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PROJECTOR OWNER'S MANUAL

Boxlight

CD-753Z

Need a replacement lamp for this projector?

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USER'S GUIDE

BOXLIGHT CD-753z

Preliminary Specifications



FCC Notice

This equipment has been tested and found to comply within 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 commercial 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 communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or 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 distance between the equipment and the 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.

This device complies with Part 15 of the FCC Rules. Operation is subject to following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference that may cause undesired operation.

Precautions

Safety Instructions

1. Read this manual before you operate your projector and keep it for future reference.
2. Check that the operating voltage of your unit is identical with the voltage of your local power supply.
3. Should any liquid or solid object fall into the cabinet, unplug the unit and have it checked by a qualified personnel before operating it further.
4. Do not place this product on an unstable cart, stand, or table. The product may fall and cause serious damage to the product.
5. Unplug the unit from the wall socket if it is not to be used for several days. To disconnect the cord, pull it out by the plug. Never pull the cord itself.
6. This product is capable of displaying inverted images for ceiling mount installation. Please use suitable equipment for mounting the unit and ensure it is securely installed.
7. Do not place the projector where the cord can be stepped on, as this may result in fraying or damage to the lead or the plug. Be alert to tripping hazards.
8. Do not look straight at the projector lens during the operation. The intense light beam may damage your eyes.
9. Do not place your hand or objects near the ventilation holes. The air coming out is hot.
10. To avoid the risk of electric shock, never disassemble this appliance. Except as specifically directed in this manual, do not attempt to service this product yourself. Take it to a qualified technician when service or repair is required. Incorrect reassembly can cause electronic shock when the appliance is subsequently used.
11. Unplug the projector from the wall socket before cleaning. Use a damp cloth for cleaning the projector housing. Do not use liquid or aerosol cleaners.
12. Keep the plastic packing materials (from the projector, accessories and optional parts) out of the reach of children as these bags may result in death by suffocation. Be particularly careful around the small children.

13. The lamp becomes extremely hot during the operation. Allow the projector to cool for approximately 45 minutes prior to removing the lamp assembly for replacement. Do not operate lamps beyond the rated lamp life. Excessive operation of lamps beyond the rated life could cause them to explode on rare occasions.
14. Never replace lamp assembly or any electronic components unless the projector is unplugged.
15. Always open the lens shutter or remove the lens cap when the projector lamp is on.
16. In some countries, the line voltage is NOT stable. This projector is designed to operate safely within a bandwidth of 100 to 240 volts, but could fail if power cuts or surges of +/- 10 volts occur. In these high-risk areas, it is recommended to install a power stabilizer unit.
17. Do not point the laser pointer directly ^{into} to the people's eyes (especially small children). There is a danger of injury to the eyes. So keep the Remote Control out of the reach of children.
18. Never unplug the power cord while the projector is in use. Always turn the power switch off first. Wait for the fan to stop. Then unplug the power cord.

Cautions

-  The projector is equipped with ventilation holes (intake) and ventilation holes (exhaust). Do not block or place anything near these slots, or internal heat build-up may occur, causing picture degradation or damage to the projector.
-  When you replace the projector lamp, never touch the new bulb with your bare hands. The invisible residue left by the oil on your hands may shorten the bulb 's life span. Use of lint-free gloves or finger cots is recommended.

Preventing Internal Heat Build-Up

After you turn off the power with the Power button, do not disconnect the unit from the wall outlet while the cooling fan is still running.

Repacking

Save the original shipping carton and packing material; they will come in handy if you ever need to send your unit back. For maximum protection, repack your unit as it was originally packed at the factory.

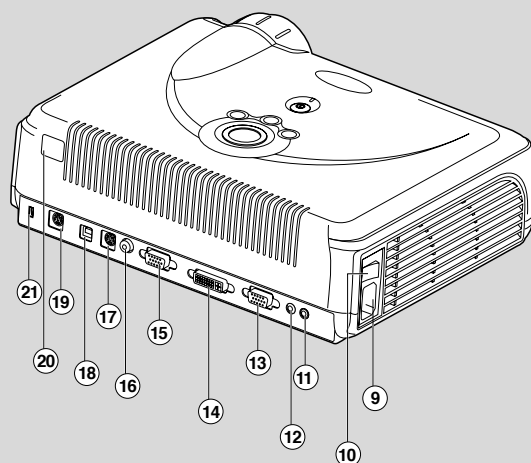
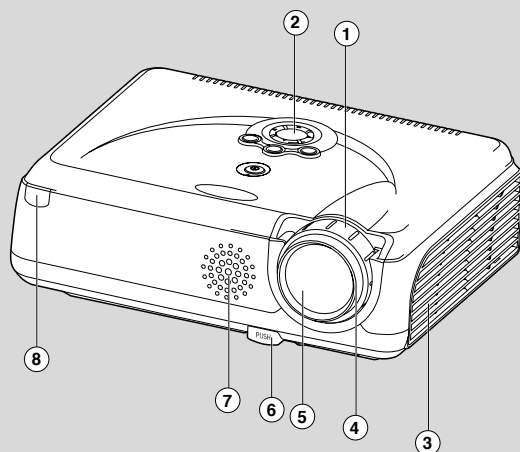
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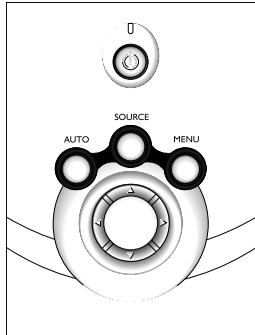
Projector Features and Controls

Projector



1. Zoom Ring
2. External Control Panel including the Power Button (see next page)
3. Ventilation Grill
4. Focus Ring
5. Projection Lens
6. Adjustable Feet
7. Speaker
8. Front IR Remote Sensor
9. AC IN Socket
10. Power Switch
11. Audio OUT Connector
12. Audio IN Connector
13. PC/YPbPr Connector
14. DVI-I IN Connector
15. MONITOR-OUT Connector
16. VIDEO Input Connector
17. S-VIDEO Input Connector
18. USB Input Connector
19. CONTROL Port
20. Rear IR Remote Control Sensor
21. Kensington Lock

External Control Panel



LED Indicator

Indicates the status of the projector.

Control Panel Button



Turns the projector (or lamp) ON or OFF.

MENU

Displays (or hides) the on-screen control menus.

AUTO

Automatically adjusts frequency and phase in VGA mode.

SOURCE

Manually selects an input source.

Cursor Controller

It can be used as a navigation control to navigate the projector menus.

(▲ / ▼ / ◀ / ▶)

▲ Scrolls up through the menu choices.

▼ Scrolls down through the menu choices.

▶ Increases the value setting on the selected sub-menus, or confirms a menu selection.

◀ Decreases the value setting on the selected sub-menus.

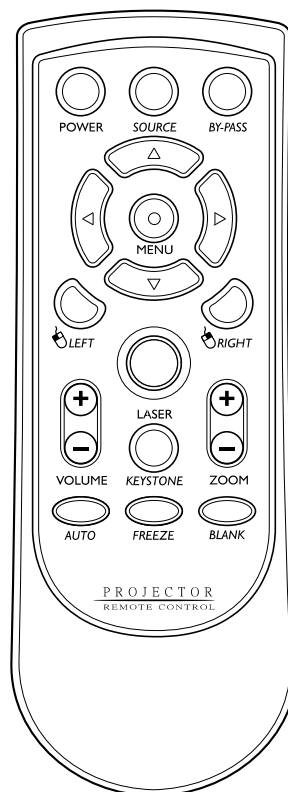
Note:

The Infrared Remote Receiver (Front and Rear) allows the projector to accept signals from the remote control. For best results, aim the remote control toward the sensor without any obstructions in between.

