PC/ AT-compatible computers.
Synchronization (Sync.)	The signals output from computers have a specific frequency. If the projector frequency does not match this frequency, the resulting images will not be of a good quality. The process of matching the phases of these signals (the relative position of the crests and troughs in the signal) is called "synchronization". If the signals are not synchronized, problems such as flickering, blurriness and horizontal interference can occur.
Tracking	The signals output from computers have a specific frequency. If the projector frequency does not match this frequency, the resulting images will not be of a good quality. The process of matching the frequency of these signals (the number of crests in the signal) is called "tracking". If tracking is not carried out correctly, wide vertical stripes will appear in the projected images.
Three-dimensional Y/C separation	A term given to the reduction in fine image distortion such as stripiness and jaggedness of image contours that can occur as a result of separate digital processing of Y (luminance) and C (chroma) components of image signals.
UXGA	A type of image signal with a resolution of 1600 (horizontal) x 1200 (vertical) dots which is used by IBM PC/ AT-compatible computers.
VGA	A type of image signal with a resolution of 640 (horizontal) x 480 (vertical) dots which is used by IBM PC/ AT-compatible computers.
XGA	A type of image signal with a resolution of 1,024 (horizontal) x 768 (vertical) dots which is used by IBM PC/ AT-compatible computers.
YCbCr	The carrier signal which is contained in the color bar signal used in modern TV transmissions. The name comes from the Y (luminance) signal and the CbCr (chroma [color]) signals.

YPbPr	The carrier signal which is contained in the color bar signal used in high-definition TV (HDTV) transmissions. The name comes from the Y (luminance) signal and the PbPr (color difference) signals.

Index

General Terms

<div style="border: 1px solid black; padding: 10px;">

DECLARATION of CONFORMITY

According to 47CFR, Part 2 and 15
Class B Personal Computers and Peripherals; and/or
CPU Boards and Power Supplies used with Class B
Personal Computers

</div>

We   : EPSON AMERICA, INC.

Located at   : 3840 Kilroy Airport Way
                      MS: 3-13
                      Long Beach, CA 90806

Tel   : 562 - 290- 5254

Declare under sole responsibility that the product identified herein, complies with 47CFR Part 2 and 15 of the FCC rules as a Class B digital device. Each product marketed, is identical to the representative unit tested and found to be compliant with the standards. Records maintained continue to reflect the equipment being produced can be expected to be within the variation accepted, due to quantity production and testing on a statistical basis as required by 47CFR 2.909. Operation is subject to the following two conditions : (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Trade Name   : EPSON

Type of Product : Projector

Model   : EMP-TW100 / ELP-TW100H

FCC Compliance Statement
For United States Users

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio or television reception. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio and television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures.

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

WARNING

The connection of a non-shielded equipment interface cable to this equipment will invalidate the FCC Certification or Declaration of this device and may cause interference levels which exceed the limits established by the FCC for this equipment. It is the responsibility of the user to obtain and use a shielded equipment interface cable with this device. If this equipment has more than one interface connector, do not leave cables connected to unused interfaces. Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

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