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PROJECTOR OWNER'S MANUAL

Microtek

VX2

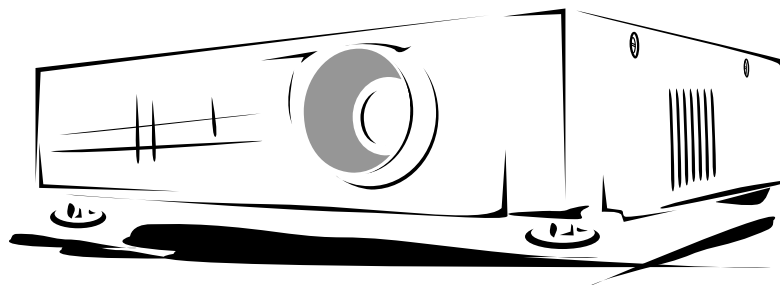
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MICROTEK
Digital Projector

User Guide



VX2 Value Series



INTRODUCTION

Good tools are essential for creating successful presentation. This projector allows you to project SVGA full-color images and video onto a large screen from 28" ~ 300" either for presentation or home entertainment, and is compatible with three video sources. For example, the projectors can be connected simultaneously to one PC or one Mac with D-SUB interfaces; to any video equipment that has a common video source; or to an audio source.

Crisp, clear images of this projector are displayed in XGA full color (16,670,000 color) at a resolution of 1024 x 768 pixels. You will be impressed during presentations with how the projector produces images of such brightness that it is possible to take notes even with full overhead lighting. To enjoy audio, the built-in 1W+1W speakers of the projector provide rich and powerful sound. An external speaker can also be connected when further amplification is required.

You may also utilize a remote control of this projector not only to select different image sources, but also to navigate through OSD menus and adjust their values as required. Additionally, the remote control a wireless mouse, assisting you in controlling mouse operations on the computer screen during presentations.

This projector also features a wisdom-type chip that fully supports images for outputting to VGA, SVGA and XGA with an extraordinary crisp, clear display. The projector supports IBM-compatible PCs and notebook computers, as well as the Apple Macintosh and Apple PowerBook. Supported video sources include NTSC, PAL, or SECAM formats; supported interfaces include RCA jacks, S-Video jacks and Component Video jacks.



Safety Instructions

Three symbols as below shown will be used throughout the manual to remind you when to operate or repair this projector:

- ◆ **Attention:** Extra tips or useful indications
- ◆ **Caution:** Steps against damages to your equipment
- ◆ **Warning:** Steps to avoid personal injury

The following are Safety Instructions that should be followed strictly when setting up and utilizing the projector:

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not place your projector onto an unsteady trolley, stand or table.
6. Do not operate your projector near a water or heat source.
7. Only apply accessories or attachments as recommended by this manual.
8. Use the exact type of power as labeled on the projector. If you are not sure of the type, you may confirm it with your dealer or local electric company.
9. Plug in properly the three-pin grounded plug into a grounded socket. If you have a two-pin grounded plug, contact your dealer or electrical technician for a replacement. Do not touch the plug with wet hands.
10. Failure to take the following precautions may result in sparks or fire:
 - Ensure the plug is free of dust before inserting it into a socket.
 - Insert the plug into the socket securely.



11. Never overload wall sockets, extension sockets and multiple socket powerstrips, as this may result in sparks or fire.
12. Make sure that the projector is placed properly so that no one will step on the power cord or its cables because this may damage or cause fraying.
13. Turn off the power of the projector and unplug its power cable from the wall socket before cleaning. Use a damp cloth and avoid using liquid or aerosol cleaners.
14. Make sure not to block the openings or slots on the projector. These openings are for ventilation to keep the machine from overheating. Do not place the projector on your sofa, carpet, any soft material, or in a closet that does not provide ventilation.
15. Make sure no items or no liquid is squeezed into or spilled into the housing slots.
16. Unless specially instructed in this manual, never try to do any service by yourself. Opening the cover of the projector to perform repairs is dangerous, especially when handling the high-voltage parts inside the machine. Be sure to have qualified service personnel for carrying out service maintenance.
17. Unplug the power cord of the projector from the wall socket during a thunderstorm or when the projector will not be operated for a long period of time. Do not place the projector and the remote control on any heat-emitting equipment or in a hot space (e.g., in a motionless car).
18. Under the following conditions, unplug the projector from the wall socket and refer the problems to qualified service personnel.
 - If the power cable or plug is damaged or frayed,
 - If liquid spills into the projector or if it has been exposed to rain,
 - If the projector is not able to work although you have followed the setup instructions,
 - If the performance of the projector has a noticeable change and needs repair,
 - If the projector has been dropped or the cabinet has been damaged.



Transporting the Projector

Please follow strictly the steps below when transporting the projector because it contains many components that are made of glass and precision technology.

- When transporting to a service center:
 - Use the original packing.
 - If you did not keep the original carton, use an equivalent carton and put enough cushion inside for protection.
- When transporting for business use:
 - Put the projector in the original carrying case or bag, then pack it in a secure box with cushioning.
 - We shall not be liable for any damages occurred during transportation.
- When carrying by hand:
 - Use a hard carrying case or a soft carrying bag for protection.



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This section provides details on unpacking and setting up the projector, as well on connecting your projector with other equipment.



Unpacking the Projector

Check immediately that you have the following components after unpacking your projector:

- One Projector
- One Lens Cover
- One Users' Manual
- One Quick Start Guide
- One Remote Control
- Two AAA type batteries
- One Power Cord
- One Computer Cable
- One Control Cable
- One Audio Cable
- One RCA Video signal Cable (Yellow)
- One RCA Audio signal Cable (Red, White)
- One S-Video signal Cable

Note: Not all of the items above may be required for your particular computer system.

Warning:

Do not expose children to the plastic bags, accessories, and any optional items for the projector. A plastic bag may cause suffocation to a child if placed accidentally over the head.

Save all the packaging material of the projector in a safe suitable place in case you need to transport the projector in the future. You should always transport the projector in its original packaging or equivalent.

The following items are the accessories of this projector:

- USB Cable
- Mac Adapter
- Mac Monitor Adapter
- Mac Mouse Cable
- Component Video Cable



Setting up the Projector

1. Place the projector on a sturdy, flat surface within 6 feet of a computer or video source (e.g., video tape deck, camcorder, digital camera, or laser disk player).
2. Place the projector at a qualified distance from the screen so as to project the desired screen size. Refer to the following chart for suitable distances to keep.

3. Adjust the projector so as to keep the lens at right angles to the screen. If the projector is not angled correctly, the screen image will be skewed.

SCREEN SIZE	HORIZONTAL DISTANCE BETWEEN THE PROJECTOR AND THE SCREEN	
	The Shortest Distance	The Longest Distance
300"	36'	49'
200"	24'	30'
100"	13'	16'
80"	10'	12'
60"	7'	10'
40"	6'	7'
30"		5'

4. Connect one end of the power cable (include with your projector) to its power connector. Connect the other end to a grounded electrical socket.