Remote Control

Button Function

POWER	Turns the lamp ON or OFF.
SOURCE	Manually selects an input source.
BY-PASS	Selects the Computer or other Video modes throughout to Monitor (during Lamp OFF).
MENU	Displays (or hides) the on-screen control menus.
▲	Scrolls up through the menu choices.
▼	Scrolls down through the menu choices.
◀	Decreases the value setting on the selected sub-menus.
▶	Increases the value setting on the selected sub-menus, or confirms a menu selection.
RIGHT	Simulates the right mouse button (only functions when your projector is equipped with an optional mouse link cable).
LEFT	Simulates the left mouse button (only functions when your projector is equipped with an optional mouse link cable).
LASER	Fires laser pointer (press and hold).



VOLUME	Adjusts the volume of the projector's speaker.
ZOOM	Digitally zooms the current image window.
AUTO	Automatically adjusts frequency and phase.
KEYSTONE	Selects vertical or horizontal trapezoidal distortion.
FREEZE	Freezes the current graphics and video image on the screen.
BLANK	Blank the screen temporarily.

Note:

- When the on-screen display (OSD) menu is inactive, the ▲ , ▼ , ◀ , ▶ ,  LEFT and  RIGHT buttons will function as a remote mouse for your PC (only if your projector is equipped with an optional mouse link cable).
- Toggle the KEYSTONE button to select the desired trapezoidal distortion. To adjust the trapezoidal distortion of the projection, press the ◀ or ▶ button.

Getting the Most Out of Your Projector

The projector comes with a full set of features that allows you to control the settings for the image display.

To get the greatest utility from your projector, read the following sections for a summary of these important features.

Remote Control

The buttons on the Remote Control allow direct and immediate control of the most commonly used features including source selection, keystone adjustment, volume control, image frame freezing, zooming, screen blanking, audio muting and power control.

Remote Control buttons can also be used for advanced functions and for access to the projector's menu system. The Remote Control can even be used as a remote mouse for your computer, and also includes a laser pointer.

External Control Panel

The buttons of the Control Panel on the top of the projector offer access to advanced functions, such as brightness and contrast adjustment for computer images.

Setup

This section provides you with instructions on how to unpack and set up your projector and connect it to other equipment. The projector must be connected to a computer or a video source such as a DVD or laser disk player in order to make a projection. You may want to connect the projector to both your computer and a video source, or set up the projector for one or more of the following:

- Connect the mouse cable to use the remote control as a mouse.
- Provide audio for one or both image sources. The audio source can be the computer, video source, or another device such as a stereo.

Unpacking the Projector

The projector is shipped with the necessary cables required for standard PC or laptop computer connections. Carefully unpack and verify that you have all the items shown below. If any of these items are missing, please contact your local dealer.

- | | |
|-----------------------------------|-------------------------------------|
| ■ Projector | ■ S-Video cable (Mini Din 4 pins) |
| ■ Soft carrying case | ■ Audio cable (2 Stereo Phone Plug) |
| ■ Remote control | ■ Lens cap |
| ■ 2 AAA batteries | ■ Quick start guide |
| ■ Power cord | ■ User's manual |
| ■ USB mouse cable | |
| ■ Composite cable (RCA for Video) | |
| ■ VGA cable | |

The following cables are optional accessories:

- | | |
|------------------|--|
| ■ DVI-D cable | ■ Component cable (D-Sub 15 pin to RCA *3)
(480i/480p/720p/1080i) |
| ■ Spare lamp kit | ■ DVI to VGA cable |

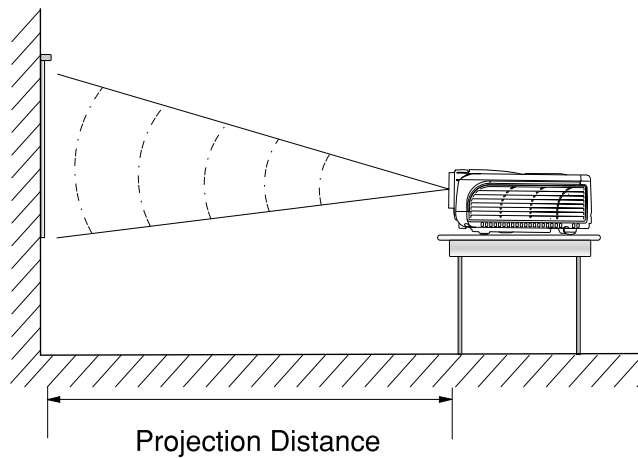
Many of the above optional items may not be required for your particular installation. Retain packaging materials in case you need to move or ship the projector in the future. It should always be transported in its original protective packaging or the equivalent.

Installation

1. Place the projector on a sturdy, level surface within five feet of the computer or video source.

⚠ Do not hold the projector by the lens. That may damage the lens.

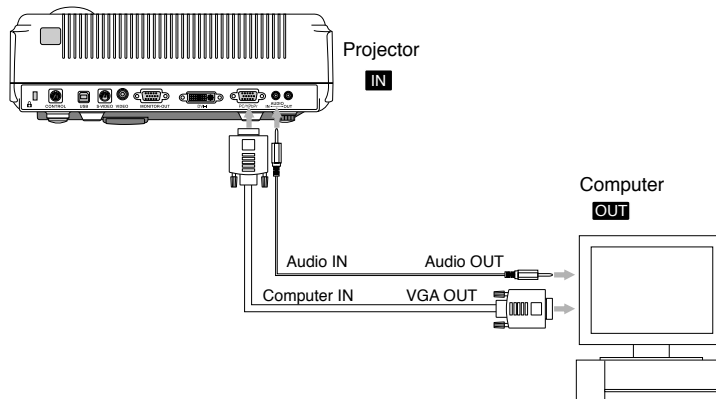
2. Place the projector in correct distance from the screen. The distance between the projector and the screen determines the actual image size. Use the following general guidelines to determine the correct distance.



Projection Distance(m)	Screen Size (for 4 : 3 aspect-ratio diagonal length)	
	Zoom Wide	Zoom Tele
1.5	45"	37.5"
2	60"	50"
2.5	75"	62.5"
4	120"	100"
5	150"	125"
8	240"	200"
10	300"	250"

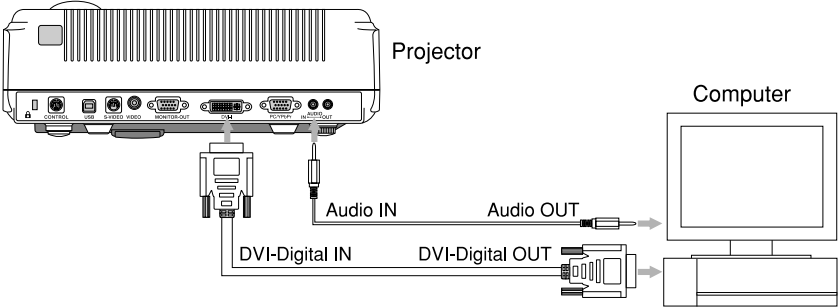
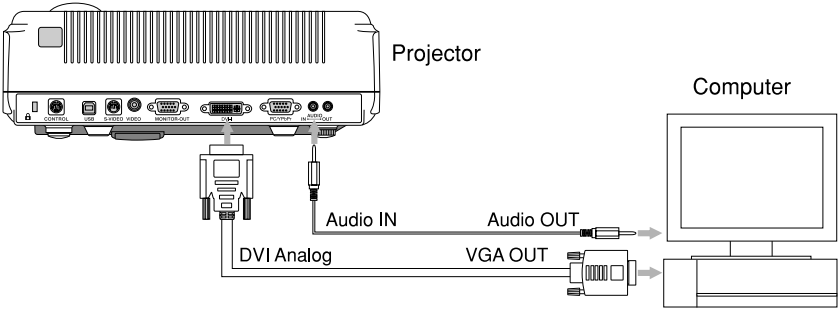
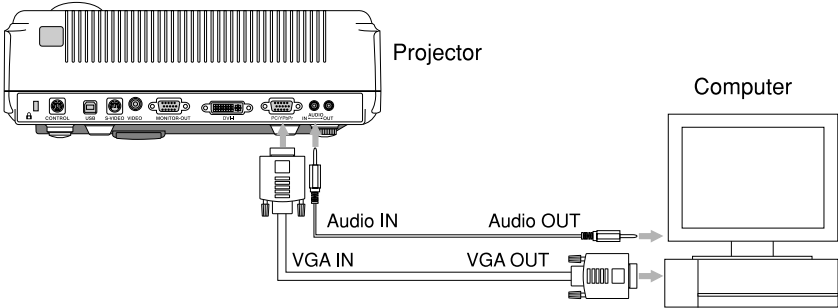
3. When replacing batteries, take the following precautions:
-  Do not recharge used batteries or expose batteries to fire or water.
 -  Replace batteries as soon as they run out. If the batteries leak, wipe away the fluid with a soft cloth. If battery fluid gets onto your hands wash them immediately.
 -  Remove the batteries if you will not be using the projector for a long period.

