

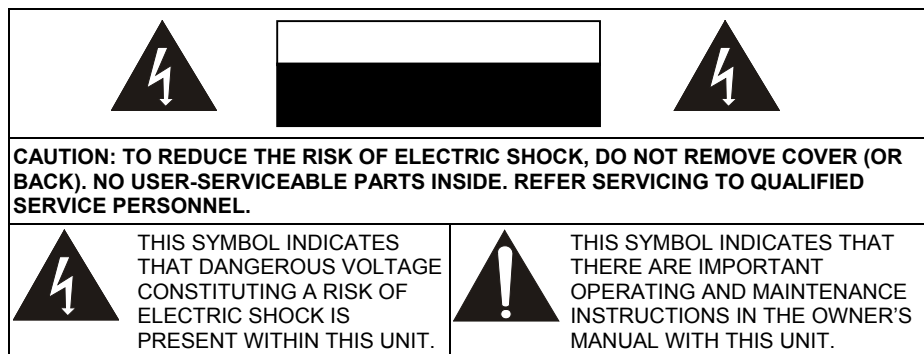
Safety Precautions

WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

This projector has a grounding-type AC line plug. This is a safety feature to be sure that the plug will fit into the power outlet. Do not try to defeat this safety feature.

Intense light source. Do not stare directly into the projection lens as possible eye damage could result. Be especially careful that children do not stare directly into the beam.

If the projector will not be used for an extended time, unplug it from the power outlet.



FCC Warning

This equipment has been certified to comply with the limits for a Class A computing device, pursuant to Subpart J of Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.

Safety Certifications

UL, TUV

Instructions to the User

This equipment generates and uses radio-frequency energy and, if not installed and used in accordance with the instruction manual, may cause interference to radio and television reception. It has been tested and found to comply with the limits for a class A computing device in accordance with the specifications in Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. If this equipment does cause interference to radio or television reception, the user may try to correct the interference by one or more of the following measures:

- ◆ Reorient the receiving antenna for the radio or television.
- ◆ Relocate the equipment with respect to the receiver.
- ◆ Plug the equipment into a different power outlet so the equipment and receiver are on different branch circuits.
- ◆ Fasten cables using mounting screws to ensure adequate EMI controls.

EN 55022 (CE radiation) Warning

This product is intended for use in a commercial, industrial, or educational environment.

It is not intended for residential use.

This is a Class A product. In a domestic environment it may cause radio interference, in which case the user may be required to take adequate measures. The typical use is in a conference room, meeting room or auditorium.

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Safety Instructions

Always follow these safety instructions when setting up and using the projector:

1. Do not place the projector on an unstable trolley, stand or table.
2. Do not use the projector near water or sources of heat.
3. Use attachments only as recommended.
4. Use the type of power source indicated on the projector. If you are not sure of the type of power available consult your dealer or local electricity company.
5. Place the projector near a wall outlet where the plug can be easily unplugged.
6. Insert the projector's three-pin grounded plug into a properly grounded socket. If you have a two-pin socket, contact an electrician to replace it. Do not handle the plug with wet hands.
7. Always take the following precautions when handling the plug. Failure to do so may result in sparks or fire.
 - ◆ Ensure the plug is free of dust before inserting it into a socket.
 - ◆ Ensure that the plug is inserted into the socket securely.
8. Do not overload wall sockets, extension leads or multi-way plug boards as this may cause fire or electric shock.
9. 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.
10. Unplug the projector from the wall socket before cleaning. Use a damp cloth for cleaning. Do not use liquid or aerosol cleaners.
11. Do not block the slots and openings in the projector case. They provide ventilation and prevent the projector from overheating. Do not place the projector on a sofa, rug or other soft surface or in a built-in installation unless proper ventilation is provided.
12. Never push objects of any kind through cabinet slots. Never allow liquid of any kind to spill into the projector.
13. Except as specifically instructed in this Owner's Manual, do not attempt to service this product yourself. Opening or removing covers may expose you to dangerous voltages and other hazards. Refer all servicing to qualified service personnel.
14. Unplug the projector during thunderstorms or if it is not going to be used for an extended period. Do not place the projector or remote control on top of

heat-emitting equipment or heated objects such as a car, etc.

15. Do not place the projector and remote control on top of heat-producing equipment or in a heated place, such as a car.
16. In the following situations unplug the projector from the wall outlet and refer servicing to qualified service personnel:
 - ◆ If the power cable or plug becomes damaged or frayed.
 - ◆ If liquid has been spilled into it or it has been exposed to rain or water ventilation is provided.

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Introduction

Your purchasing digital projector is specifically designed for office presentations. It can connect two computer graphic sources with audio and mouse controls, and accept a wide range of TV video sources and standards, such as C-Video, S-Video and high quality Y Cb Cr inputs. Through the **source** selection you can switch between all the input sources. This digital projector also accepts microphone input to amplify the speaker's voice volume, and output audio line out signal to get more loudness.

This projector packs graphics with 16.7 million colors into a small, 15-pound package. It generates crisp, clear images by using Micro Tuning Technology (MTT) and Hi-Fi LCD Drive Technology (HLDT). It can interface with any computer with resolutions up to 1280 x 1024 x 75Hz (XGA model) or 1024 x 768 x 85Hz (SVGA model). This projector is easy to connect, easy to use and easy to maintain, and provides lots of features.

The projector comes with a remote control that includes a wireless mouse function for more intuitive manipulations.

The features of the projector are listed below:

Ultra-Brightness

This Digital projector, with a dazzling brightness, brings bright and fine colors & images into your conference room, boardroom, lecture halls, training centers, auditorium, churches, community centers and more. Enhanced brightness allows you to keep the room lights on.

Real Sharp and Stable Image

This Hi-true LCD projector with a unique Micro Tuning Technology (MTT) offers a perfect sharpness, with high contrast ratio and advanced poly-silicon LCD panel's alignment. The Hi-Fi LCD Drive Technology (HLDT) allows great image stability – nothing will distract your audience during your presentations.

Plug and Play

The user-friendly design, intuitive user interface, and convenient Auto-Set features simplify the preparation of your presentations. The wireless remote with laser pointer, and zoom/focus, brightness, contrast, and computer functions give you total control of the projector.

Compatibility

The projector is compatible with a wide variety of computers and video devices, including:

- ◆ IBM-compatible computers, including laptops, up to 1280 x 1024 x 75 Hz for the XGA models, 1024 x 864 x 75 Hz for the SVGA models.
- ◆ Apple Macintosh and PowerBook computers up to 1280 x 1024 x 75 Hz for XGA model and 1024 x 768 x 85 Hz for the SVGA model.
- ◆ Most standard VCRs, Camcorders, DVD and laser disc players.
- ◆ Digital Cameras

Unpacking the Projector

The projector comes with the parts listed below. Check if all parts are included. If anything is missing, contact your authorized dealer or service center.

- ◆ Soft Carry Case
- ◆ User's Manual (CD)
- ◆ Quick Start Card
- ◆ VGA Cable
- ◆ Power Cord
- ◆ A/V Cable (composite video and audio)
- ◆ PC Audio Cable
- ◆ MAC/VGA Adapter (Optional)
- ◆ VGA/MAC Adapter (Optional)
- ◆ MAC/ADB Mouse Cable
- ◆ Serial Mouse Cable
- ◆ PS-2 Mouse Cable
- ◆ S-Video Cable
- ◆ Lens Cap
- ◆ 1 piece of Air Filter
- ◆ Remote Control / 2 AAA Battery Sets
- ◆ RS232 Kit (Optional)

Note:

RS232 Kit includes RS232 cable, Application Software and Quick Start card. They are used for PC remote control the projector.

If you are experienced in setting up presentation systems, use the Quick Start card included in the User's manual. For complete details on how to connect and operate the projector, refer to the Installation section of this User's manual.

Safety Instruction

Please read these instructions carefully before using the projector. Failure to comply with them could result in fire, electrical shock, personal injury or damage to the equipment.

NOTE: Additional useful details or tips.

CAUTION: Steps to take to avoid damage to your equipment.

▲WARNING: Steps to take to avoid personal injury. These graphics are used on the projector's labels.

▲WARNING: Do Not Look Into The Lens!
Be extremely careful to NOT look into the projection lens when the projector is turned on. The bright light may harm your eyes.

▲WARNING: Power Source
Use only a three-wire grounding type power source. The power source should not be over 264 or below 90 volts rms between the

supply conductors or between both conductor and the ground.

⚠WARNING: Power Cord
Use only the power cord that was shipped with the projector. Although other power cords might be similar in appearance, they have not been safety-tested with the projector. Do not use a power cord if it has become damaged or frayed. Contact your dealer or call if you need to replace your power cord.

⚠WARNING: Grounding
The projector is grounded through the grounding conductor on the power cord. To avoid electric shock, plug the power cord into a properly wired receptacle. Do not disable the grounding-type plug.

⚠WARNING: Lamp
To avoid overheating and low quality image, replace the projector lamp with a lamp of the specified type. Refer to Chapter 5 for instructions on replacing the lamp.

⚠WARNING: Lamp Compartment
To avoid burns, do not open the lamp module door until the project is turned off and the lamp has cooled down for at least 30 minutes. Follow carefully the instructions in this manual to replace the lamp.

⚠WARNING: Hot Surfaces
Allow the projector to cool down at least 30 minutes before replacing a lamp. When you open the lamp housing, be careful not to touch the hot surface.

⚠WARNING: Ventilation and Overheating
Openings in the projector case provide ventilation to protect it from overheating. Keep loose papers and other objects well away from the grills. Do not place the projector on top of or close to a computer or other heat-producing equipment.