Warning:

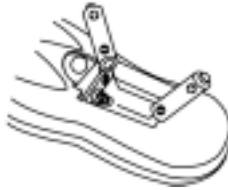
Never look into the lens of the projector and never let children look into the lens of the projector.

5. To insert the batteries in the remote control device, slide off the battery compartment cover as shown below.





6. Install two AAA type batteries (included with your packing) as shown in the diagram. Make sure that the battery polarities in the remote are correctly positioned.



7. Slide back the battery compartment cover.

Please pay attention when replacing batteries:

- Do not mix used and new batteries.
- Do not recharge used batteries or expose them to fire or water.
- Replace new batteries as soon as possible after the old batteries have run out of power. You may use a soft cloth to remove any acid if the batteries leaked. Clean your hands immediately if the fluid gets onto your hands.
- If you do not intend to operate the projector for a long period of time, take out the batteries.

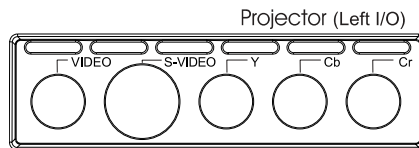
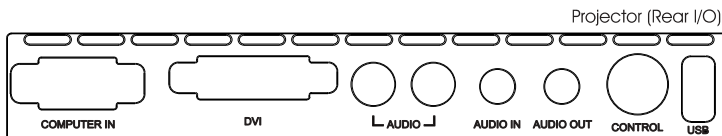


Connecting To A Computer

This projector can be connected to a computer with the following video signals: VGA, SVGA and XGA.

Computers that are compatible with this projector include:

- IBM desktop PC or compatible.
- IBM notebook or compatible.
- Apple Macintosh desktop computer, including the following: Macintosh Quadra®, Macintosh Centris®, and Power Macintosh®.
- Any Apple PowerBook with video-out capability, including the following series: 160, 165, 180 and 500 series PowerBook.
- HDTV signal in ATSC broadcast systems. (U.S.A., Canada, S. Korea, Taiwan, Argentina)



Connecting to a Desktop Computer

Before connecting this projector to a desktop computer, make sure that both machines have their power shut off.

1. Remove the computer monitor cable from the computer.
2. Connect either end of the Computer Cable to the Computer In port of the projector. Then, connect the other end of the Computer Cable to the Monitor Out port.
3. If necessary, connect the computer monitor cable to the Computer Out port of the projector.

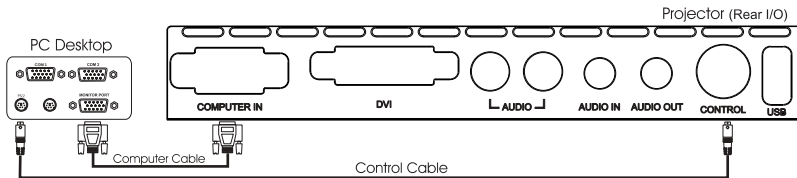


If the functions of the wireless mouse on the Remote Control need to be operated, please make the following connections to each signal cable according to the steps numbered 4 ~ 6 below:

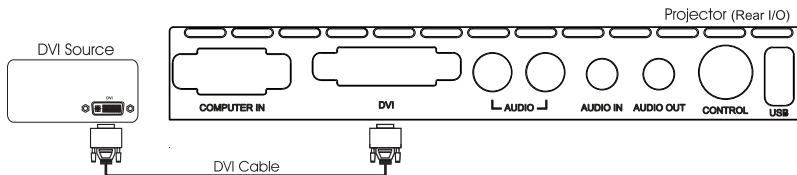
4. Connect the control cable to the Control port of the projector.
5. Remove the computer mouse cable.
6. Connect the PS/2 mouse connector of the control cable to the PS/2 port of the computer.

You may connect your computer to the USB interface of the projector to enable the function of the wireless mouse on the remote control. Please follow step 7 below for connection.

7. Connect one end of the USB Cable to the USB port of the projector, and connect the other end of the USB Cable to the USB port of your computer.
8. Tighten all connector screws to ensure secure connections.



9. For DVI, insert one end of the DVI Cable into the DVI jack of the projector. Insert the other end of the DVI Cable into the video-out jack on the DVI source.



Connecting to a Notebook

Before connecting the projector to a notebook, make sure that both machines have their power shut off.



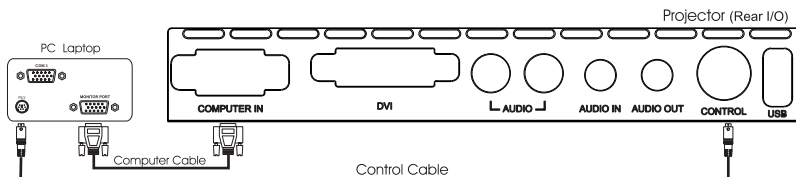
1. Connect either end of the Computer Cable to the Computer In port of the projector, then connect the other end of the Computer Cable to the Monitor Out port of the notebook.

If the functions of the wireless mouse on the Remote Control need to be operated, please make the connections to each signal cable according to steps 2 and 3 below:

2. Connect the Control Cable to the Control port of the projector.
3. Connect the PS/2 Mouse connector of the Control Cable to the PS/2 mouse port of the notebook.

You may connect your computer to the USB interface of the projector to enable the function of the wireless mouse on the remote control. Please follow step 4 below for connection.

4. Connect one end of the USB Cable to the USB port of the projector, and connect the other end of the USB Cable to the USB port of your computer.
5. Tighten all connector screws to ensure secure connections.



Connecting to a Macintosh Desktop Computer

Before connecting the projector to a Macintosh desktop computer, make sure that both machines have their power shut off.

1. Remove the Mac monitor cable from the Mac.
2. Set the DIP switches of the Mac Adapter in accordance with the desired resolution (i.e. 19" mode).
3. Connect the Computer Cable to one end of the Mac Adapter.
4. Tighten all connector screws to ensure secure connections.
5. Connect the other end of the Mac Adapter to the Mac.



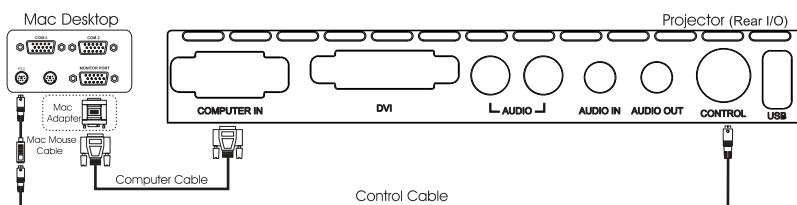
6. Connect the other end of the Computer Cable to the Computer In port of the projector.
7. If necessary, connect the Mac monitor to the Computer Out port of the projector.