Connecting to a Computer

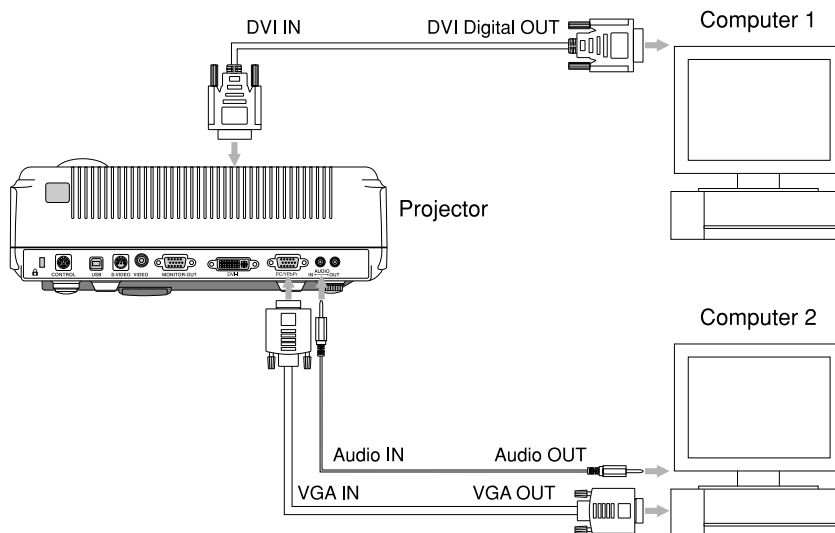
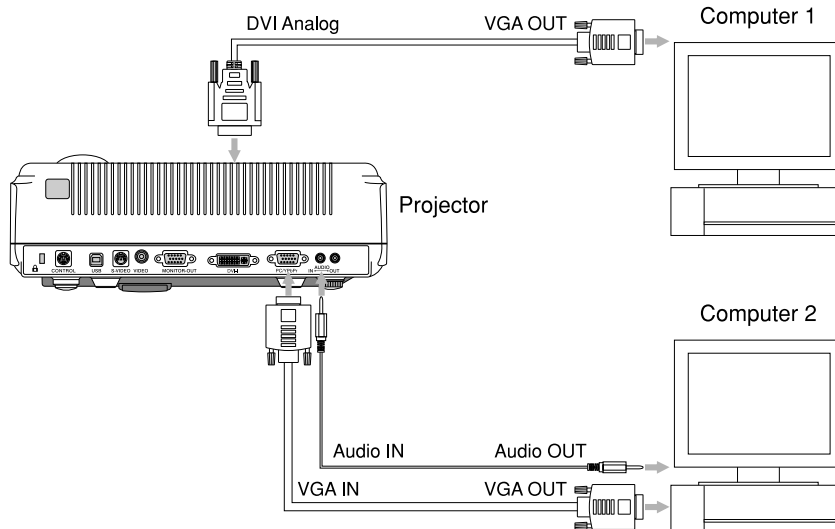


The projector will always project at XGA (1024 x 768) resolution. (XGA is the native resolution of the projector.) However, you can connect the projector to a computer source capable of displaying VGA (640 x 480), SVGA (800 x 600), XGA, or SXGA (1280 x 1024) resolutions. The projector will resize VGA, SVGA, and SXGA input automatically for projection at XGA resolution. The types of computers supported by this projector include IBM, Macintosh and Apple compatible laptop or desktop PCs (PC compatibles).

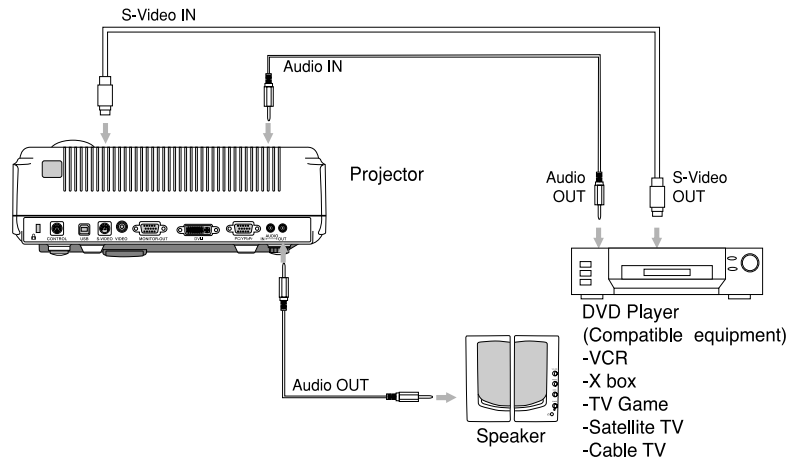
Connecting One Computer (data)



Connecting Two Computers (data)



Connecting to a Video Source



You can connect the projector to almost any common video source - VHS player, DVD player, camcorder, laser disc player or any other compatible video image source. The projector can accept composite, component, or S-Video signals:

- Composite video is characterized by a single-pin “RCA-type” video jack, usually colored yellow.
- Component video (YPbPr) is less common and features three “RCA-type” video jacks, typically colored green, blue and red.
- S-Video is readily identified by a single connector with four small pins.

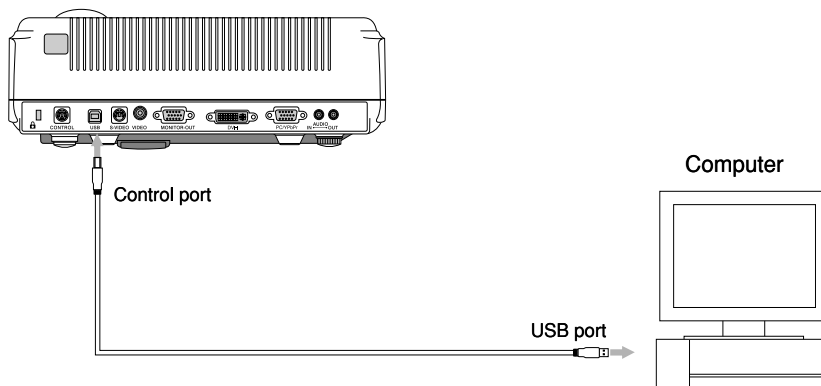
You can connect the projector simultaneously to composite, component, and S-Video sources. You can select which video source to project using the Control Panel or Remote Control. If the Auto Search feature is ON (see later section- OSD SOURCE: AUTO SOURCE of this manual), the projector will automatically detect and select a source. The projector supports NTSC, PAL and SECAM video formats. The projector

will automatically detect and identify the video format. Note that even though the projector can connect to multiple sources simultaneously it can only accept one video format at a time.