⚠WARNING: Liquid Spills
Do not set drinks on the top of the projector. Spilled liquids can flow inside and cause damage.

CAUTION: Unplugs the projector during storms or if it is not going to be used for a long time.

NOTE: If you open the projector case, you will void the warranty.

⚠Do Not Disassemble

All service must be performed by an authorized service center. The only user-serviceable part in the projector is the projection lamp that you can replace by opening the lamp cover on the side of the projector (see Chapter 5). Do not open any other parts of the projector.

Usage Guidelines

⚠Warning: Do not look directly into the projection lens when the projector is turned on. The bright light may harm your eyes.

Caution: Do not block the grills on the projector. Restricting the airflow can cause the projector to over-heat and turn off. If this happens, you must wait one minute before attempting to turn it back on.

Caution: Handle the projector as you do with any other products with glass components. Be especially careful not to drop it.

Caution: Avoids leaving the projector in direct sunlight or extreme cold for extended

periods of time. If this happens, make it reach room temperature before use.

If You Need Assistance

Be sure to check the guidelines in “Chapter 6: Troubleshooting”. If this manual doesn’t answer your question, call your dealer. You can also call the Customer Service directly.

Warranty

This product is backed by a limited one -year warranty for labor and parts and 90 days warranty for Lamp. Longer-term warranties can be purchased from your dealer.

Installation

2

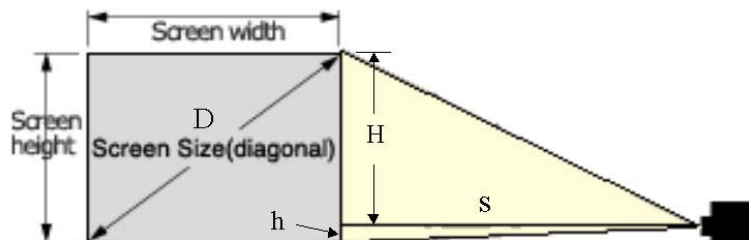
Setting up the Projector

This chapter tells you how to set up your projector and connect it to other equipment. The equipment can be computers, video and audio players, speakers and microphones.

1. Place the projector on a sturdy, level surface and position it to the desired distance from the screen according to the following table:

Distance to Screen	Min. Image Size	Max. Image Size
1.5 m	29.0" / 73.8 cm	37.8" / 96.1cm
2.4 m	46.5" / 118.1 cm	60.5" / 153.7 cm
3.2 m	62.0" / 157.4 cm	80.7" / 204.9 cm
4.8 m	93.0" / 236.1 cm	121.0" / 307.4 cm
10 m	193.7" / 491.9 cm	252.1" / 640.4 cm
15 m	290.5" / 737.8 cm	378.2" / 960.6 cm

Table 2-1: Projection Distance and Image Size (diagonal)



Distance to Screen	Image Height H / h (Min)	Image Height H / h (Max)
1.5 m	6.6 / 52.5	8.5 / 68.3
2.4 m	10.5 / 83.9	13.7 / 109.3
3.2 m	14.0 / 111.9	18.2 / 145.7
4.8 m	21.0 / 167.9	27.3 / 218.6
10 m	43.7 / 349.8	56.9 / 455.4
15 m	65.6 / 524.7	85.4 / 683.1

Table 2-2: Projection Distance and Keystone Data in CM unit

2. Place the computer and video player within 5 feet of the projector.

I/O Connectors Description

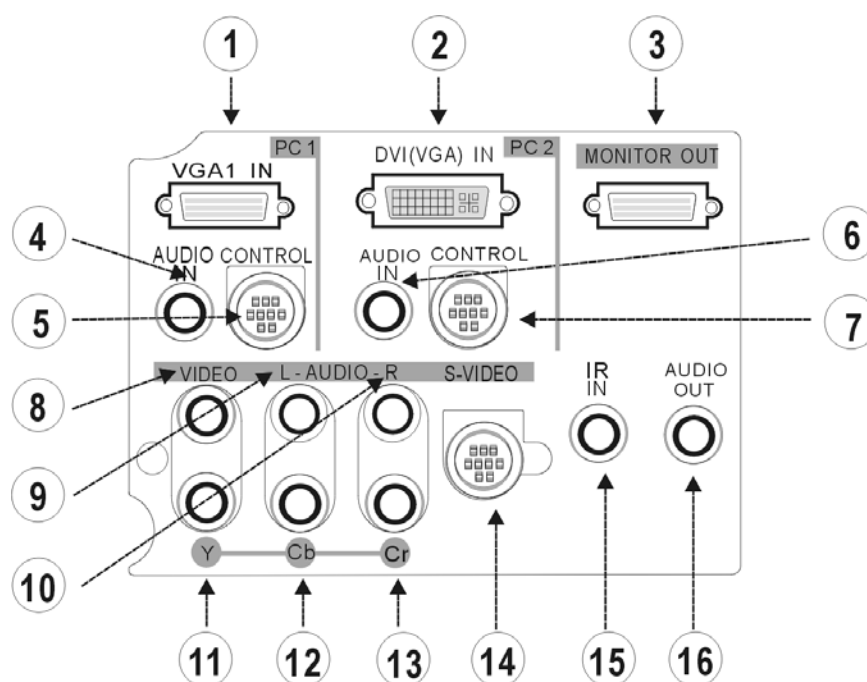


Figure 2-1: I/O Connectors

No.	Name	Description
1	VGA In	PC1 VGA input connector
2	DVI (VGA) In	PC2 DVI (VGA) input connector
3	Monitor Out	VGA Signal out to monitor connector
4	Audio In	PC1 Audio input connector
5	Control	PC1 Mouse port connector
6	Audio In	PC2 Audio input connector
7	Control	PC2 Mouse port connector
8	Video	C-Video input connector
9	R-Audio	Right Channel Audio input connector
10	L-Audio	Left Channel Audio input connector
11	Y	Component Video Y input connector
12	Cb	Component Video Cb input connector
13	Cr	Component Video Cr input connector
14	S-Video	S-Video input connector
15	IR In	IR input connector
16	Audio Out	Audio line out connector

Table 2-2: I/O connectors

Connecting to a Computer

For XGA models

You can connect the projector to a computer capable of SXGA, XGA, SVGA and VGA display output.

***For optimum image quality we recommend to set your PC to XGA resolution.**

For SVGA models

You can connect the projector to a computer capable of XGA, SVGA and VGA display output. Resizing is supported for VGA and XGA* display output.

***For optimum image quality we recommend to set your PC to SVGA resolution.**

Below is a list of computer types supported by the LCD Projectors.

- ◆ IBM desktop PC or compatible
- ◆ IBM laptop or compatible
- ◆ Apple Macintosh desktop computer, including Macintosh Quadra, Macintosh Centrist and Power Macintosh.
- ◆ Any Apple PowerBook with video out capability.

Refer to the adjacent sections that apply to your computer.

Note: Before use, make sure that the projector and the computer is both turned off.

Note: Computer I/O configurations differ according to the models. Please refer to your computer manual to locate the port needed to connect to your projector.

Connecting to a PC desktop computer

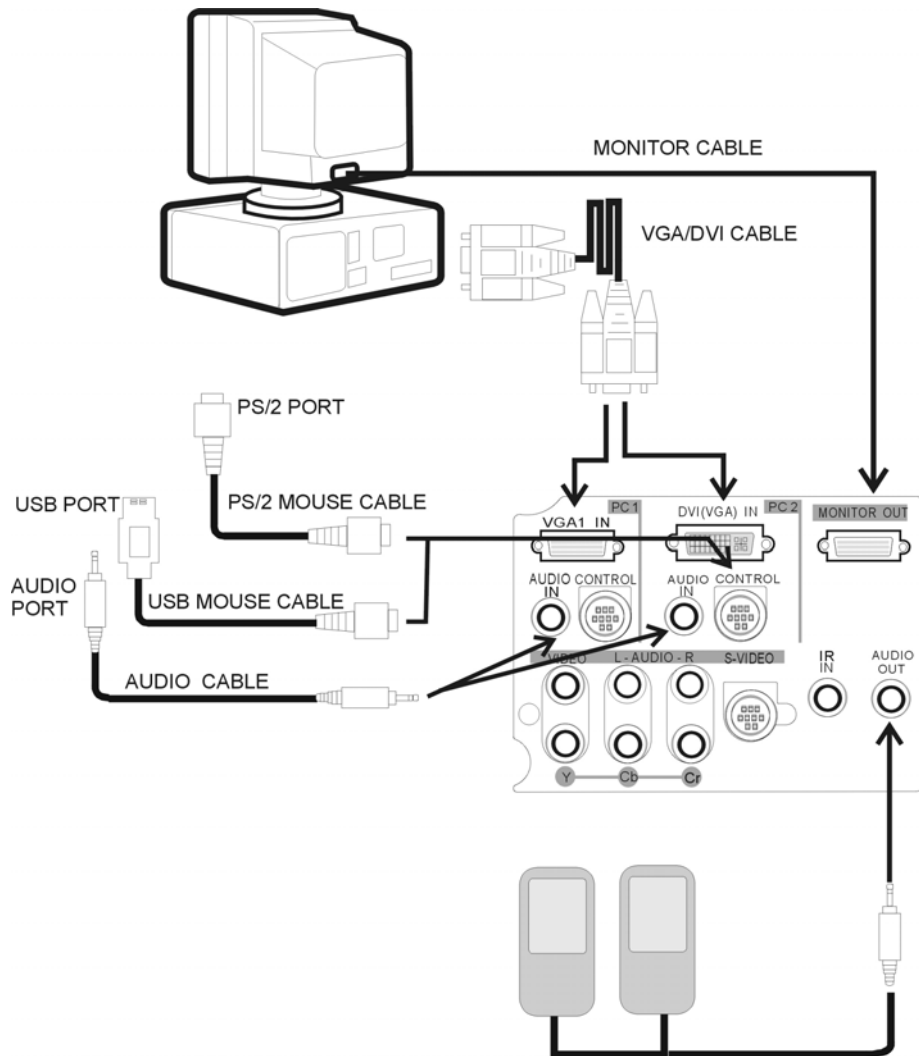


Figure 2-2: Connecting to a PC desktop computer

Connect the VGA cable

1. Connect one side of the VGA cable to the projector **VGA In** port.
2. Disconnect the monitor cable from the computer and connect the other end of the VGA cable into the computer VGA card output port.
3. If you want to view the display on your monitor, connect the monitor cable to the projector **Monitor Out** port.
4. Be sure to tighten the screws on all connectors.