If the functions of the wireless mouse on the Remote Control need to be operated, please make the connections to each signal cable according to steps 8 to 10 below:

8. Connect the Control Cable to the Control port of the projector.
9. Remove the mouse cable from the Mac Mouse port, and connect the Mac Mouse Cable to the Mac Mouse port.
10. Connect the other end of the Mac Mouse Cable to the PS/2 mouse connector of the Control Cable.

You may connect your computer to the USB interface of the projector to enable the function of the wireless mouse on the remote control. Please follow step 11 below for connection.

11. Connect one end of the USB Cable to the USB port of the projector, and connect the other end of the USB Cable to the USB port of your computer.
12. Tighten all connector screws to ensure secure connections.



Connecting to a Macintosh PowerBook

Before connecting the projector to a Macintosh PowerBook, make sure that both machines have their power shut off.



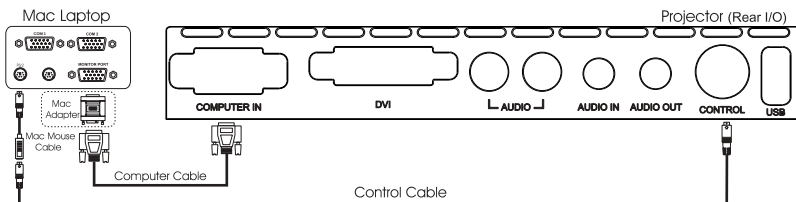
1. Set the DIP switches of the Mac adapter in accordance with the desired resolution (i.e. 19" mode)
2. Connect one end of the Mac Adapter to the PowerBook Monitor Out port.
3. Tighten all connector screws to ensure secure connections.
4. Connect the other end of the Mac Adapter to the Computer Cable.
5. Connect the other end of the Computer Cable to the Computer In port of the projector.

If the functions of the wireless mouse on the Remote Control need to be operated, please make the connections to each signal cable according to steps 6 to 8 below:

6. Connect the Control Cable to the Control port of the projector.
7. Connect the Mac Mouse Cable to the PS/2 Mouse connector of the Control Cable.
8. Connect the other end of the Mac Mouse Cable to the mouse port of the PowerBook.

You may connect your computer to the USB interface of the projector to enable the function of the wireless mouse on the remote control. Please follow step 9 below for connection.

9. Connect one end of the USB Cable to the USB port of the projector, and connect the other end of the USB Cable to the USB port of your computer.
10. Tighten all connector screws to ensure secure connections.

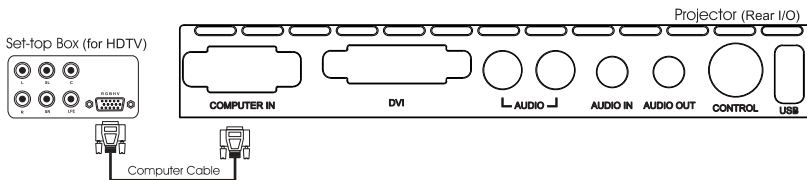


Connecting to a Set-top Box

Before connecting the projector to a Set-top Box, make sure that the power of both machines has been shut off.



Connect either end of the Computer Cable to the Computer In port of the projector. Then, connect the other end of the Computer Cable to the Monitor Out port of the Set-top Box.



Note: This projector is compatible with ATSC broadcast systems. (U.S.A., Canada, S. Korea, Taiwan, Argentina)

Note: The ATSC broadcast system uses the AC-3 sound decoding mode. For the best audio quality, we do not recommend connecting the audio signal with the projector. Please read the manual of your Set-top Box to connect to an external speaker.

Note: When connecting to an HDTV Set-top Box, take note that this projector is compatible with RGBHV connectors (compatible also with VGA D-Sub connectors).



Connecting to a Video Source

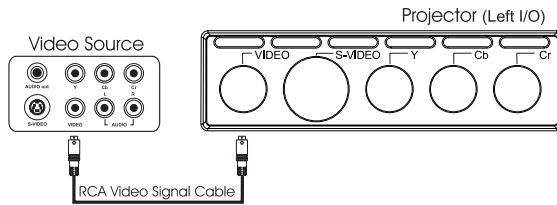
The following procedures can be used to make connections to a video tape deck, camcorder, laser disc player or any other compatible video image source of the projector. The projector can receive composite video signals, S-Video signals and Component Video signals. If the video source has an RCA video jack, it receives composite video signals. If the video source has an S-Video jack, it receives S-Video signals. If the video source has a Component Video jack, it can be connected to transmit video signals to the projector.

- **Note:** The projector is not compatible with a cable TV-style F connector. A connection can be made to all Component Video, S-Video and composite video sources at the same time. To select a signal source, you may use the Video key on the remote control or the Source key on the projector for your selection. Cables can be connected to the Component Video, S-Video and the Composite Video connectors at the same time. Press the Video key or the Source key for the selection of an input signal. The selections in order are the following: Component Video signal first, then S-Video signal, and then Composite Video signal.

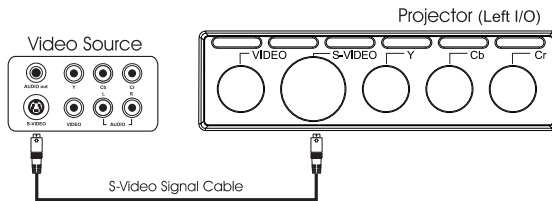
The projector supports NTSC, PAL and SECAM video formats. By default, it automatically detects and identifies the video format.

Connecting the projector to the video source

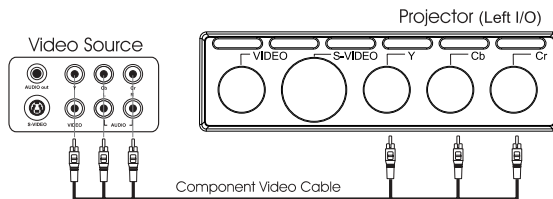
1. Shut off the projector and its video source if they are on.
2. To receive the composite video signal, connect the yellow RCA plug at one end of the RCA Cable (Video) to the Video In jack of the projector. Connect the other yellow RCA plug to the video-out jack on the video source. (Connect the red and white RCA Cable (Audio) plugs, which carry audio signals, to the projector and any video player according to the method indicated above. If the red and white RCA Cable (Audio) plugs are not connected, the projector will only show images; no sound will be heard.)



3. For S-Video, insert one end of the S-Video Cable into the S-Video jack of the projector. Insert the other end of the S-Video Cable into the video-out jack on the S-Video source. (An adapter is needed if the S-Video source has a larger S terminal.)



4. When you apply the Component Video jacks as a transmission interface, connect the three Component Video Cables (Green, Blue, Red) of a video source to the three Component Video ports (Green, Blue, Red) on the projector by matching their colors accurately.