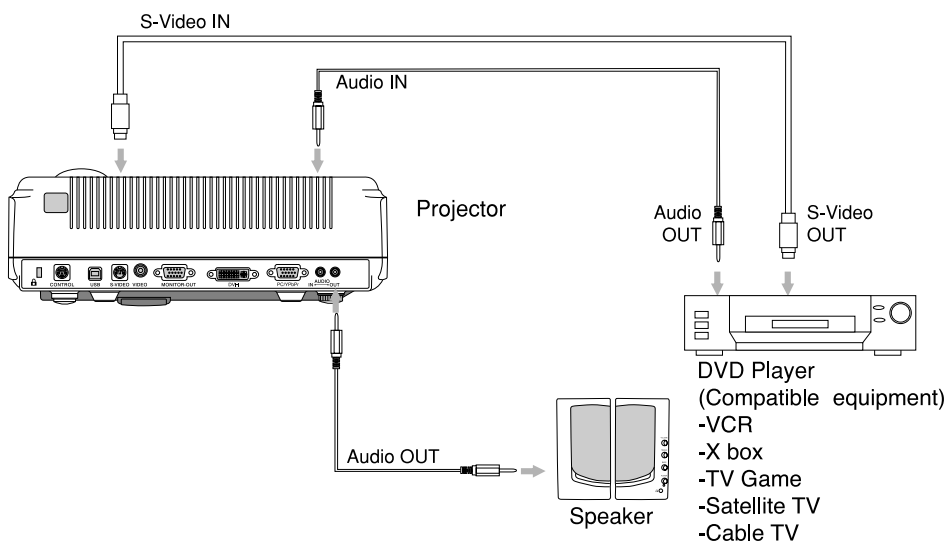
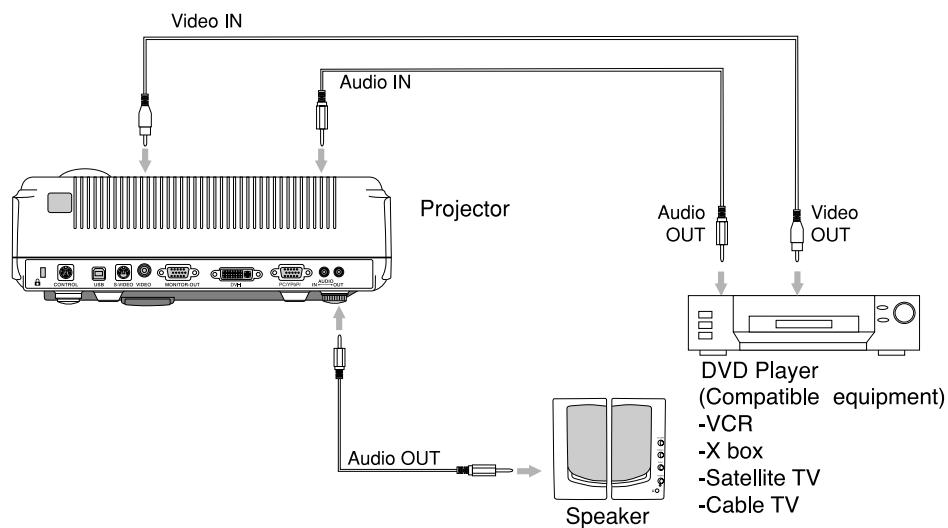
Each of the three video types requires their respective cable. Composite video and S-Video cables are included with the projector. If lost, they are readily available at electronics stores and are commonly included with each video source device. For component-video (YPbPr), use the optional componemt cable from you dealer. Finally, connect your video source to the projector using the appropriate cable.

Note:

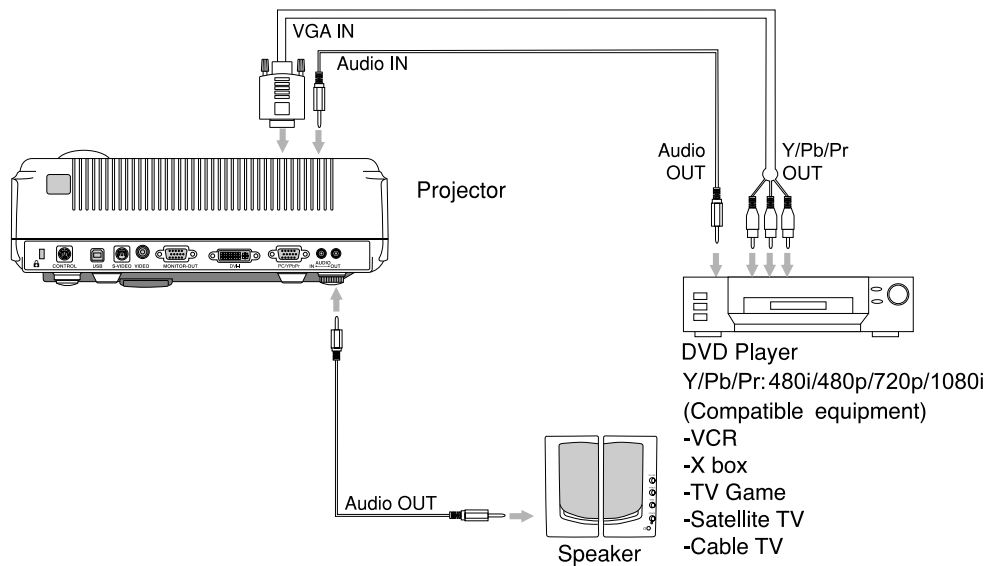
The projector is not compatible with a cable TV-style coaxial “F” connector.

Mouse Cable (for USB)

Connecting to Composite Video Source



Connecting to Component Video Source



Operation

This section describes the following information about using your projector:

- Turning the Audio/Visual (A/V) Equipments On and Off
- Focusing and Sizing the Projected Image
- Operational Indicator (LED)

Turning the Audio/Visual (A/V) Equipments On and Off

Always turn on the projector and related A/V equipments in the following order.

1. Projector
2. Computer
3. Video source
4. Audio source

Turning the Projector On

1. Plug the power cord into the side of the projector.
2. Plug in the power cord into an electrical outlet.
3. Remove the projector lens cap.
4. Turn on the power switch on the side of the projector.
5. Press the Power button (on either the Remote Control or the Projector Control Panel) to turn on the lamp. When the Green LED indicator is lit, the projected image will get full illumination.
6. After the image appears on the screen, adjust the focus and size for the projected image to fit properly on the screen. Make any necessary image adjustments by using the on-screen menus.
7. Run your presentation from your computer.

Warning:

Never look into the lens when the lamp is on. This can damage your eyes. It is especially important not to let children look into the lens.

Turning the Projector Off

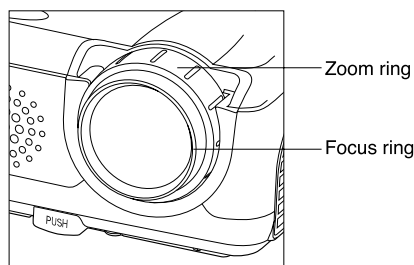
1. To turn the projector off, press the Power button (on either the Remote Control or the Projector Control Panel). The confirmation message will appear on the screen for about 3 seconds.
2. Press the Power button again while the message is still on the screen. To cancel the power OFF and resume operation, wait until the message disappears from the screen.
3. After the fan has turned off automatically you may turn off the Power Switch.
4. Then and only then you may unplug the power cord.

Lamp Off
Are you sure?
Press Power again
to turn off the Lamp!

Focusing and Sizing the Projected Image

After the image appears on the screen, check the focus and size to fit properly on the screen.

- Rotate the focus ring until the projected image is clear.
- Rotate the zoom ring until the projected image is at the desired size.