Connect the audio cable if needed

1. Connect one end of the audio cable to the **Audio In** jack on the projector.
2. Connect the other end of the audio cable to the audio output port on the computer.

Connect the mouse cable if needed. In this case, the remote control can serve as a wireless mouse.

1. Unplug the mouse connected to the computer.
2. Connect the PS2 or Serial mouse cable (depending on what kind of mouse you are using) into the mouse port in the computer and the **Control** port in the projector.

Note: After all the connections are done, turn on the projector, monitor and the computer in sequence.

Connecting to a PC laptop computer

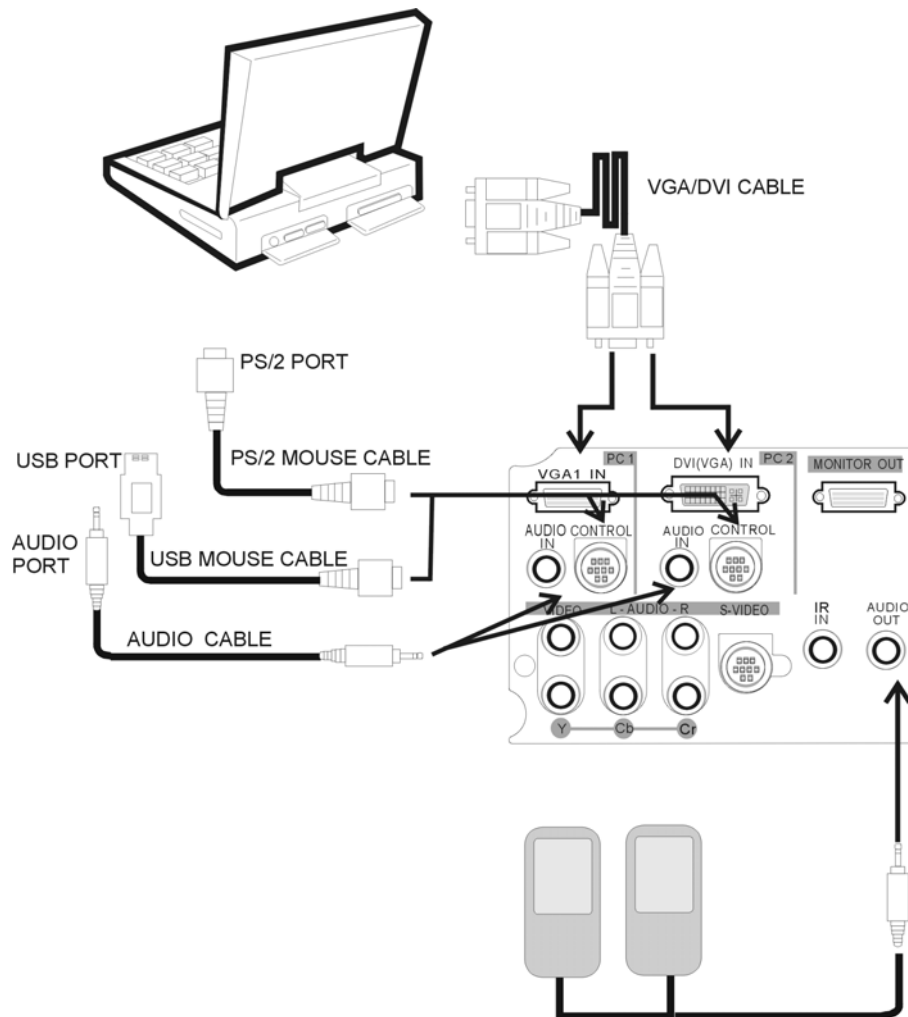


Figure 2-3: Connecting to a PC laptop computer

Connect the VGA cable

1. Connect one side of the VGA cable to the projector **VGA In** port.
2. Connect the other end of the VGA cable into the laptop computer Monitor output port.
3. Be sure to tighten the screws on all connectors.

Note: Many laptop computers do not automatically turn on their external video port when the projector is connected. Refer to your computer manual for the command that activates the external video port.

Note: With some Laptops it may be necessary to switch off the Laptop LCD display to improve image quality.

Connect the audio cable if needed

1. Connect one end of the audio cable to the **Audio In** jack on the projector.
2. Connect the other end of the audio cable to the audio output port on the laptop.

Connect the mouse cable if needed. In this case, the remote control can serve

as a wireless mouse.

1. Remove the mouse if it is connected to the computer.
2. Connect the PS2 or serial mouse cable (depending on what kind of mouse you are using or have used) into the mouse port on the computer and the **Control** port on the projector. If no mouse is used, the PS-2 mouse cable is preferred for better performance.

Note: After all the connections are done, turn on the projector and the computer in sequence.

Connecting to a Macintosh desktop computer

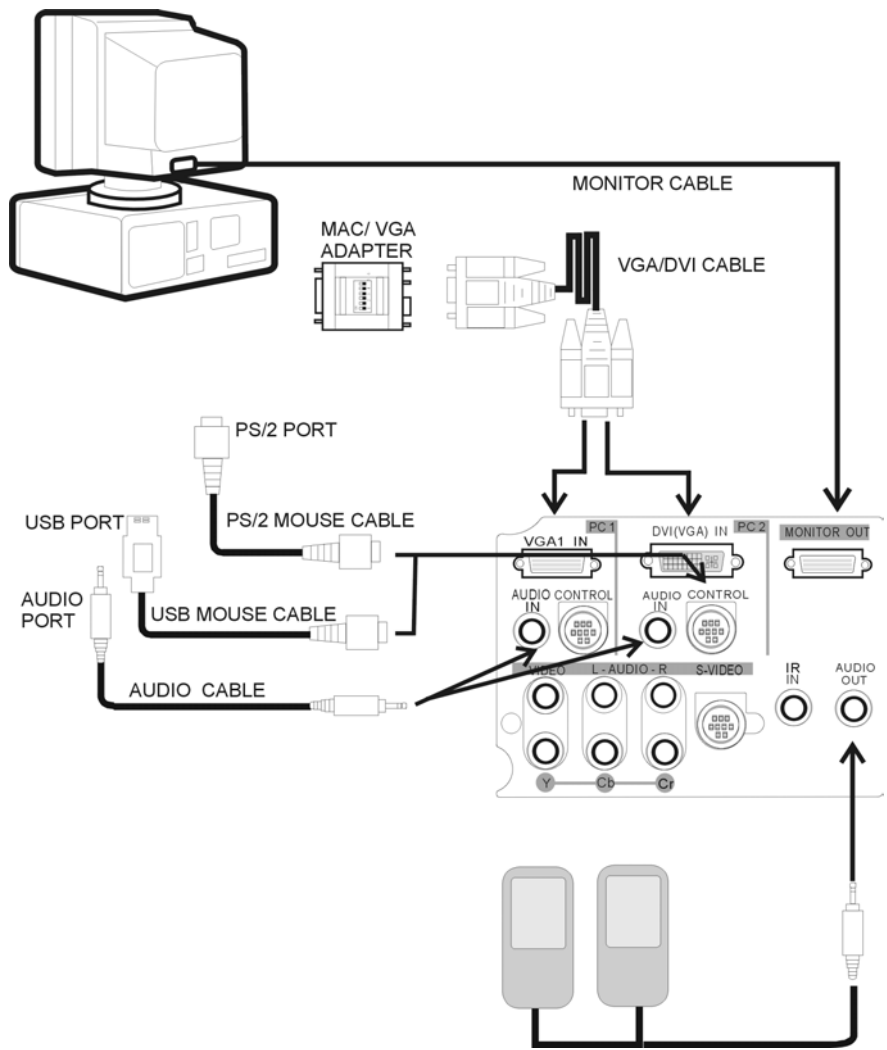


Figure 2-4: Connecting to a Macintosh desktop computer

Please set the Dipswitch as listed below, according to the resolution mode that you will use before turning on the projector and the computer.

Resolution Mode	SW1	SW2	SW3	SW4	SW5	SW6	
13" Mode (640 x 480)	On	On	Off	Off	Off	Off	MAC/VGA ADAPTER
16" Mode (832 x 624)	Off	On	Off	On	Off	Off	
19" Mode (1024 x 768)	Off	On	On	Off	Off	Off	
21" Mode (1152 x 870)	On	On	On	On	Off	Off	

Connect the VGA cable

1. Connect one side of the VGA cable to the projector **VGA In** port.
2. Disconnect the monitor cable from the computer and connect the MAC/VGA adapter to the Macintosh video output port.
3. Connect the other side of the VGA cable into the MAC/VGA adapter.
4. Connect the VGA/MAC adapter to the projector **Monitor Out** port and plug the monitor cable into the other side of the VGA/MAC adapter, if you want to view the display on the monitor.
5. Be sure to tighten the screws on all connectors.