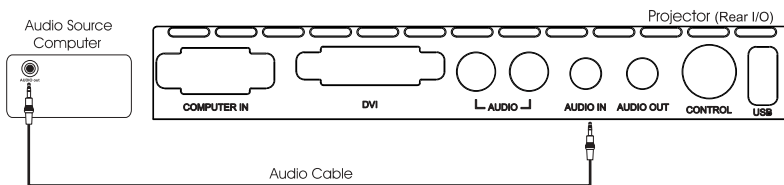


Connecting to an Audio Source

The projector has two types of inputs for audio: one single-jack input for a computer and a two-jack input for the video audio. The video audio source input has an L jack that controls the left speaker and an R jack that controls the right speaker. If a video audio source is connected with only one plug, connect it to the L Audio In jack.

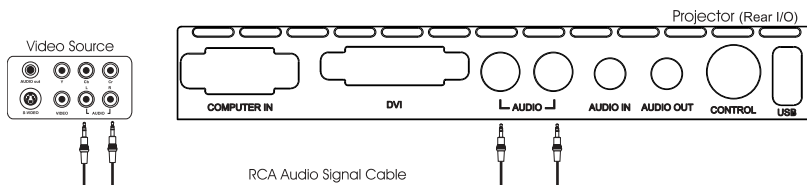
Connection of an audio cable from a computer source

1. Shut off the projector and computer source if they are on.
2. Connect one end of the Audio Cable to the Audio In jack on the projector.
3. Connect the other end of the Audio Cable to the Audio Output jack on the computer audio source.



Connection of an audio cable from a video audio source

1. Shut off the projector and video source if they are on.
2. Connect one end of the RCA Cable (Audio) to the Audio In jacks on the projector. Insert the white plug into the L Audio In jack and the red plug into the R Audio In jack.
3. Connect the other end of the RCA Cable (Audio) to the Audio Output jacks on the video audio source. Connect the white plug to the left channel and the red plug to the right channel.



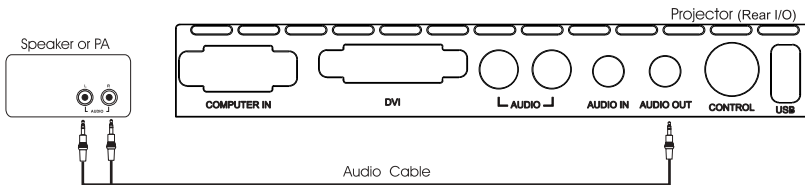


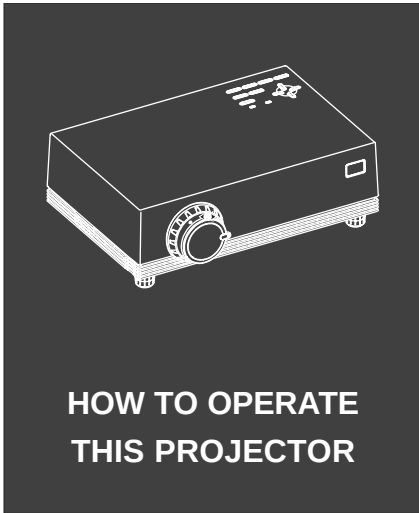
Connecting to an External Speaker

Although the internal speakers of the projector are enough for most small-size or medium-size rooms, an external speaker can be connected to achieve the best results for large room presentations.

Connecting the projector to an external speaker:

1. Check to ensure that both the projector and all sources are turned off.
2. Connect the 3.5 mm stereo mini-plug of the Audio Cable to the Audio Out jack of the projector.
3. Connect the other end of the Audio Cable to the external speaker. Be sure to connect the white RCA plug to the left channel and the red RCA plug to the right channel.





This chapter provides the following information on using your projector.

- Turning equipment on and off
- How to adjust the projected image
- How to operate this projector
- Examining the Projector Status



Turning the Equipment On and Off

Turn on the projector and any video players in the following sequence:

1. Video Signal Source equipment
2. Audio Signal Source equipment (If it is different from a computer or video signal source)
3. Projector
4. External Speaker
5. Computer

Remove the lens cover before the projector is turned on. When the power source is connected, the Power Led Indicator will first blink for a few seconds and will be fully lit when the connection of the power source is completed. If the computer and the Video Signal Source are connected, an image depicting a computer or a Video Signal Source will be displayed. It will take at least 30 seconds to display a regular image after the power has been connected.

Warning:

When the lamp is turned on, never let yourself or let children look into the lens of the projector. The bright light emitted from the lamp into the lens of the projector will seriously damage the eyes.

Attention:

Remove the lens cover before the projector is turned on as the strong light emitted from the lamp will damage the lens cover permanently.

To turn the projector and its accessory equipment off, please operate the above steps in reverse order.

Attention:

When the power source is disconnected, the built-in fan will continue to operate in order to cool down the projector, and the Power Led indicator will turn orange and blink for two minutes. When the projector has cooled down, Power Led indicator will remain lit in green. If the projector is turned on while the Power Led indicator is blinking in orange, the projector will not be able to display images.

Attention:

Due to the design of the projector, the projector will not turn on immediately when the Projection Lamp Led Indicator turns green and blinks. Please wait for a moment until the lamp is ready.



How to Adjust the Projected Image

The Focus and Zoom Functions

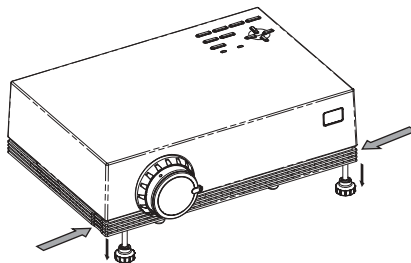
When an image is displayed on the screen, first examine whether the image is focused, and whether it is located on the screen accurately.

To focus the display image, you may adjust the Focus Ring by turning left or right. The Focus Ring is fixed on the outer rim of the projector lens.

To enlarge or minimize the screen size, adjust the Zoom Ring by turning left or right to project the desired screen size. The Zoom Ring is designed on the inner rim of the projection lens.

To Fix the Position of the Image Projected on the Screen:

To adjust the position of the image that is projected on the screen, adjust the two stands at the bottom of the projector.



The Auto Key

If the image projected is from the computer, project it on the screen and then press the **AUTO** key to automatically adjust the setup of this projector with the computer signal.



- Press the **AUTO** key when the image is displayed in a WINDOWS-like screen of a computer. Sometimes a certain computer input signal may not be able to match the functions set up by the **AUTO** key, and the OSD Menu must be utilized for further adjustments.