Operational Indicator (LED)

There is one LED on the top of the projector to indicate the status of the projector and the lamp. It provides valuable information about the projector:

LED COLOR	STATUS	MEANING
Green	Solid	The projector is powered and ready. The lamp is currently on and is projecting at maximum brightness.
Green	Flashing	LAMP (Turning on): When the Power button is pressed, the lamp will turn on and the LED indicator will light in green after 3 seconds.If it is not successfully on, the lamp will automatically attempt to ignite two more times. If the lamp still cannot be turned on afterwards, wait 30 seconds for projector to cool down (LED indicator flashes red). When the LED indicator turns red, press the Power button again to light up the lamp. LAMP (Turning off): When turning off the lamp, the LED indicator will flash (green) to indicate the projector is shutting down. At the same time, the fan will continue for 2 minutes, and then the LED indicator will turn red and the fan will shut down indicating the lamp has cooled down. Note: Do not unplug the power cable or turn the power switch Off before the lamp LED becomes red. During the cooling & warming up processes the projector won't accept any key in command.
Red	Solid	When main power is turned on, the projector is in standby mode. (Lamp off)

LED COLOR	STATUS	MEANING
Red	Flashing	Error messages as the following: 1. There is a problem with the projector fan - the projector cannot start up. 2. The projector lamp failed to ignite after 3 attempts. 3. The lamp has reached its end of life and must be changed soon. (The LED flashes red around 1 minute before end of life) The lamp will continue to operate until it fails completely. Change the lamp and reset the lamp life counter(see P.44).
Orange	Solid	In Standby mode, the projector's 15-pin D-SUB acts as a system converter. User could select any different input device to convert to PC monitor signal. User can press the BY-PASS to select the projector by-pass mode (15-pin D-SUB in and direct throughout to the 15 pin D-SUB for other monitor or equipment), in the throughput mode the LED indicator stays orange. (lamp off) * For VGA/DVI data source input only

Menu System

There are eight main functions listed in the main menus for you to control the projector:

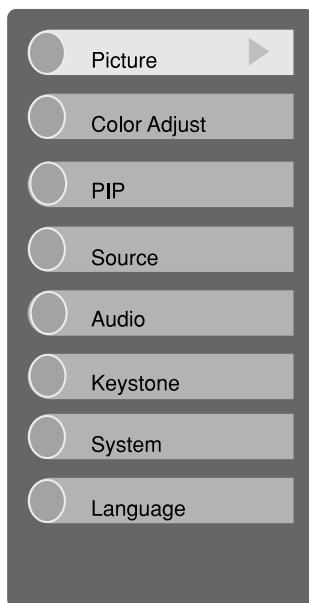
- **Picture** - adjusts the image: the Brightness, Contrast, Position(Horizontal/Vertical), Phase, Frequency, Sharpness, Auto Image, Size and Space (for YPbPr input only).
- **Color Adjust** - adjusts the image's color: Color Temperature, Custom Red, Custom Green and Custom Blue and Gamma.
- **PIP** - selects the PIP Size, PIP Position, PIP input Source (Auto, Composite Video, S-Video and Component-Video (YPbPr). Without interfering with the setting of the primary projection screen, PIP menu enables you to adjust the PIP picture separately such as: Brightness, Contrast, Color, Tint and Sharpness.
- **Source** - selects sources among PC, Video, S-Video, YPbPr, etc.
- **Audio** - controls audio features: Volume and Mute.
- **Keystone** - corrects the Vertical and Horizontal Keystone of the image.
- **System** - accesses projector features such as: Projector Type, Blank, Freeze Frame, OSD Properties, Factory Default, Lamp Reset , Lamp Life, Firmware and Autooff.
- **Language** - selects the language used in the OSD(on-screen display).

Accessing the Main Menu

The projector menus can be accessed using either the Projector Control Panel or the Remote Control.

To display the Main Menu, press the MENU button .

The Main Menu appears as follows.



Note:

- The PIP option in Main Menu will only appear if there are two input sources.
 - For the main frame, PIP input source:VGA, DVI-D(digital), DVI-A(analog) or HDTV (YPbPr/ 480i, 480p, 720p, 1080i).
 - For the sub frame, PIP input source: S-Video, Composite-Video.

Changing a Menu Setting

1. Press the MENU button to display the on-screen menu.
Press the MENU button once again to exit from the current menu.
2. Press the ► button to confirm the menu selection.
3. Press the ▼ / ▲ button to select the desired function.
4. To change the setting, press the ◀ / ▶ button.
5. Press the MENU button to exit the current menu.

Note:

- If your projector is equipped with an optional mouse link cable and the OSD menu is inactive, the ▼ / ▲ / ◀ / ▶ button can be used as the PC mouse.

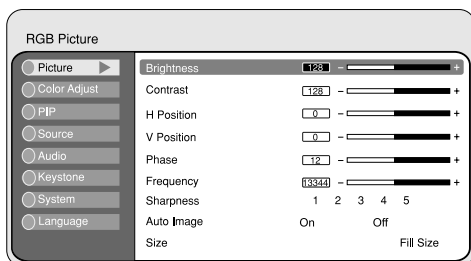
Menu Options – Detailed Description

The following menus are described in this section in detail:

- Picture
- Color Adjust
- PIP
- Source
- Audio
- Keystone
- System
- Language

Picture

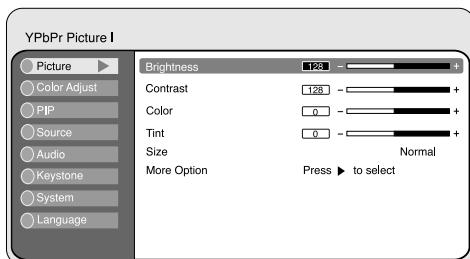
This menu provides precise control of the projected image including: brightness, contrast, position (horizontal & vertical), saturation, phase, frequency, sharpness, auto image, screen size and color space (in YPbPr input only). The menu interface will be different depending on the input source.



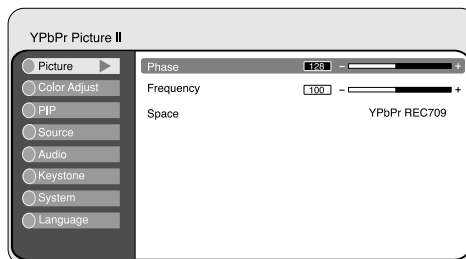
RGB Picture



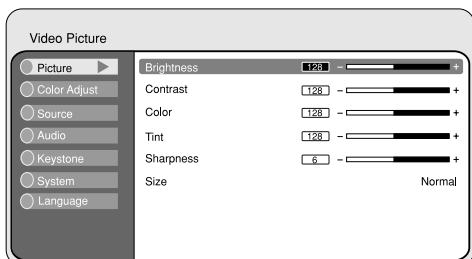
DVI Picture



YPbPr Picture



YPbPr Picture- More Option



Video Picture

Setting changing procedure (using either the Projector Control Panel or the Remote Control):

- 1. Press the MENU button to display OSD menu.
- 2. Press the ▲ or ▼ button to select PICTURE menu.
- 3. To enter the sub-menu setting, press the ► button.
- 4. Press the ▲ or ▼ button to select the sub-menu item.
- 5. Press the ◀ or ▶ button to adjust the value of desired sub-menu item.
 - On the Auto Image (RGB Picture) and More Option (YPbPr Picture 1) sub-menus, press the ► button to confirm the selection.
- 6. After you are done with the adjustment of a sub-menu item:
 - a. To continue changing another sub-menu item: press the ▲ or ▼ button.
 - b. To exit from the current menu: press the MENU button.

The following table provides details of the available sub-menus choices:

Sub-menu	Option	Description
Brightness		The higher the setting, the brighter the image. The lower the setting, the darker the image.
Contrast		The higher the setting, the greater the contrast. The lower the setting, the lower the contrast.
H position		Adjusts the horizontal position.
V position		Adjusts the vertical position.
Phase		Adjusts the noise caused by the source in the computer and showed inteference on the screen .
Frequency		Adjusts the display data frequency to match the frequency of your computer's graphic card. When a vertical flickering bar appears, use this function to make an adjustment.

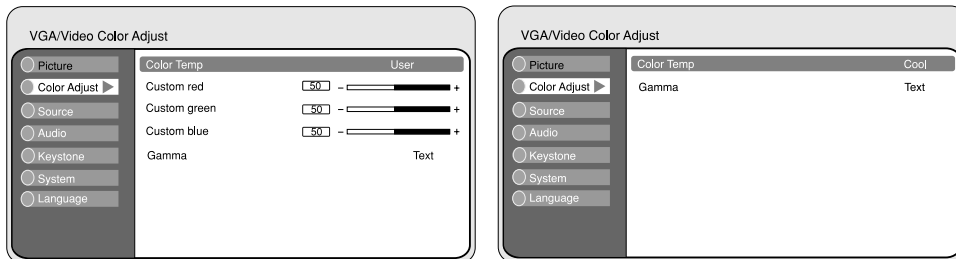
Sub-menu	Option	Description
Sharpness	Computer	The higher the setting, the sharper the computer's projected image. The lower the setting, the softer the computer's projected image.
	Video	The higher the setting, the sharper the video's projected image. The lower the setting, the softer the video's projected image.
Color		Adjusts a projected image from black and white to fully saturated color.
Tint		Adjusts the red-green color balance in the projected image (except PAL).
Auto Image		The projector adjusts tracking, signal synchronization and vertical & horizontal position for most computers automatically (Auto Image does not apply to video sources). Note: Some screen savers interfere with the operation of Auto Image. If you're experiencing problems, try to turn your screen saver off, then turn Auto Image off and back on.