Connect the audio cable if needed

1. Connect one end of the audio cable to the **Audio In** jack on the projector.
2. Connect the other end of the audio cable to the audio output port on the Macintosh.

Connect the mouse cable if needed. In this case, the remote control can serve as a wireless mouse.

1. If the mouse is connected to the computer, remove it.
2. Connect the ADB mouse cable into the mouse port of the computer and the **Control** port on the projector.

Note: We only support ADB mouse system for Macintosh computers.

Note: After all the connections are done, turn on the projector, monitor and computer in sequence.

Connecting to a Macintosh PowerBook

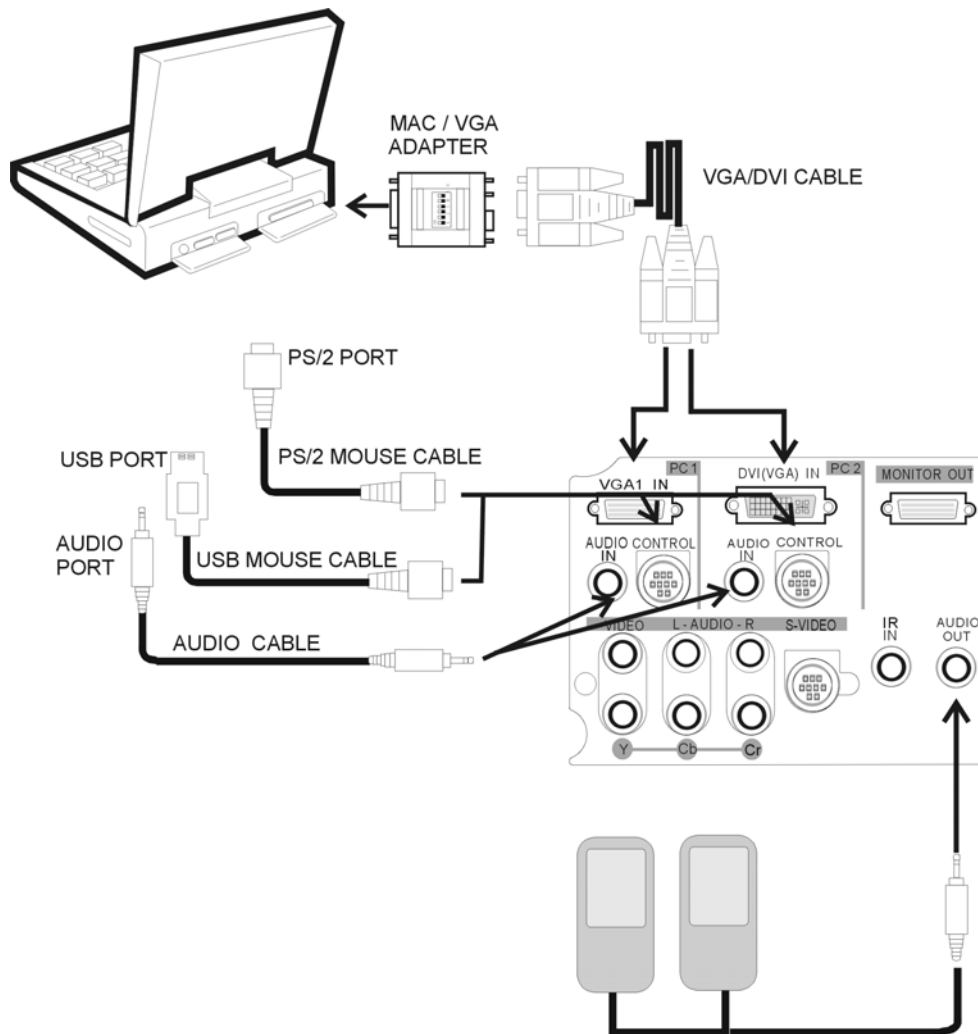
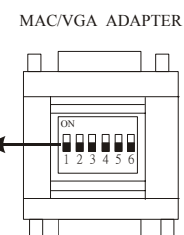


Figure 2-5: Connecting to a Macintosh PowerBook

Make sure your PowerBook Model has video output capability.

Please set the dipswitch as listed below, according to the resolution mode that you will use before turning on the projector and computer.

Resolution Mode	SW1	SW2	SW3	SW4	SW5	SW6
13" Mode (640 x 480)	On	On	Off	Off	Off	Off
16" Mode (832 x 624)	Off	On	Off	On	Off	Off
19" Mode (1024 x 768)	Off	On	On	Off	Off	Off
21" Mode (1152 x 870)	On	On	On	On	Off	Off



Connect the VGA cable

1. Connect one side of the VGA cable to the projector **VGA In** port.
2. Connect the MAC/VGA adapter to the PowerBook video output port.
3. Connect the other end of the VGA cable to the MAC/VGA adapter.
4. Be sure to tighten the screws on all connectors.

Connect the audio cable if needed

1. Connect one end of the audio cable to the **Audio In** jack on the projector.

2. Connect the other end of the audio cable to the audio output port on the PowerBook

Connect the mouse cable if needed

In this case, the remote control can serve as a wireless mouse.

1. Remove the mouse if it is connected to the computer.
2. Connect the ADB mouse cable into the mouse port on the computer and the **Control** port on the projector.

Note: We only support ADB mouse system for Macintosh computers.

Note: After all the connections are done, turn on the projector and the computer in sequence.

Connecting a Video Player

Connect the projector to a video player using an S-video cable and the audio connectors on the standard AV cable.

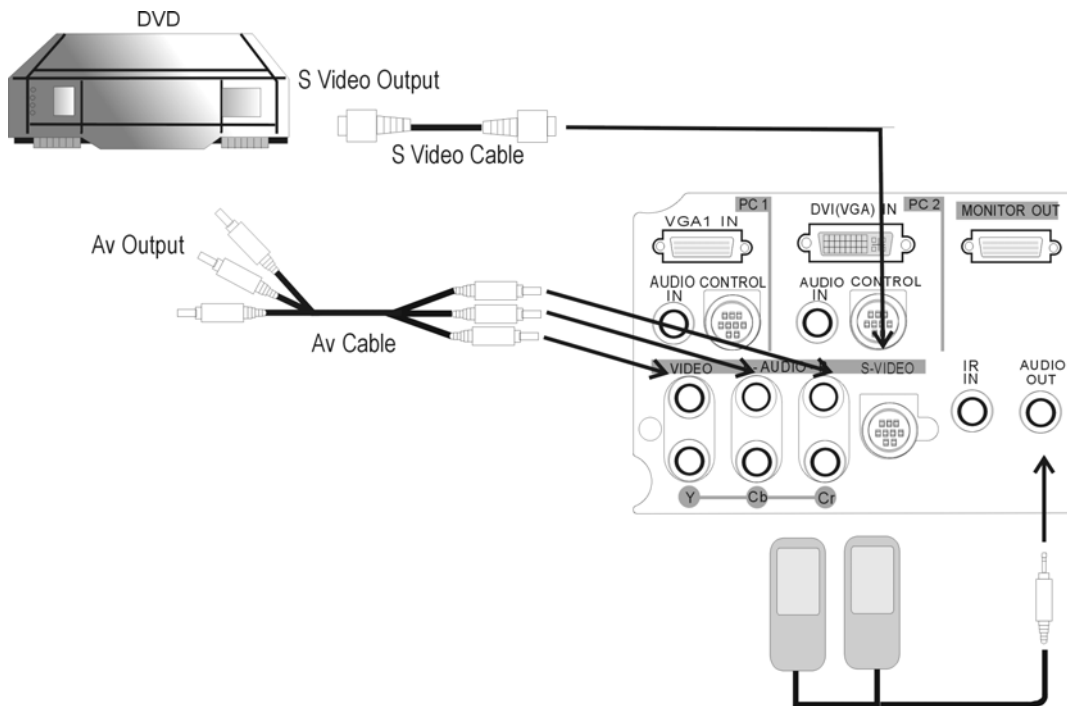


Figure 2-6: Connecting to a Video Player via S-video or Composite-Video

1. If your video player uses a RCA composite video connector, you will only need the AV cable shipped with the projector.
2. Plug the A/V cable's yellow connector into the "video-out" port on your video player. If you're using an S-video cable, connect it to the "s-video out" connector on the video player.
3. Plug the other yellow connector into the yellow connector "**Video**" port in the RCA connector's block on the back of the projector. If you're using S-video, plug the other end of the cable into the "**S-Video**" connector on the projector.
4. Plug the A/V cable white connector into the Left "Audio out" port on your video player. Plug the cable's red connector into the right "audio out" port on the video player (Figure 2-5).
5. If you are using an S-video cable, the yellow connectors of the A/V cable remain unused.

6. Plug the AV cable's other white and red connectors to the **"L-Audio"** and **"R-Audio"** ports on the projector.

The projector is compatible with these major broadcast video standards: NTSC, NTSC 4.43, PAL, PAL-M, PAL-N and SECAM. Incoming input signals for SECAM, PAL-M, and PAL-N video are similar to other video signals and sometimes cannot be automatically detected, therefore they must be chosen manually. See "Video Standard" on page 46 for details.

Connecting the projector to a video player with YCbCr Connectors and the audio Connectors.