How to Operate this Projector

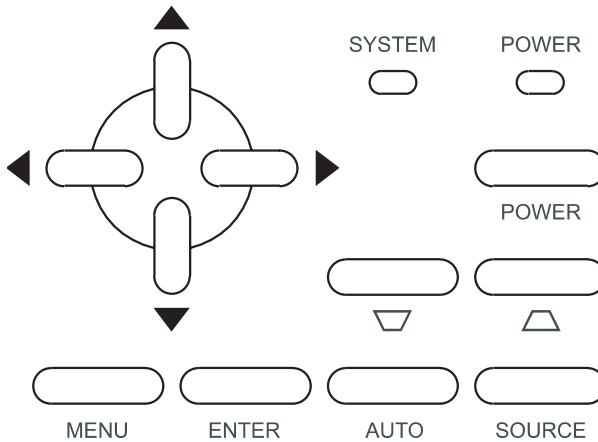
Generally, the remote control will be used to control the projector. The keys on the remote control have the following functions:

- To turn the power on or off
- To switch between video signal sources
- To enter the OSD Menu to select adjustment functions such as the Computer Video, Video Signal Image, Volume, and other settings
- To resize the image display
- To tune the Volume and select the Mute adjustment
- To adjust the Brightness
- To adjust the Contrast
- To freeze the image
- To select the blank function

Please always have your remote control aimed at the remote control sensors that are designed respectively at the front and at the back part of the projector. Use the remote control within a distance of 23 feet from the projector.

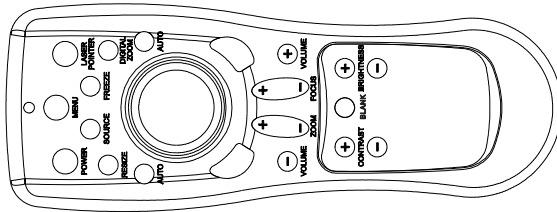
Besides the remote control, the function keys on the operation panel of the projector can be used for operation. The function keys are as follows:

- To turn the Power on or off
- To switch between video signal sources
- To enter the OSD Menu to select adjustment functions such as the Computer Video, Video Signal Image, Volume, and other settings
- To resize the image display
- To tune the Volume and select the Mute adjustment
- To adjust the Tracking
- To adjust the Synchronization



The Buttons on the Operation Panel of the Projector & their Functions

Buttons	Functions
POWER	Turns the projector on or off.
MENU	Enters or exits the OSD Menu.
SOURCE	Switches between video signal sources (Computer In, Video Signal).
AUTO	Adjusts automatically the video signal received from the computer in order to have the best effects for the display.
MUTE	Turns the sound of the built-in speakers into a Mute mode.
KEystone+/-	Modifies the shape of the projected image (if it is not straight but shaped instead like a trapezium).
ENTER	When you enter the OSD Menu, the Enter key is used as a confirmation key.
DIRECTIONKEY	Functions as a selector when entering into the OSD Menu.



The Buttons on the Remote Control & their Functions

Buttons	Functions
POWER	Turns the projector on or off.
MENU	Enters or exits the OSD Menu.
AUTO	Adjusts automatically the video signal received from the computer in order to have the best effects for the display.
RESIZE	Switches between display mode and returns to the original size of a display mode. <ul style="list-style-type: none">● Suitable for the VGA, SVGA & XGA input.
FREEZE	To still the images displayed
DIGITAL ZOOM	Adjusts the size of an image by digital.
VOLUME (+ -)	Tunes the Volume louder or softer.
BLANK	Selects the Blank function
BRIGHTNESS (+ -)	Adjusts the brightness of the image displayed
CONTRAST (+ -)	Adjusts the contrast of the image displayed
DIRECTIONKEY	<ul style="list-style-type: none">● Moves the mouse cursor when the remote mouse device is accurately set up.● Functions as a selector when entering into the OSD Menu.
LEFT CLICK	<ul style="list-style-type: none">● Functions as the left button of a computer mouse.● Functions as the Enter key for confirmation when entering into the OSD Menu.
RIGHT CLICK	<ul style="list-style-type: none">● Functions as the right button of a computer mouse.● Functions as the Enter key for confirmation when entering into the OSD Menu.

Note: The **ZOOM** & **FOCUS** functions are not suitable for this model.



Remote Control Information

You may control this projector through the infrared (IR) receiver located at the front of the projector. However, the projector may not respond to the commands of the remote control if:

- The surrounding light is too bright,
- Certain types of the fluorescent lighting are used,
- The IR receiver is shined on with a bright light,
- Equipment that emits infrared energy such as a radiation heater in the room.

The above conditions occur frequently for most infrared controlled equipment.

Try the following solutions:

- Replace with new batteries; the batteries may be low on power.
- Turn off some of the light sources and remove the projector from direct sunlight.
- Close the window or remove the projector from direct sunlight.
- Switch off other equipment that emit infrared energy.

If any of the conditions above is present, the projector can be controlled via keys on the control panels of the projector.

Warning:

The laser pointer feature in the remote control will emits high energy. Do not look into it directly or the red beam will injure your eyes seriously. Do not let children play with the remote control.

Remote Control Briefing Functions

The briefing functions offered by the remote control are as follows:

- Press the FREEZE key on the remote control to still the image that is being displayed. The OSD menu will display the FREEZE icon.
- Press the DIGITAL ZOOM key on the remote control to enlarge a certain part of the displayed image form the Computer input or the Video input. Adjust the four direction keys on the remote control or on the operational panel to adjust the position of the displayed image. The OSD menu will display the DIGITAL ZOOM icon.



Note: If you want to enlarge the displayed image and still the image that is being displayed at the same time, just press the DIGITAL ZOOM key and the FREEZE key next. If you press the FREEZE key and the DIGITAL ZOOM key next, the first function of DIGITAL ZOOM will be cancelled out by FREEZE.

- Press the BLANK key on the remote control to start the blank function. The OSD menu will display the letters of BLANK.
- When you press the FREEZE, DIGITAL ZOOM and BLANK keys next, the three functions will execute at the same time. You must press keys in reverse order to release the functions.

Note: FREEZE, DIGITAL ZOOM and BLANK will execute at the same time in the Computer input, but not in the Video input.

- When you use the MUTE button in the OSD menu of the projector and the FREEZE key on the remote control, the OSD menu will display the Mute icon and FREEZE at the same time.



Examining The Projector Status

The projector is designed to include a Power Led Indicator and a Lamp Led Indicator. Both indicators enable an immediate inspection of the status of the projector.

Attention:

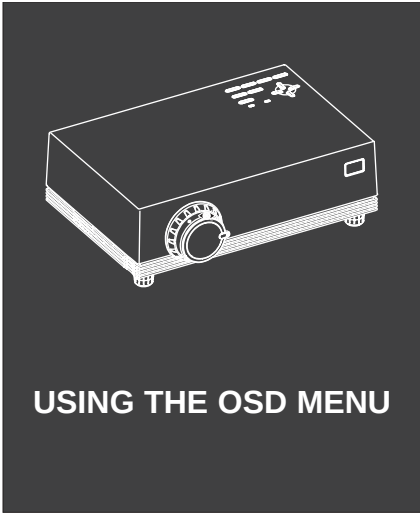
When both the indicators blink or remain lit, it means that the projector has a serious problem(s). If so, please follow the instructions on page 45 in this manual for necessary solutions.