Sub-menu	Option	Description
Size (RGB Picture) (DVI Picture)	Fill Size	Displays the projected image in the full screen size by squeezing or elongating the image.
	Fill	The aspect ratio is the ratio between an image's length and its height.
	AspectRatio	Displays the standard image in 4:3 aspect ratio.
Size (Video) (YPbPr Picture)	Native	Displays the projected image in its native aspect ratio. The size of the displayed images depends on the input resolution.
	Normal	Normal mode maintains the aspect ratio of a 4:3 screen area.
	Wide	Displays the projected image in the wide-screen (16:9) format.
	Zoom	In Zoom mode, image output in 4:3 format is cropped at the top and bottom by a set amount and the projected image is in 16:9 format.
	Anamorphic	Displays the projected image in the anamorphic format.
Space (YPbPr Picture)	Full Screen	In Full Screen mode, image output is cropped at the top and bottom by a set amount and the projected image in a larger size than the projected image in Zoom mode.
	SMPT	Transfers the color format from that of input source to RGB(on the projected image).
	YPbPr601	
	YPbPr709	

Color Adjust

This menu provides precise control of the color settings including: color temperature (preset & user define) and gamma.

Adjustment procedure (using either the Projector Control Panel or the Remote Control):



1. Press the MENU button to display OSD menu.
2. Press the ▲ or ▼ button to select Color Adjust menu.
3. To enter the sub-menu setting, press the ► button.
4. Press the ▲ or ▼ button to select the sub-menu item.
5. Press the ◀ or ▶ button to adjust the value of desired sub-menu item.
 - On the Color Temp and Gamma sub-menus, press the ◀ or ▶ button to select the desired setting.
6. After you are done with the adjustment of a sub-menu item:
 - a. To continue changing another sub-menu item: press the ▲ or ▼ button.
 - b. To exit from the current menu: press the MENU button.

The following table provides details of the available sub-menus choices:

Sub-menu	Option	Description
Color Temp		Adjusts the whiteness of the screen.
	User	Manually adjusts color temperature.
	Warm	Give white colors a red tint.
	Normal	Give white colors a neutral tint.
	Cool	Give white colors a blue tint.
Custom red		Manually adjusts red.
Custom green		Manually adjusts green.
Custom blue		Manually adjusts blue.
Gamma		Selects a gamma correction curve. (Text, Photo, Graphics, Cinema, Apple).

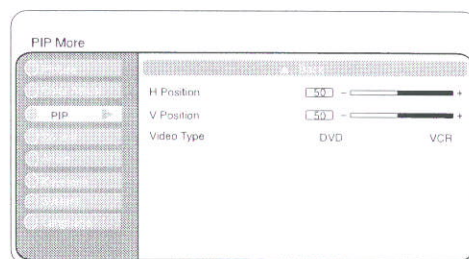
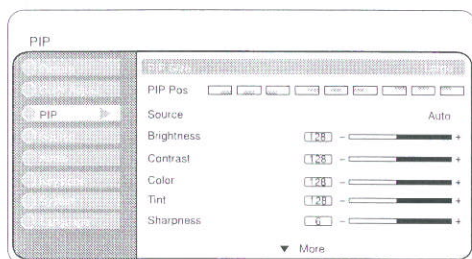
Note:

Custom red, green, and blue will only appear if Color Temp selection is "User".

PIP

This menu allows you to display additional image window on-screen. In this PIP menu, you can select the PIP Size, adjust PIP Position (horizontal & vertical), select the input Source (Auto, Composite Video and S-Video). Without interfering with the setting of the main projection screen, PIP menu enables you to adjust the PIP picture separately such as: Brightness, Contrast, Color, Tint and Sharpness.

Adjustment procedure (using either the Projector Control Panel or the Remote Control):



1. Press the MENU button to display OSD menu.
2. Press the ▲ or ▼ button to select PIP menu.
3. To enter the sub-menu setting, press the ► button.
4. Press the ▲ or ▼ button to select the sub-menu item.
5. Press the ◀ or ▶ button to adjust the value of desired sub-menu item.
 - On the PIP Size, Source, and Video Type sub-menus, press the ◀ or ▶ button to select the desired setting.
 - If you want to change the menu from "PIP" to "PIP MORE", highlight (▼ **MORE**) and press the ► button. On the other hand, if you want to change menu from "PIP MORE" to "PIP", highlight (▼ **Back**) and press the MENU button.
6. After you are done with the adjustment of a sub-menu item:
 - a. To contiune changing another sub-menu item: press the ▲ or ▼ button.
 - b. To exit from the current menu: toggle the MENU button.

The following table provides details of the available sub-menus choices:

Sub-menu	Option	Description
PIP Size		Sets the PIP size.
	Off	No additional image window on the screen.
	Small	Additional image window size sets to small.
	Medium	Additional image window size sets to medium.
	Large	Additional image window size sets to large.
PIP Pos		Selects the PIP screen position.
Source		Selects the PIP input source.
	Auto	Automatically scans the PIP input source.
	Composite	Composite video signal (PIP source).
	S-Video	S-Video signal (PIP source).
Brightness		The higher the setting, the brighter the picture. The lower the setting, the darker the picture.
Contrast		The higher the setting, the greater the contrast. The lower the setting, the lower of contrast.

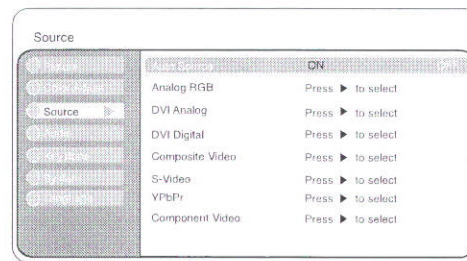
Sub-menu	Option	Description
Color		Adjusts a video image from black and white to fully saturated color.
Tint		Adjusts shade and variety of the picture between red color and green color.
Sharpness		The higher the setting, the sharper the picture. The lower the setting, the softer the picture.

PIP-MORE

Sub-menu	Option	Description
H Position		Adjusts the additional image window horizontal position.
V Position		Adjusts the additional image window vertical position.
Video Type		Scans the video type.
	DVD	PIP input source from DVD player.
	VCR	PIP input source from VCR.

Source

This menu allows you to specify the signal source that you wish to project. This is particularly useful if you have several sources (video and/or computer) connected to your projector.



Adjustment procedure (using either the Projector Control Panel or the Remote Control):

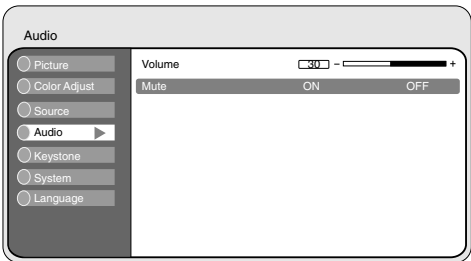
1. Press the MENU button to display OSD menu.
2. Press the ▲ or ▼ button to select Source menu.
3. To enter the sub-menu setting, press the ► button.
4. Press the ▲ or ▼ button to select the desired input source.
5. Press the ► button to confirm the input selection.
 - On the Auto Source sub-menus, press the ◀ or ▶ button to select the desired setting.
6. To exit from the current menu, toggle the MENU button.
7. When the projector is synchronized to 480i, if the video source is switch from 480i to 480p. Double image may appear. This can be corrected simply by pressing the "source" button again.