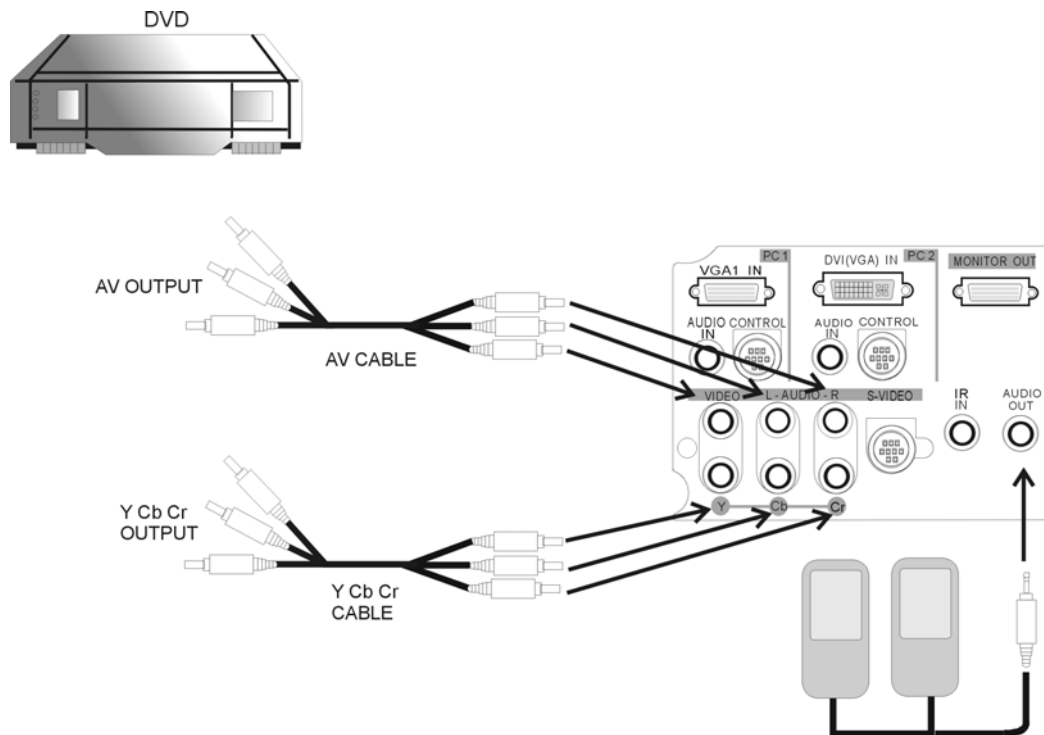


Figure 2-7 Connecting to a Video Player through Y-Cb-Cr

1. Plug the AV cable white connector into the left audio out port on your video player. Plug the cable's red connector into the right "audio out" port on the video player.
You will also need an Y/Cb/Cr cable that looks like an AV cable but with different color plug to connect the video signal into the projector. The Y/Cb/Cr cable should come with your video source. Y/Cb/Cr video will provide the best quality. Few video players support this function. Only some models of high-end DVD players will provide this signal output. Please refer to your video player manual to configure the system.
2. Plug the AV cable's other white and red plug to the **"L-Audio"** and **"R-Audio"** input ports on the projector.
3. Plug the Y/Cb/Cr cable green plug into the "Y" output port, blue plug into the "Cb" output port and red plug into the "Cr" output port on your video player.
4. Plug the Y/Cb/Cr cable green, blue and red plugs into the **Y**, **Cb**, **Cr** input ports on the projector.

Connecting a HDTV Video Player

Connect the projector to a HDTV source via YPbPr/RGB adapter. The Green connector is for Y signal, Blue for Pb signal and Red for Pr signal. The audio output of HDTV source should go into PC's Audio channel.

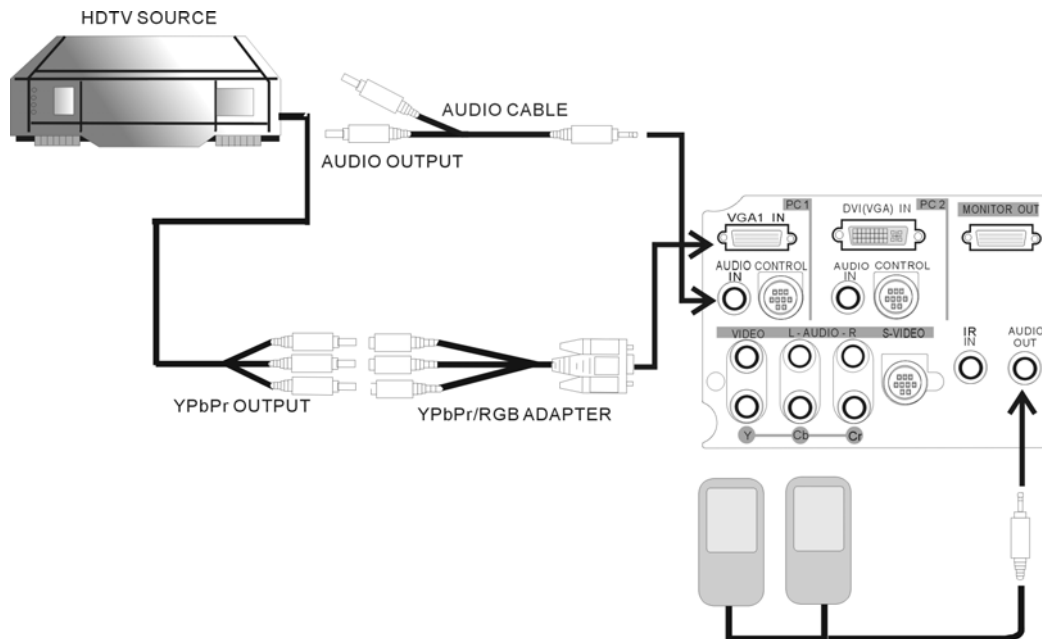


Figure 2-8: Connecting to a HDTV source

Connecting to an external speaker or PA system

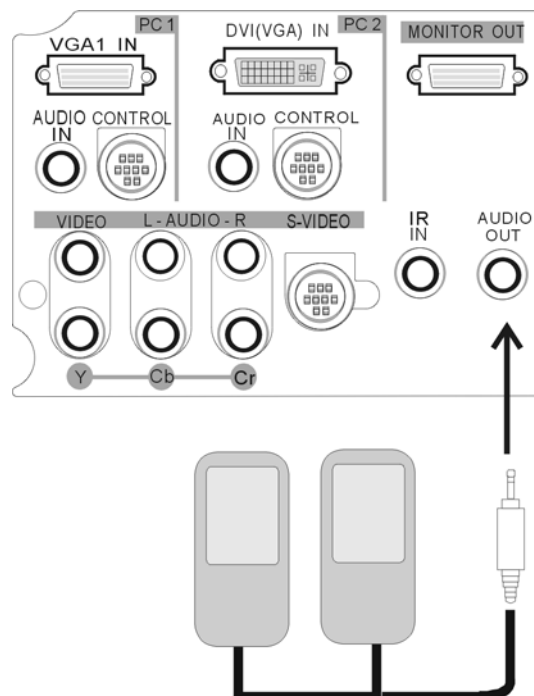


Figure 2-9: Connecting to a Speaker

Though the projector's internal speaker is enough for most small-size or medium-size rooms, an external speaker can be connected to achieve the best results for large room presentations.

A 3.5mm stereo audio cable comes with the projector. A commercially available RCA to 3.5 mm stereo mini audio cable is required to connect the projector's 3.5 mm **"Audio Out"** port to an external speaker or a PA system with RCA plug in connectors. (A RCA to 3.5mm stereo mini audio cable is not provided with the projector).

1. Connect the cable's 3.5 mm stereo mini-plug to the projector's "**Audio Out**" jack.
2. Connect the other end of the cable to the external speaker or PA system.

If your external speaker has a 3,5mm stereo mini plug socket, you can use the projector's PC audio cable to connect speaker to the "**Audio Out**" jack on the projector.

If your external speaker has a stereo jack cable, you can plug the jack into the "**Audio Out**" jack on the projector.

Using the Projector

3

This section describes how to use and make adjustments to the projector. It also provides a reference to the control panel and the remote control.

Basic Image Adjustment

Before using, always turn on the projector and its attached equipment in the following order.

- ◆ Projector
- ◆ Computer
- ◆ Video Source
- ◆ Audio Source/ Speaker

Then follow the steps below to do basic image adjustments.

1. Press the **Source** button on the control panel or the remote control to make sure the appropriate source is selected.
2. If the image doesn't display completely, adjust the height of the projector or center the image by adjusting its horizontal position. Be sure the projector is at a 90-degree angle to the screen.

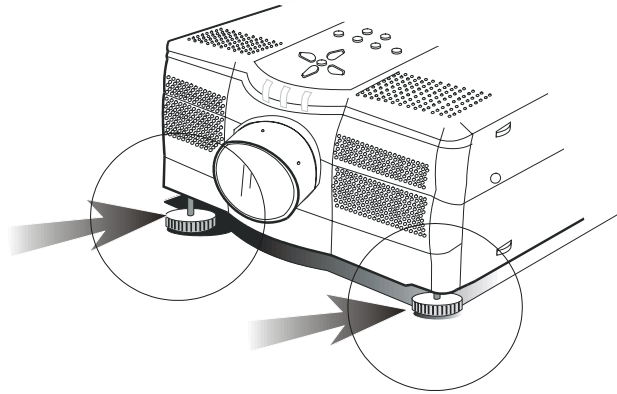


Figure 3-1: Adjusting the height of the projector via the front legs

3. If the image is out of focus, you can use the **Zoom/Focus** button on the control panel or the **Zoom** and **Focus** buttons on the remote control to adjust the projected image size and focus with the **+/-** buttons
4. If the image appears to shimmer or has blurry vertical bars after you have adjusted the focus, press the **Auto Image** button on the remote control to do the automatic signal sync. And freq. tracking. If that doesn't clear up the image, active the VGA menu to adjust the signal syncs. And/or the freq. tracking manually.