Power Led Indicator

Color	Status	Meaning
Green	Remains Lit	The projector system is operating normally.
Red	Remains Lit	The projector is overheated, and the Power is off.
Red	Blinks	The projector has an internal problem(s).

Lamp Led Indicator

Color	Status	Meaning
Indication Led remains off		The lamp is turned off.
Green	Remains Lit	The lamp is turned on.
Green	Blinks	The projector is warming up.
Orange/Red	Blinks	The life of the lamp will soon end; please prepare a replacement.
	Alternately	
Orange	Blinks	The projector is cooling down.
Red	Remains Lit	The life of the lamp has ended; please replace with a new lamp now.
Red	Blinks	There is a problem with the lamp or power supply of the projector.



USING THE OSD MENU

The functions offered by the OSD menu of this projector are as follows:

- Adjusts the input signal of the projected image in its brightness, black level, contrast, position and the interface of the remote-control mouse.
- Adjusts the input signal of the projected image in its phase & tracking (Image), sharpness, saturation, hue and Flash Tone(Video).
- Adjusts the volume and to select the type of input signal.
- Selects the projection mode in front, ceiling, rear and ceiling & rear projection; to select the language, the content of the input signal and the consumed lamp life (Information).
- Revise and save the settings of OSD menu.
- Keystone correction (Keystone)



How to Access the OSD Menu

- Press the MENU key (on the top control panel of the projector or the remote control) and the main menu window will be displayed at the top left of the projected image. Press the MENU key again (on the top control panel of the projector or the remote control) to close the main menu window and to deactivate the OSD setting.
- The icon you select on the OSD menu will be marked in blue.

How to Change OSD Settings

- You may use the DIRECTION key on the remote control to choose the setting of the item you want to revise. Then, press the LEFT CLICK or RIGHT CLICK key for confirmation, and the submenu will appear for further settings.
- You may also utilize the SYNC + or SYNC – key in the OSD menu to select a certain item and press the ENTER key for confirmation. The submenu will then appear.
- When the submenu is displayed, you may utilize the DIRECTION key on the remote control or the Direction key on the top operation panel to select the item which setting needs to be revised. Then, utilize the DIRECTION key or the Direction key on the top operation panel to adjust the settings.
- To go back to the upper-level menu, you need to press the MENU key on the remote control or on the top control panel.
- To show the OSD box or to conceal it, you need to go back to the home menu and press the MENU key on the remote control or on the top control panel.

OSD Menu

You may revise the default settings of the computer signals under the OSD menu.



Operation method: Under the OSD menu, utilize the Direction key on the top operation panel to select the icon representing the setting that needs to be revised. Press the LEFT CLICK or RIGHT CLICK key on the remote control or the ENTER key on the control panel. Then revise the settings. Next, press the LEFT CLICK or RIGHT CLICK key on the remote control for confirmation and the MENU key to go back to OSD menu.

Brightness

Adjusting the setting of brightness will make the whole projected image brighter or darker. The image will be brighter by increasing the Brightness value and darker by decreasing the value.

Black Level

Adjusts the scale of the black color in the projected image. The higher the value of the Black Level, the darker the image will be.

Contrast

Adjusts the contrast between the light and dark regions in the projected image. If the Contrast value is high, the light regions will appear lighter and the dark regions will appear darker. If the value is low, the contrast between light and dark regions will not be as obvious.

Position

After entering the “Position” icon under the OSD menu, you will see the “H-Position” and “V-Position” bars in the “Position” box. You may revise the setting by using the direction key on the remote control or the Direction key on the top operation panel and have the image projected onto the proper position.

- When entering the “H-Position” bar, you may make the horizontal movement for the projected image.
- When entering the “V-Position” bar, you may make the vertical movement for the projected image.



Image

Select the image bar to adjust the synchronization and tracking of the analog signal from the computer. Click the “Image” icon under the OSD menu, and select the “Synchronization” or “Tracking” bars in the “Image” box. You may make adjustments by revising the settings for the Synchronization and Tracking, respectively.

- If there is still some noise on the image after utilizing Auto Config. to adjust the settings of Synchronization and Tracking, you may click “Synchronization” to diminish it.
- If the image remains blurred or presents vertical lines on it, you may click “Tracking” to adjust for a pure image.

Auto Configuration

Enter the “Auto Config” icon under OSD menu, and the projector will automatically select the frequency and image position for the analog signal.

Information

Enter the “Information” icon under OSD menu, and the projector will present the state of the image: current resolution (800*600 or 720*240), H_f (horizontal scanning frequency) & V_f (vertical scanning frequency) and lamp age (the consumed hours).

Miscellaneous

Enter the “Miscellaneous” icon under OSD menu, you can restore the revised settings to the defaults. You may also make adjustments for OSD Timeout, OSD Position, Dithering, Native Mode and Auto Color.

In the Miscellaneous box can also be found the “Factory Reset”, “OSD Timeout”, “OSD Position”, “Dithering”, “Native Mode”, “Color Temperature” and “Auto Color” bars.

- Select the “Factory Reset” bar, and all the settings you have revised will be restored to the projector’s factory defaults.
- Select the “OSD Timeout” bar, and the duration of OSD box displayed on the image can be adjusted from 5 seconds to 60 seconds; i.e., the time of the OSD box displayed on the image will last for min. 5 seconds to max. 60 seconds. (The duration will be extended by 5 seconds.)
- Select the “OSD Position” bar, and you may adjust the position of the OSD box on the image.



- Select the “Native Mode” bar, and the projector will not compress or increase the pixels but present the image in the original resolution of the input signals. For example, when the input signal is in 600*480 pixels and entering “Native Mode”, the image will remain in 600*480 resolution, not 1024*768 resolution. (Note: The resolution of this projector is 1024*768 pixels, XGA.)
- Select the “Color Temperature” bar to adjust the whiteness of the displayed image. When the “Color Temperature” bar is moved to the left, the color of the displayed image will become more bluish. When the “Color Temperature” bar is moved to the right, the color of displayed image will become more reddish.
- Select the “Lamp Life Rest” bar, then select “Yes” when a new lamp is replaced to reset the counter of the lamp life back to the beginning. This setting is to make sure that the projector records a proper update of the life of the newly installed lamp.
- Select the “Auto Color” bar, and the projector will do the adjustment automatically.
- Select the “Screen Aspect” bar to select “16:9” or “4:3” screen ratio.

Input Select

Selects the type of input signals. Entering “Input Select”, you may see the “Computer”, “DVI”, “Video”, “S-Video” and “YCbCr” bars.

- Select the “Computer” bar, and the projector will process and display images deriving from the computer input (Computer In, D-sub 15 pins).
- Select the “DVI” bar, and the projector will process and display images deriving from the DVI (Digital Visual Interface) input.
- Select the “Video” bar, and the projector will process and display images deriving from the A/V input.
- Select the “S-Video” bar, and the projector will process and display images deriving from the S-Video input.
- Select the “YCbCr” bar, and the projector will process and display images deriving from the component video input.