The following table provides details of the available sub-menus choices:

Sub-menu	Option	Description
Auto Source (ON/OFF)		Select if projector Automatically scans the input sources .
Analog RGB		Analog RGB signal from computer (desktop or note book).
DVI Analog		DVI Analog signal from DVI (Digital Visual Interface) device.
DVI Digital		DVI Digital signal from DVI (Digital Visual Interface) device.
Composite Video		Composite Video signal.
S-Video		S-Video signal.
Component Video YPbPr		Component Video signal. YPbPr input signal.(480i/ 480p/720p/1080i) Automatically scans the HDTV source . Signal from HDTV (High Definition TV - a high-resolution TV standard, which is part of the group of digital TV standards introduced in USA in late 1998).

Audio

This menu allows you to control audio volume and mute it.



Adjustment procedure (using either the Projector Control Panel or the Remote Control):

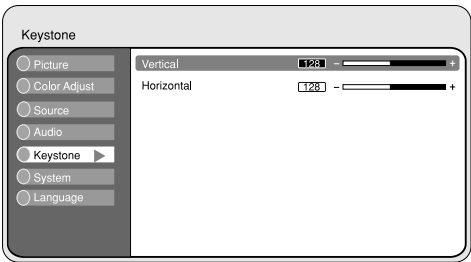
- 1. Press the MENU button to display OSD menu.
- 2. Press the ▲ or ▼ button to select Audio menu.
- 3. To enter the sub-menu setting, press the ► button.
- 4. Press the ▲ or ▼ button to select the sub-menu item.
- 5. Press the ◀ or ▶ button to adjust the value of desired sub-menu item.
 - On the Mute sub-menu, press the ◀ or ▶ button to select the desired setting.
- 6. After you are done with the adjustment of a sub-menu item:
 - a. To continue changing another sub-menu item: press the ▲ or ▼ button.
 - b. To exit from the current menu: toggle the MENU button.

The following table provides details of the available sub-menus choices:

Sub-menu	Option	Description
Volume		Adjusts the volume.
Mute		Mute the sound temporarily.
	ON	Mute function is active.
	OFF	Mute function is inactive.

Keystone

This menu allows you to correct image distortion caused by tilting the projector using the Vertical and Horizontal Keystone function.



Adjustment procedure (using either the Projector Control Panel or the Remote Control):

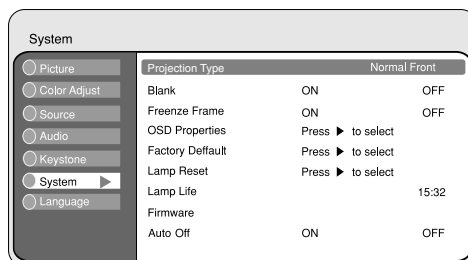
1. Press the MENU button to display OSD menu.
2. Press the ▲ or ▼ button to select Keystone menu.
3. To enter the sub-menu setting, press the ► button.
4. Press the ▲ or ▼ button to select the sub-menu item.
5. Press the ◀ or ▶ button to adjust the value of desired sub-menu item.
6. After you are done with the adjustment of a sub-menu item:
 - a. To continue changing another sub-menu item: press the ▲ or ▼ button.
 - b. To exit from the current menu: toggle the MENU button.

The following table provides details of the available sub-menus choices:

Sub-menu	Option	Description
Vertical		Adjusts the vertical trapezoidal distortion of the projection.
Horizontal		Adjusts the horizontal trapezoidal distortion of the projection.

System

These menus include projector utilities for projection type, blank, freeze frame, OSD properties, factory default, lamp reset, lamp life, firmware and auto off.



System: Main Menu

Adjustment procedure (using either the Projector Control Panel or the Remote Control):

1. Press the MENU button to display OSD menu.
2. Press the ▲ or ▼ button to select System menu.
3. To enter the sub-menu setting, press the ▶ button.
4. Press the ▲ or ▼ button to select the sub-menu item.
5. Press the ◀ or ▶ button to adjust the value of desired sub-menu item or to select the desired setting.
 - On the OSD Properties, Factory Default, Lamp Reset, sub-menus, press the ▶ button to confirm the selection.
6. After you are done with the adjustment of a sub-menu item:
 - a. To continue changing another sub-menu item: press the ▲ or ▼ button.
 - b. To exit from the current menu: toggle the MENU button.

The following table provides details of the available sub-menus choices:

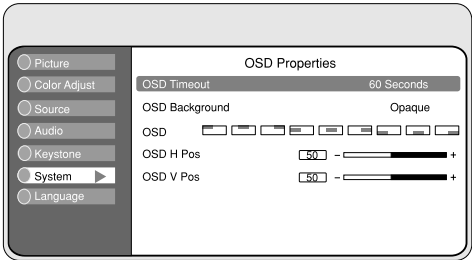
Main System

Sub-menu	Option	Description
Projection Type		Sets the projection display mode.
	Normal Front	Front-desktop projection - factory default.
	Ceiling Front	The projector turns the image upside down for ceiling-mount.
	Normal Rear	The projector reverses the image so you can project behind a translucent screen.
	Rear Ceiling	The projector reverses and turns the image upside down at same time. You can project from behind a translucent screen with ceiling-mounted projection.
Blank		Blanks the screen temporarily.
	ON	Blank function is active.
	OFF	Blank function is inactive.
Freeze Frame		Freezes the screen.
	ON	Freeze function is active.
	OFF	Freeze function is inactive.
OSD Properties		Adjusts the OSD (on-screen display) properties.
Factory Default		Restores all projector settings and adjustments back to the factory defaults.
Lamp Reset		Resets the lamp setting ONLY after the new lamp replacement.
Lamp Life		Displays the lamp's lifetime counter/clock.
Firmware		Firmware version.
Auto Off	ON	Projector will be turned off automatically if a signal is not detected for 30 min.
	OFF	Projector will not be turned off automatically. Default setting at "Auto Off".

CAUTION:

 To mount the projector on the ceiling, special expertise and techniques are required. Please consult your dealer for specialist to perform the work.

OSD Properties

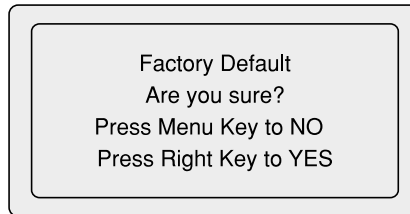


System: OSD Properties

Sub-menu	Option	Description
OSD Timeout	5 - 60 seconds	Automatically turns off the menu after a specified time period (even if a source is present).
OSD Background		Selects the OSD background color.
	Opaque	Sets OSD background to opaque.
	Translucent	Sets OSD background to translucent.
OSD		Adjusts the OSD position.
OSD H Pos		Adjusts the OSD horizontal position.
OSD V Pos		Adjusts the OSD vertical position.

Notes on Factory Default Sub-Menu

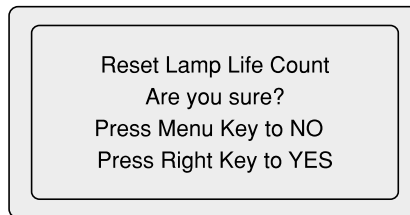
After you select the Factory Default sub-menu and press the ► button, a confirmation message will appear on the screen.



Press the ► button to reset the factory default setting or press the Menu key to cancel the action.

Notes on Lamp Reset Sub-Menu

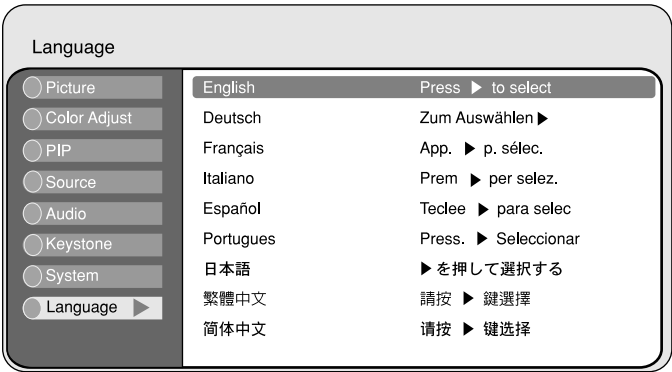
After you select the Lamp Reset sub-menu and press the ► button, a confirmation message will appear on the screen



Press the ► button to reset the lamp life count or press the Menu key to cancel the action.