Using the Control Panel

The panel buttons are lit yellow when the projector is powered on. You can use the control panel to control the projector instead of the remote control. However, some functions are not provided in the control panel, especially for some run-time presentation purpose.

The following lists the function buttons on the control panel:

Note: Toggle means switching between only two statuses.

- Menu:** (toggle) Enables/Disables the on-screen display menu or returns to the upper level menu in the menu mode while in normal mode.
- Source:** Switches the input sources between computers and videos.
- Power:** (toggle) Starts or stops the projection function.
- Zoom/Focus:** Enables and adjusts the Zoom lens and Focus.
- Keystone:** (toggle) Enable/Disable the Keystone menu, use -/+ key to adjust the compensation factor.
- Resize:** (toggle) Switches between resized (Up/down) and native display modes.

Auto Resize automatically resizes the image by scaling it up or down. It only affects computer images that are not the projector's native resolution
- Volume +/- (🔊):** Serves as value adjusting while in menu mode. In normal mode, they are used for volume adjusting.
- 🔍:** Serves as menu item selection.
- Enter:** Confirms the selections and value settings in menu mode.

Using the remote control

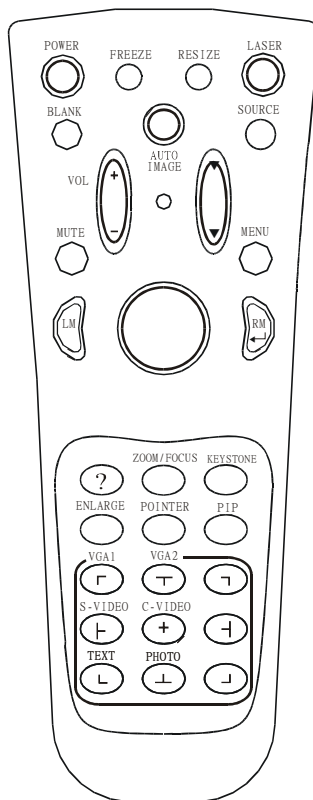


Figure 3-3.

Remote Control Panel

The remote control is convenient for presentations. More keys are provided than in the control panel. In addition to the projector control functions, remote mouse and laser pointer are included in the remote control.

When using the remote control, always point it towards the remote control receivers located at the front and at the back of the projector.

To use the remote control as a PC remote mouse, connect the mouse cable included with the projector. See Figure 2-2, 2-3, 2-4,

Note: The projector may not respond to the remote control in the following conditions: ambient light too bright; some type of fluorescent light; strong light source (such as direct sunlight) into the infrared receiver; or other equipment emitting infrared energy (such as laptop IrDa). Solve these conditions before using the remote control.

The following table lists the button functions on the remote control.

Menu:	(toggle) Enables/Disables the on-screen display menu while in normal mode, or return to the upper level menu in menu mode.
Source:	(toggle) Switches the input sources between computers and videos.
Power:	(toggle) Starts or stops the projection function.
Resize:	(toggle) Auto Resize automatically resizes the image by scaling it up or down. It only affects computer images that are not the projector's native resolution
Blank:	(toggle) Turns the screen to blank or back to image projection.
Freeze:	(toggle) Freezes or unfreezes the image on screen. In freeze mode, the projector doesn't update the incoming signal.
Pointer:	(on, reverse color, off) Turns on, changes the pointer color or turns off the graphic pointer cursor on screen.
Enlarge:	Enables the Enlarge menu, use -/+ key to adjust the ratio.
Auto Image:	Automatically fine-tunes the picture quality to the best performance.
PIP:	(toggle) Enable/Disable the picture in picture mode. Use the -/+ key to change the sub-picture size and use area zoom keys to directly manipulate the location of sub-picture.
Keystone:	(toggle) Enable/Disable the Keystone menu, use -/+ key to adjust the compensation factor.
Zoom/Focus:	Enables and adjusts the Zoom lens and Focus.

Note: The best pattern for Auto Image is Windows screen with many details. If the Auto Image function does not perform well on some images, please use the VGA menu to do manual adjustments.

Mouse Pad: Functions as mouse cursor scrolling.

RM (↵): Serves as mouse right button in mouse mode. In menu mode, it is used as **Enter** confirmation function.

LM: Represents the mouse left button.

Mute: (toggle) Disables or enables the sound output.

▲/ ▼: Selects the menu item.

Volume +/-: Serves as value adjusting in menu mode. In normal mode, they are used for volume adjusting hot key.

? : Functions as query system status. Incoming source type, the status of audio mute, blank, resize, enlarge and freeze and lamp life information can be displayed on screen.

Area Zoom: In Enlarge mode, it is used as enlarge location selection hot keys. The whole screen is divided into 9 areas. In Normal mode, they serve different functions.

VGA (⌂): Direct select VGA1 source.

DVI [VGA2(⌂)] : Direct select DVI source.

S-VIDEO(⌂) : Direct select S-Video source

C-VIDEO(⌂): Direct select C-Video source

STILL(⌂) : For Visualize Video Input source signal. In Still mode, we can get flicker less display image for document or still object.

TEXT(⌂): To enhance display image quality, in spreadsheet picture.

PHOTO(⌂): To get best color rendering, in photo or graphic picture. Used to enlarge location selection hot keys in enlarge mode. The whole screen is divided into 9 areas.

Projector Status Indicators

The **System, Temp and Lamp** indicators located at the top of the projector tell you the projector's operating status.

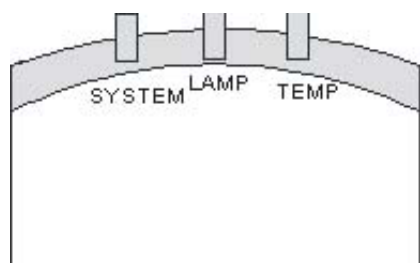


Figure 3-3 LED's on the projector

System indicator: Displays the operation conditions.

Color	Status	Meaning
Orange	Full On	Shut Down Mode (Only minimum power is provided).
Green	Flashing	The projection lamp is warming up for 30 seconds.
Green	Full On	The projector is operating normally.
Orange	Flashing	The projection lamp is off; the projector is cooling down for 2 minutes. While cooling, operations do not function.
Red	Flashing	The projector has internal projection problems and turns off.

Lamp indicator: Displays the lamp conditions.

Color	Status	Meaning
None	Off	The projector is in normal conditions.
Orange	Flashing	The projection lamp is reaching the end of its life and should be replaced with a new one.
Red	Full On	The projection lamp has reached the end of its life and will not longer project any image. Replace the projection lamp with a new one.
Red	Flashing	The projector is experiencing a lamp or other problems around the lamp. Contact your nearest service provider.

Temperature indicator: Displays the internal temperature condition.

Color	Status	Meaning
None	Off	The projector is in normal conditions.
Red	Full On	The projector is too hot and turns off.
Red	Flashing	The projector is experiencing a cooling fan or temperature sensor problem. Contact you're nearest service provider.

Accessing the main menu 4

The projector menus can be accessed through either the control panel on the projector or the remote control.

Controlling the menu

1. Press the **MENU** button on the control panel or the remote control to display the Main menu.
2. Press the up/down (⬆/⬇) buttons on the control panel or (▲/▼) on the remote control to scroll through the menus.
3. Press the +/- (⬅/➡) buttons on the control panel or the remote control to adjust the setting values.
4. Press the **Enter** button on the control panel or on the remote control to confirm the selections or go into the submenus.
5. Press the **Menu** button on the control panel or the remote control to return to the upper level menu while in the submenu mode. Press the Menu button to exit the menu mode if in the top-level menu.

Main Menu

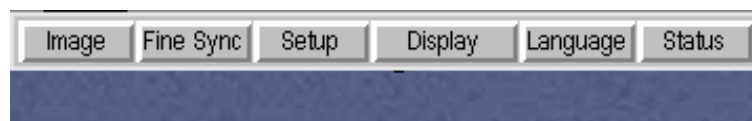


Fig. 4-1 Main Menu

Image Menu	Adjust the image brightness, contrast and hue for VGA mode. Adjust the image brightness, contrast, hue, color and sharpness for video mode.
Fine Sync Menu	Fine-tunes the video image position and phase. (Only valid for VGA mode)
Setup Menu	Select the video standard for incoming video, Blank screen color, auto off projector time lap and reset the adjustment value into factory default.
Display Menu	Set the proper mode for display output related functions. Keystone, Aspect Ratio, Color setting, Gamma setting, Projection Type Picture in picture
Language Menu	Select the OSD language type. There are 8 kinds of languages. Traditional Chinese, Simple Chinese, English, Spanish, French, Germany, Nederland and Italy.
Status Menu	Show up the input source status of VGA1, VGA2, C-Video and S-Video and signal processing status of audio mute, video freeze, lamp hours used and ignition times.

Note:

1. Remember to press the Enter button to enter into a submenu.
2. When the VGA source is selected, you can't access the video menu. When the Video source is selected, you can't access the VGA menu.

Image Menu (For VGA input)

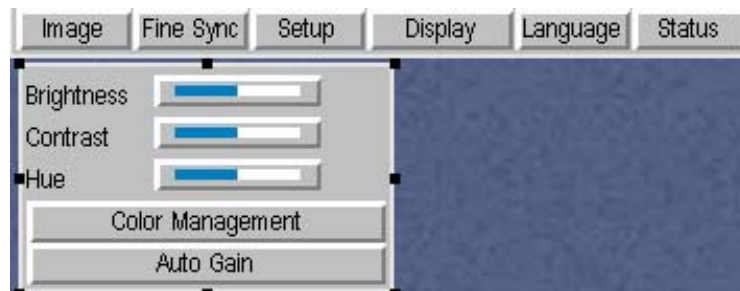


Figure 4-2: Image menu for VGA input

Brightness	Lightens or darkens the overall image. Increase the brightness to make the image lighter, or decrease it to make it darker.
Contrast	Adjusts the relative difference between light and dark areas. Increase the contrast to make light areas lighter and dark areas darker. Decrease the contrast to lessen their difference and to improve visibility of light colors and gray tones.
Hue	Adjusts the red-green balance of the display.
Color Management	This Function is only available for VGA input. With the function brightness and contrast can be adjusted automatically.
Auto Gain	Decoupling the color vector tuning offers the adjustment for red, green, blue and yellow.