Video

Adjusts the hue and the saturation of projected images. In the “Video” box, you



may see the “Sharpness”, “Saturation”, “Hue” and “Flash Tone” bars.

- Select the “Sharpness” bar to adjust the sharpness of a displayed image.
- Select the “Saturation” bar, and the saturation will be darker or lighter by increasing or decreasing its value.
- Select the “Hue” bar, and you may adjust the color phase of the projected image.
- Select the “Flash Tone” bar, and the adjustment on “Flash Tone” can be made according to your visual preference.

Save

Saves all the revised settings under the OSD menu.

Keystone

Modifies the shape of the projected image if it is not straight (if it shaped instead like a trapezium).

Volume

Selects the volume, which can adjust the volume of the audio output from the speakers. When entering the “Volume” icon, you will see “Volume” and “Mute” in the box.

- The Volume item can adjust the volume of the audio output from the speakers.
- The Mute item can mute the volume of the audio output from the speakers.

Projection Mode

Selects the projection mode, which can be front, ceiling, rear and ceiling & rear projection. When entering the “Projection Mode” icon, you will see the “Front”, “Ceiling”, “Rear” and “Ceiling+Rear” bars in the box.

- Front projection is the common mode and set up as the factory default.
- The image is displayed upside down when you enter “Ceiling” and leave the setting on. You need to select ceiling projection mode when the projector is fixed onto the ceiling.
- Both sides of the image are displayed contrarily when you enter “Rear” and



leave the setting on. You need to select rear projection mode when using a certain transparent screen and to see the image from the opposite end of the projector.

- The image is displayed upside down and both sides of the image are shown contrarily when you enter “Ceiling+Rear” and leave the setting on. You need to select ceiling & rear projection mode when the projector is fixed onto the ceiling, projecting to a certain transparent screen and you appreciate the image on the opposite of the projector.

Notice: If you wish to change the mode to front projection from ceiling, rear or ceiling+rear projection, enter “Front” and have it on.

Mouse

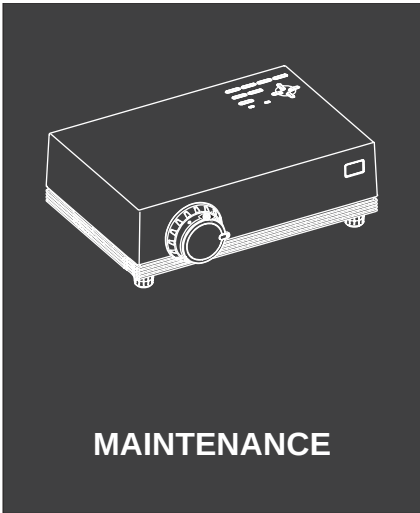
To perform the mouse function with the remote control, you need to enter the “Mouse” icon for the interface of the mouse device. In the “Mouse” box, you will see the “PS2”, “USB” and “MAC” bars.

- If the interface of the mouse device is PS2, select “PS2”.
- If the interface of the mouse device is USB, select “USB”.
- If it is a MAC mouse, the Control Cable (for PS2) needs to connect with a MAC Mouse Cable. Then select “MAC”.

Language

The entire OSD menu can be in English, traditional Chinese, or simplified Chinese versions. You may enter the “Language” icon under OSD menu to select the proper language.

Attention: To turn off the projector, follow the steps described in “How to operate this projector”. Before powering off, the projector will automatically save the adjustment value of each function offered by the OSD menu. For instance, the adjustment value of the “Brightness” or “Black Level” function which derives from the computer input will be saved automatically before the projector is powered off.



This projector only needs simple maintenance.

1. Keep the lens clean so that the shadow of dust or stains will not appear on the screen.
2. Clean the air filter located at the bottom of the projector. If the air filter is blocked by dust, this will cause bad ventilation and shorten the life of the projector, contributing to malfunctions from overheating.

Attention: When cleaning any section of the projector, the power should be turned off, and the power cord should be unplugged.

Warning: Never open or try to open any covers of the projector except the cover of the lamp, filter, and lens. When the projector is operated, it emits high voltage of electricity and heat. Improper operation will cause you severe injury. Except what is specifically indicated in this manual, never try to do any other maintenance. You should have qualified service personnel conduct any service maintenance.



Cleaning the Lens

Any dirt or stains on the lens surface should be cleaned off immediately with a piece of soft, dry cloth not made of cotton or velvet material. You may also clean the projector by wiping gently the lens surface with a soft cloth moistened with a mixture of water and a neutral detergent.

Cleaning the Projector Case

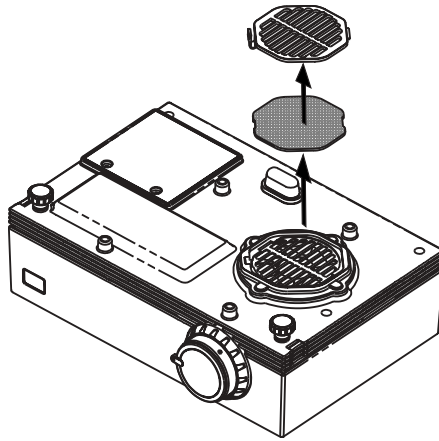
Unplug the power cord of the projector before cleaning the projector case. Then, wipe away any dirt or stains with a soft, non-cotton or non-velvet cloth. If the dirt or stains cannot be removed, use a cloth moistened with a mixture of water and a neutral detergent. Do not use alcohol, benzene, thinners, or any other chemical detergents, as these will cause damage or overheating to the projector.

Cleaning the Air Filter

The air filter located at the bottom of the projector should be cleaned once every 100 working days. Without regular cleaning, the projector will be blocked by dust, and it will cause the projector to overheat due to poor ventilation.

How to Clean the Air Filter

1. Turn off the power and unplug the power cord.
2. Stand the projector up with the handle at the top so that easy access can be made to the air filter.
3. Take off the filter cover.
4. A small-size vacuum cleaner for computer or office use can be used for cleaning the filter, or a piece of dry, non-cotton or non-velvet cloth can be used in the cleaning process.
Attention: If the clogged dirt is difficult to clean away or if the filter is old, replacement with a new filter is required. Please contact the dealer of this projector for this part.
5. After the filter is cleaned, put it back to the original place, and put the filter cover on properly, making sure the screws are secured.



6. The cleaning process is finished at this moment. Please follow the proper operations indicated in this manual when using this projector.

Replacing the Projector Lamp

A new lamp should be replaced according to the following conditions:

- Replace the lamp when the image displayed by this projector seems too dark or too dim.
- When the Red and Orange Indicator LED of this projector blinks alternately, this indicates that lamp life is going to end soon.
- When the Red Indicator LED of this projector is lit, it means the lamp life of this projector has been exhausted.

Please contact the dealer of this projector for purchasing a new lamp.