Language

This menu enables you to select the language used in the OSD (on-screen display) menus.



Adjustment procedure (using either the Projector Control Panel or the Remote Control):

1. Press the MENU button to display OSD menu.
2. Press the ▲ or ▼ button to select Language menu.
3. To enter the sub-menu setting, press the ► button.
4. Press the ▲ or ▼ button to select the desired OSD language.
5. Press the ► button to confirm the OSD language selection.
6. To exit from the current menu, press the MENU button.

Maintenance

The projector needs little maintenance. You should always keep the lens clean as dust or stains will be projected on the screen and diminish the image quality.

The only part you should replace yourself is the lamp.

If any other parts need replacing, contact your dealer or qualified service personnel.

When cleaning any part of the projector, always switch off and unplug the projector power cord first.

Warning:

Never open any of the covers on the projector except the lamp and filter covers. Dangerous electrical voltages inside the projector can cause severe injury. Except as specifically indicated in this Instruction Manual, do not attempt to service this product yourself. Refer all servicing to qualified service personnel.

Cleaning the Lens

Clean the lens whenever you notice dirt or dust on the surface. Wipe the lens surface gently with a soft, dry, lint-free cloth.

To remove dirt or stains on the lens, moisten a soft cloth with water and a neutral detergent and gently wipe the lens surface.

Cleaning the Projector Case

To clean the projector case, first unplug the power cord. To remove dirt or dust, wipe the casing with a soft, dry, lint-free cloth. To remove stubborn dirt or stains, moisten a soft cloth with water and a neutral detergent. Then wipe the casing. Do not use alcohol, benzene, thinners or other chemical detergents as these can cause the casing to warp.

Lamp Replacement

The projector lamp used for the light source has a certain life. It is time to replace the lamp when:

- The projected image gets darker or starts to deteriorate.
- The projector LED indicator is flashing red.
- The projector lamp failed to ignite every time.

Caution:



This projector lamp develops high heat and high pressure during the use, so the lamp ruptures and burns may result. To avoid serious injury, always turn off the power and let the projector cool for at least 60 minutes before replacing the lamp.

1. Turn the power switch off on the side of the projector. Disconnect the power cord from the outlet and the projector.
2. Loosen the screw and remove the lamp cover. If the lamp is hot, wait 60 minutes before changing the lamp.
3. Loosen the 3 screws. (It is strongly recommended you use a magnetic-headed screwdriver). Pull the handle to remove the lamp housing. If the screws are not loosened completely, they could injure your fingers. Do not insert your hand into the box after the lamp is removed. If you touch the optical parts inside the projector, this could cause color unevenness.
4. Replace the lamp with a new one. Insert it into the projector, and tighten the screws firmly. Please note that loose screws may cause a bad connection, which may result in projector malfunction.
5. Replace the lamp cover and tighten the screw. Do not turn on the power without lamp cover. After the lamp is replaced, reset the total lamp operation counter. Do not reset the lamp life counter if the lamp is not replaced as this could cause breakage.

Product Specifications

Projection System	0.7" 12°DLP™
Native Resolution	1024 x 768 Pixels
Aspect Ratio	4:3, supports 16:9
Screen Size	30"~300" inches
Projection Distance	1.5 ~ 10m
Projection Lens	F=2.2~2.64, f=23.6~28.2 mm Manual Focus and Manual Zoom
Projection Type	Normal Front, Rear Ceiling, Ceiling Front, Normal Rear
Scanning Frequency	Horizontal Freq. 15 ~100 KHz Vertical Freq. 43 ~120 Hz
Keystone Correction	Vertical: +/-20 degree Horizontal: +/-15 degree
PIP	Video window on graphics
Analogue RGB Input (input signal)	D-Sub & DVI Connector
HDTV Display (YPbPr)	480i, 480p, 720p, 1080i
Integrated Speaker	2 Watts x 1 Mono Speaker
Audible Noise	< 33.5dB (Average)
Mouse Control	USB
OSD Language	English, German, French, Italian, Spanish, Portuguese, Japanese, Traditional Chinese and Simplified Chinese
Operation Ambient	Temperature: 5~35°C Humidity: 35 ~ 85%
Power Supply	AC100 ~ 240 V +/-10%, 50/60 Hz
Power Consumption	280 Watts (max)
Dimension (H*W*D)	86 mm(H) x 285 mm(W) x 210 mm(D) (Excluding Lens and Stand)
Weight	5.8lbs/2.6 kg

Designs and specifications are subject to change without notice.

Troubleshooting Guide

DISPLAY	MEANING
When the projector is synchronized to 480i <i>Double image when 480i</i>	If the video source is switched from 480i to 480p. Double image may appear. This can be corrected simply by pressing the "source" button again.
When the LED indicator status remains solid green or flashes	Lamp (Turning ON) When the POWER button is pressed, the lamp will turn on and the LED indicator will light green. If it is not successfully turning on, the lamp will automatically light up for another two times. Lamp (Turning OFF) When turning off the lamp, the LED indicator will flash green to indicate the projector is shutting down. At the same time, the fan motor will cool down for 2 minutes, and then the LED indicator will turn red to indicate the fan motor is turned off and the lamp has cooled down.

APPENDIX

Preset Timings

Preset Signal		fH (kHz)	fV (Hz)	Size
Video 60 Hz		15.734	59.940	
Video 50 Hz		15.625	50.000	
Component 60 Hz		15.734	59.940	
Component 50 Hz		15.625	50.000	
640 x 400	PC-9801 Normal	24.826	56	848
720 x 400	VGA mode 2	31.476	70.000	900
	VGA VESA 85 Hz	37.936	85.000	936
640 x 480	VGA -60 Hz	31.476	59.95	800
	Macintosh 13"	35.002	66.667	864
	VGA VESA 72 Hz	37.864	73.000	832
	VGA VESA 75 Hz	37.509	75.000	840
	VGA VESA 85 Hz	43.271	85.000	832
800 x 600	SVGA VESA 56 Hz	35.162	56.000	1024
	SVGA VESA 60 Hz	37.893	60.000	1056
	SVGA VESA 72 Hz	48.077	72.000	1040
	SVGA VESA 75 Hz	46.882	75.000	1056
	SVGA VESA 85 Hz	53.677	85.000	1048
832 x 624	Macintosh 16"	49.116	75.000	1120
1024 x 768	XGA VESA 60 Hz	48.379	60.000	1344
	Macintosh 19"	48.216	59.31	1328
	XGA VESA 70 Hz	56.306	70.000	1368
	XGA VESA 75 Hz	60.024	75.000	1312
	Macintosh 19"	60.241	74.927	1328
	XGA VESA 85 Hz	68.681	85.000	1376
1152 x 864	SXGA VESA 70 Hz	63.857	70.000	1480
	SXGA VESA 75 Hz	67.522	75.000	1600
	SXGA VESA 85 Hz	77.101	85.000	1576*

Preset Signal		fH (kHz)	fV (Hz)	Size
1152 x 870	Macintosh 21"	68.681	75.000	1456
1152 x 900	Sunmicro LO	61.808	66.000	1504
1280 x 960	SXGA VESA 60 Hz	60.000	60.000	1800
	SXGA VESA 75 Hz	75.000	75.000	1680*
1280 x 1024	SXGA VESA 60 Hz	63.371	160.020	1768
	SXGA VESA 75 Hz	80.000	75.000	1688*
	IBM 6 km ²	63.371	60	1760*
	IBM 6 km ³	70.771	67	1696*
	HP-1272	78.125	72	1728*

* For VGA only, Not supply DVI Mode.

HDTV Preset Timings

Preset Signals	Horizontal Active Pixel	Vertical Active Pixel	fH(kHz)	fV(Hz)
480p	640	480	31.469	59.940
720p	1280	720	45.000	60.000
1080i	1920	1080	33.716	29.970

ISNT 480p 848x480?