Image Menu (For Video input)



Fig. 4-3 Image Menu for video input

Brightness	Lightens or darkens the overall image. Increase the brightness to make the image lighter, or decrease it to make it darker.
Contrast	Adjusts the relative difference between light and dark areas. Increase the contrast to make light areas lighter and dark areas darker. Decrease the contrast to lessen their difference and to improve visibility of light colors and gray tones.
Hue	Adjusts the red-green balance of the display.
Color	Adjusts the color intensity. Increase the color intensity to make colors more pure and vivid. Decrease it to make them lighter
Sharpness	Increases the sharpness to make images look sharper. Decrease it to make images look softer.
Color Management	This Function is only available for VGA input. With the function brightness and contrast can be adjusted automatically.

Fine Sync menu (Only valid for VGA)

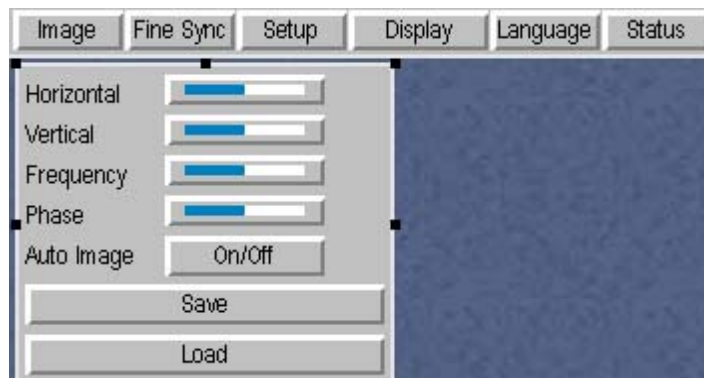


Figure 4-4: Fine Sync Menu

Horizontal	Centers the image horizontally.
Vertical	Centers the image vertically.
Frequency	Matches the projector-sampling clock with the computer graphic output timing. Adjust this setting to remove vertical fuzzy lines from the image.
Phase	Synchronizes with the signal phases from the computer. Adjust this setting whenever the whole image is fuzzy.
Auto Image	Analyzes the incoming signal and determines the operating parameters to perform the best image quality automatically. You also can turn off or on the Auto Image process in the menu to speed up the screen displaying when change source.
Save	When some computer source its output timing is far away from VESA and can't be auto imaged by the projector. You can adjust the fine sync parameters manually and memorize them for latter easy retrieval.
Load	Load the saved parameters into projector as operating parameters.

Setup Menu



Fig. 4-5 Setup Menu

Video Standard	Specifies the standard of the incoming video signal. Six kinds of video standard are supported: NTSC, NTSC 4.43, PAL, PAL-M, PAL-N, SECAM. Auto is a convenient design to fit most video devices. Use the – & + keys to change the items.
Blank Color	Specifies the blank screen color. There is Black or Blue color for selection.
Auto Off	When the selected source disappears for a time period of the setting value, the projector will go into standby mode. When the setting value is 0, no Auto Off will take effect.
Audio Setting	Adjust the audio volume, treble, bass, and 3D audio enabling.

Lamp Mode Setting	Set Economic mode or full power mode of the Lamp.
Factory Reset	Resets the operating parameters to the factory defaults. If you want to reset all the parameters, you should go to VGA1 and 2, S-Video and C-Video channel to do all this reset operation.

Note: Sometimes the Auto mode cannot detect some weak video signals. So, specify the video standard.

Display Menu

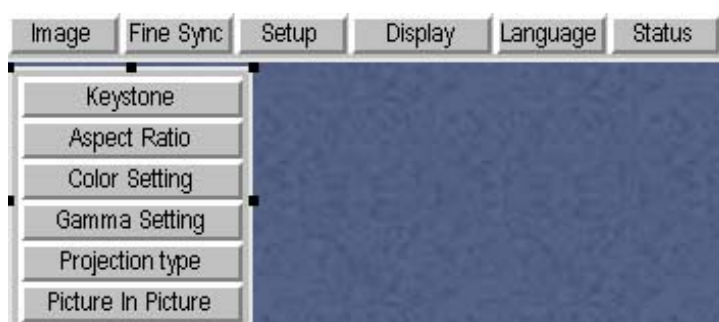


Figure 4-6: Display Menu

Keystone	Adjust the keystone correction function to keep the picture rectangular.
Aspect Ratio	Change the view size to fit the input source format.
Color Setting	Adjusts the whiteness of the screen. You can adjust the RGB values to change the white point color balance. Press Enter to pass into color temp modification. Use the up and down keys to select the R, G, or B items and the – & + keys to adjust the value. Press the Menu key to jump to the upper menu.
Gamma Setting	Select the proper gamma to get best picture quality.
Projection Type	Specifies what type of installation your projector is. There are four kinds of projections: Normal (front), Ceiling, Rear and Rear + Ceiling. Use the – & + keys to change the items.
Picture in Picture	Setup the picture in picture operating condition. Such as location and size. You also can use remote control to dynamically change the operating parameters.

Language Menu



Fig. 4-7 Language Menu

There are 8 kinds of languages. Traditional Chinese 、 Simple Chinese 、 English 、 Nederlands 、 Deutsch 、 Español 、 Français and Italiano.

Status Message



This message will show input source status such as active or non-active, video standard and image frozen, audio mute or not. Lamp used hours and ignition times are also on the list. Either through the menu system or you can just press the (?) button on remote control to pop up the message.

Maintenance

5

This section describes how to:

- ◆ Clean the lens
- ◆ Clean the projector
- ◆ Clean the air filter
- ◆ Replace the lamp

It is important to keep the air filter clean because a clogged air filter prevents proper ventilation, necessary to cool down the projector and prevent it from overheating.

The parts you can replace by yourself are the lamp and the air filter. For other parts replacement, contact your Projector dealer or qualified service personnel.

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

⚠ Warning: Never open any of the covers on the projector, except the lamp and filter covers. Dangerous high voltage inside the projector can cause severe injuries.

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

To clean the projector case, first unplug the power cable. 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.

Caution: Do not use alcohol, benzene, thinners or other chemical detergents as these can cause the casing to warp.

Cleaning the Air Filter

The air filter should be cleaned after every 100 hours of use. If it is not cleaned periodically, it can become clogged with dust and prevent the projector from being ventilated properly. This can cause overheating and damage the projector. To clean the air filter:

1. Switch the projector off and unplug the power cable from the wall socket.
2. Stand the projector with the handle at the top so that the filter is easily accessible.

Caution: Stand the projector with the handle at the top to prevent dust from entering the projector.

The air filter is attached to the inside of the projector.

If the dirt is difficult to remove or if the filter is torn, replace it. An air filter comes with the projector. Contact your Projector dealer or call a Service Center for new filters.

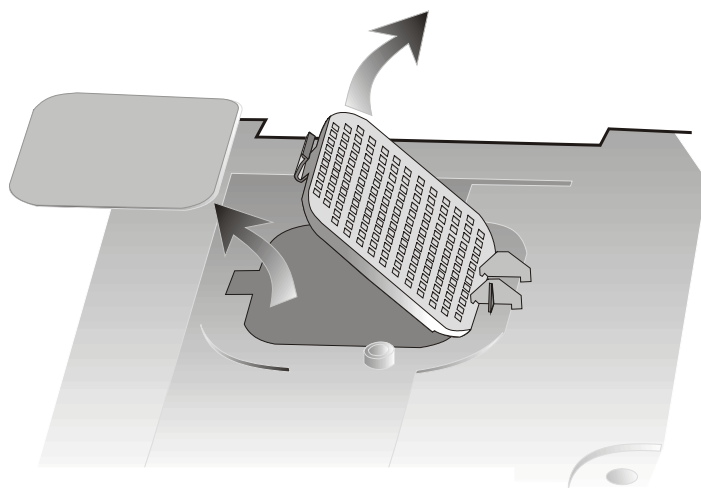


Figure 5-1 Changing the Air Filter

Replacing the Lamp

You have to replace the lamp module when the brightness of the projected images is not acceptable any more or the projector lamp indicator is flashing orange. The message “LAMP REPLACE” also appears on the screen. Contact your local dealer for a replacement lamp module.

⚠ Warning: The projector lamp develops high heat and high-pressure during use, so a lamp bulb) rupture and burn may result. To avoid serious injury, before attempting to replace the lamp module, pull out the power cord, plug from the outlet and wait for the lamp to cool down (at least 30 minutes). Then proceed to replace the lamp.

1. Turn off the projector and unplug the power cable.
2. Use a screwdriver, coin, or similar object to loosen the retaining screw on the lamp cover. When the screw is loose, pull out the lamp module.
3. Insert the new lamp module into the projector and tighten the retaining screw on the lamp cover.

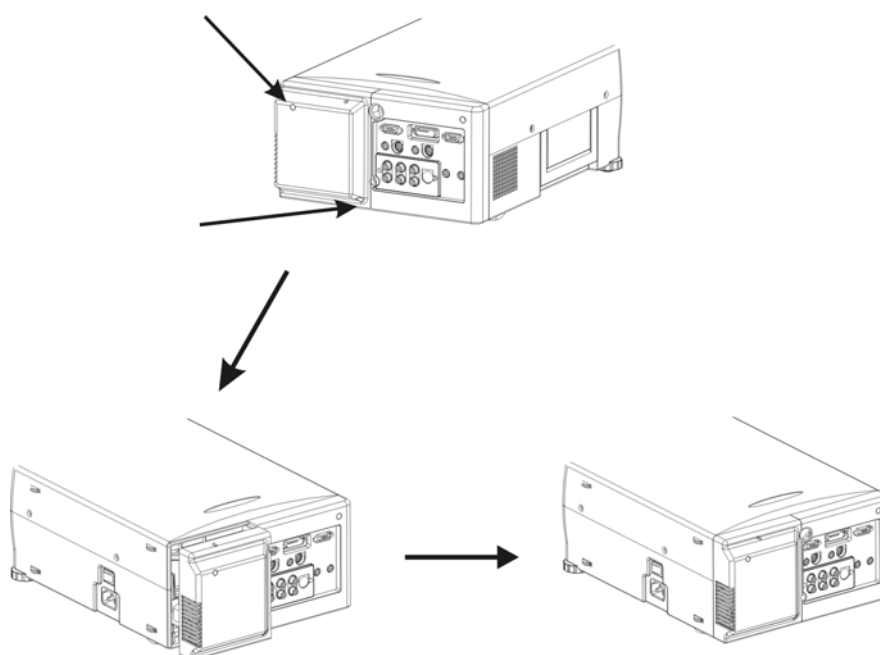


Figure 5-2 Replacing the Lamp

Troubleshooting

6

This chapter describes the problems indicated by the status lights and provides information on what to do if you experience problems with the projector. It is divided into the following sections.

- ◆ General problems with the projector. Refer to this section if the projector is not working and to find out what the warning lights are indicating.
- ◆ Problems with the screen image. Refer to this section if you cannot project an image or if the quality of the screen image is poor.

If you have a problem, refer to the appropriate section and follow all the suggestions that apply to your problem. If none of the suggested solutions solves the problem, call your dealer or call the Service Center.

Problem with the projector

If you have problems with the projector, first turn it off and unplug it. Then plug the power cord back in and turn on the projector. If this does not solve the problem, check the warning lights at the front top of the projector. These lights alert you to problems with the projector operation.

See the following pages for information on what to do when you see these warning lights or encounter other specific problems with the projector.

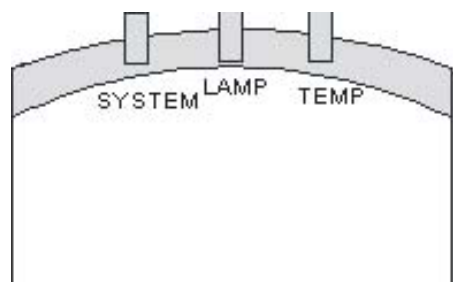


Figure 6-1 (LED)

Q: The system indicator is flashing orange and I cannot turn on the projector.

A: The lamp is cooling down. Within this time interval, no buttons are available. It takes 1 minute to cool down the lamp. Wait until the light turns off and then turn on the projector.

Q: The system indicator does not come on.

A: No power is coming on. Check that the power cord is connected securely both at the power outlet and the projector, and that the power switch is set in "on" position.

Q: The brightness of the projected images is not acceptable any more, or the lamp indicator is red.

A: The lamp is near the end of its life. Replace the projector lamp with a new one.

Q: The temperature indicator is red.

A: The projector is overheating and will turn the lamp off automatically. Let the projector cool down for a few minutes, and then turn it back on. Make sure nothing is blocking the ventilation vents.

The air filter may be clogged. Clean it as described in Chapter 5 and then let the

projector cool down for a while. If the projector continues to overheat after you cleaned the air filter, the problem may be caused by damage to the cooling fan or internal circuits. Contact a qualified service person.

⚠ Warning: Except as specifically explained in this User's Guide, do not attempt to service this product yourself.

Problems with the Image or Sound

Q: No image appears on the screen.

A: No signal is on the channel selected. Make sure the cables are installed correctly and securely, as described in Chapter 2. The correct image source may not be selected. Press the **Source** button on the remote control or the control panel to choose another image source.

Q: Only part of the computer image is displayed.

A: The incoming signal is not in our supported list, or its resolution is greater than 1024 x 768 for XGA model or 800x600 for SVGA model and the **Resizing** setting in **Setting** menu is OFF. You can press the **Resize** button on the control panel or the remote control to see full screen. Otherwise, the reason is that the computer output is not compatible with your projector. There are two methods to choose. One is to choose a different display setting on the computer that is within our specifications. The other is to manually adjust the operating parameters within the **VGA** menu.

Q: The message NO SIGNAL is displayed.

A: No image source is detected in the selected channel. Check the cable connection, power of image source and source selection. If a Laptop is connected check if the VGA Video out on the laptop is activated. See appropriate section in the computer user manual.

Q: The image or parts of the image are blurred or not in focus.

A: The lens focusing is maybe not correct or the image sampling is not in the best condition. Adjust the lens focusing through the Focus button on the remote control or the Zoom/Focus key on the control panel. Press the Auto Image button on the remote control or the Auto Image menu function in the VGA menu to enhance the image. You can also adjust the Brightness, Contrast, Freq. Tracking and Signal Phase settings on the VGA menu. Dirt or smears may also be on the lens. Clean the lens as described in Chapter 5, "Maintenance".

With some laptops switching off the internal LCD display improves the RGB Video output signal.

Q: The color of the image is incorrect.

A: The color balance might be incorrect. You can adjust the red, green, and blue settings in the **Setting** menu. If you're displaying video, other adjustments can be done in the color and tint settings on the Video menu.

Q: Light colors or gray tones appear white

A: Reduce contrast setting

Q: There is no sound.

A: No audio signal is output. Check if the volume setting is not turned all the way down, the audio is not in mute and the audio cable is securely attached to both the projector and the audio source. The wrong source might be selected. Press the **Source** button on the remote control or the control panel to select the proper source.

Appendix

Compatible Computer Graphic Display mode

For XGA models

The projector displays images with a resolution of 1024 x 768 pixels. To display a higher resolution, the projector compresses it into 1024 x 768. To display a lower resolution, the projector expands it into 1024 x 768.

Resolution	Vertical (Hz)	Compatible PC
640 x 480	60	VGA 3
640 x 480	72	VESA 72
640 x 480	75	VESA 75
640 x 480	85	VGA
640 x 480	67	MAC 13
720 x 400	70	DOS Mode
800 x 600	60	SVGA 60
800 x 600	72	SVGA 72
800 x 600	75	SVGA 75
800 x 600	85	SVGA
832 x 624	75	MAC 16
1024 x 768	60	XGA 60
1024 x 768	70	XGA 70
1024 x 768	75	XGA 75
1024 x 768	75	MAC 19
1024 x 768	85	XGA
1152x864	75	MAC 21
1152 x 900	75	SUN
1280 x 1024	60.0	SXGA 60
1280 x 1024	75.0	SXGA, SUN

For SVGA model

The projector displays images with a resolution of 800 x 600 pixels. To display a higher resolution, the projector compresses it into 800 x 600. To display a lower resolution, the projector expands it into 800 x 600.

Resolution	Vertical (Hz)	Compatible PC
640 x 480	60	VGA 3
640 x 480	72	VESA 72
640 x 480	75	VESA 75
640 x 480	85	VGA
640 x 480	67	MAC 13
720 x 400	70	DOS Mode
800 x 600	60	SVGA 60
800 x 600	72	SVGA 72
800 x 600	75	SVGA 75
800 x 600	85	SVGA
832 x 624	75	MAC 16
1024 x 768	60	XGA 60
1024 x 768	70	XGA 70
1024 x 768	75	XGA 75
1024 x 768	75	MAC 19
1024 x 768	85	XGA

VGA In Connector Pin Assignment

Pin No.	Signal Name	Pin No.	Signal Name
1	Red	9	+5V in
2	Green	10	Gnd
3	Blue	11	NC
4	NC	12	SDA (DDC)
5	Gnd	13	Hsync (Csync)
6	Gnd	14	Vsync
7	Gnd	15	SCL (DDC)
8	Gnd		

Monitor Out Connector Pin Assignment

Pin No.	Signal Name	Pin No.	Signal Name
1	Red	9	NC
2	Green	10	Gnd
3	Blue	11	NC
4	NC	12	NC
5	Gnd	13	Hsync (Csync)
6	Gnd	14	Vsync
7	Gnd	15	NC
8	Gnd		

DVI in Connector Pin Assignment

Pin No.	Signal Assignment	Pin No.	Signal Assignment	Pin No.	Signal Assignment
1	T.M.D.S Data2-	9	T.M.D.S Data1-	17	T.M.D.S Data0-
2	T.M.D.S Data2+	10	T.M.D.S Data1+	18	T.M.D.S Data0+
3	T.M.D.S Data2/4 Shield	11	T.M.D.S Data1/3 Shield	16	T.M.D.S Data0/5 Shield
4	T.M.D.S Data4-	12	T.M.D.S Data3-	20	T.M.D.S Data5-
5	T.M.D.S Data4+	13	T.M.D.S Data3+	21	T.M.D.S Data5+
6	DDC Clock	14	+5V Power	22	T.M.D.S Clock Shield
7	DDC Data	15	Ground (for +5V)	23	T.M.D.S Clock+
8	No Connect	16	Hot Plug Detect	24	T.M.D.S Clock-