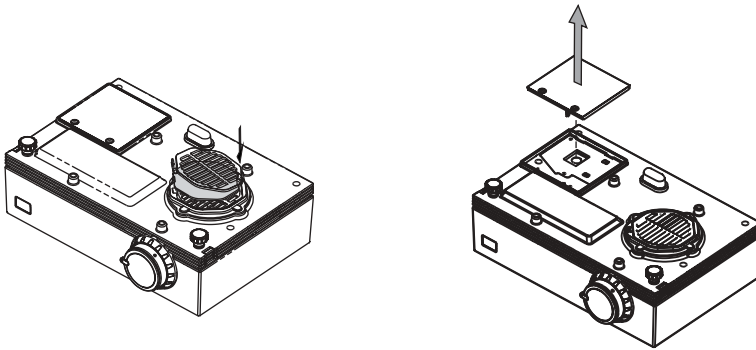
How to Replace a Lamp

Warning: Have the lamp cool down before replacing it, or the hot lamp will burn you severely.

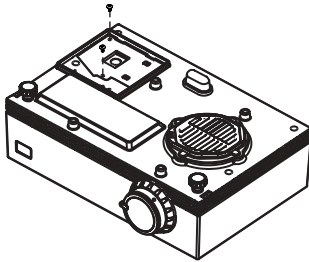


Caution: Any invisible greasy residue or perspiration on the hands will shorten the life of the bulb. Therefore, do not replace the lamp with your bare hands. Please put clean gloves on your hands or handle the bulb with a clean cloth during the replacement.

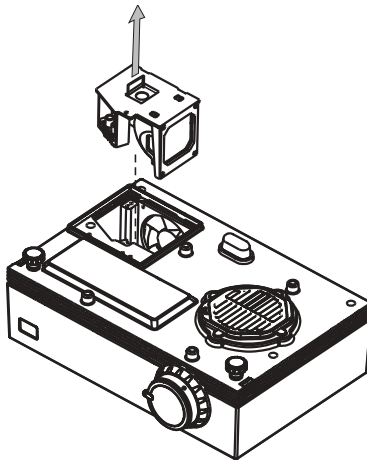
1. Turn the power of the projector off and unplug the power cord.



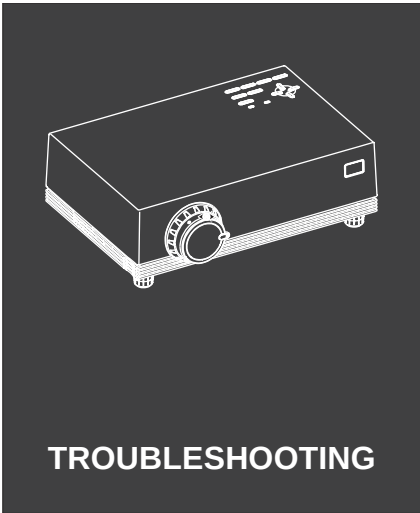
2. Loosen the screws on the lamp cover with a coin or screwdriver, and take off the lamp cover.



3. Loosen the screws on the lamp case with a coin or screwdriver.



4. Lift up the handle and pull out the lamp.
5. Loosen the screws used to position the electricity outlet on the lamp with a coin or a screwdriver.
6. Gently insert the new lamp and tighten the screws you loosened in step 5.
7. Tighten the lamp case you took off in step 3.
8. Position the lamp cover you took off in step 2.
9. Check again whether all the screws have been tightened. This completes the process for the lamp replacement.



The following paragraphs describe problems indicate by the Led Indicator and provide information on troubleshooting.

- General problems with the projector: Read carefully this section when the projector is not working or when you need to find out what the Led Indicators signify.
- Problems with the image displayed: Read carefully this section when the projector is not able to project images or when the image displayed is of poor quality.

Attention: When any problem occurs, after checking and reading carefully the related section in this manual, you may follow the steps described in the manual for troubleshooting. If suggested methods and steps are not able to solve the problem, please contact the dealer of this projector.



Problems with The Projector

If a problem occurs with the projector, check first the Indicators on it. Each Led Indicator represents the following messages:

Power Led Indicator

Color	Status	Meaning
Green	Remains Lit	The projector system is operating normally.
Red	Remains Lit	The projector is overheated, and the Power is off.
Red	Blinks	The projector has an internal problem(s).

Lamp Led Indicator

Color	Status	Meaning
Indication Led	remains off	The lamp is turned off.
Green	Remains Lit	The lamp is turned on.
Green	Blinks	The projector is warming up.
Orange/Red	Blinks Alternately	The life of the lamp will soon end; please prepare a replacement.
Orange	Blinks	The projector is cooling down.
Red	Remains Lit	The life of the lamp has ended; please replace with a new lamp now.
Red	Blinks	There is a problem with the lamp or power supply of the projector.

The following are solutions to some common problems:

- **When the Power Led Indicator does not light up:**
Check whether the power cord is securely connected with the projector and the electricity socket, or check whether the lamp cover is positioned and tightened correctly.
- **When the Projector Lamp does not light up:**
The lamp is burned out; please replace with a new lamp.
- **The Power Indicator remains red:**
 - The lamp is turned off automatically due to overheating of the projector. Wait until the lamp has cooled down before turning the lamp on.



- Check the air vents at the back and at the bottom of the projector. If the filters are clogged from dust, clean the filters as shown in the steps on page 36.
- If the projector remains overheated after the filters have been cleaned, please contact the dealer of this projector to request service for checking the cooling fan and the internal circuitry.
- **The Power Indicator is blinking red:**
There is a problem with the internal circuitry. Please contact the dealer of this projector for service.
- The Lamp Led Indicator remains red: The life of the lamp has ended; please replace with a new lamp now.
- The Lamp Led Indicator is blinking red: There is a problem with the lamp or the power supply of the projector. Please contact the dealer of this projector for service.

Attention: Never try to do any maintenance on the projector that is not indicated in this manual.

Problems with the Image or Sound

The following are solutions to problems with the image or sound:

- **No image appears on the screen:**
 - Check to ensure that the Power Led Indicator and the Lamp Led Indicator are both green, and that the lens cover is removed from the lamp of the projector.
 - Check to ensure that the video source is correctly selected. You may press the **SOURCE** button on the Remote Control or on the operation panel of the projector to select the video source.
 - Check the type of video output signal your computer is



producing. The video signal from your company may be out of the response range of the image source.

- **The words 'No Signal' appear on the screen:**
 - Check to ensure whether the video signal source is connected to the projector.
 - Check whether this video signal source is outputting a signal.
 - If the projector does not receive any video input signal in 30 minutes, the projector will automatically turn the power off.
- **The following are solutions when a partial image or the entire image is blurred or does not focus correctly:**
 - Try to adjust the focus.
 - Check to ensure that the distance between the projector and the screen is within the proper range of distance.
 - To obtain the best effect, adjust the projector so that the lens is at right angles to the screen. Additionally, the screen itself should have a level surface.
 - Try adjusting the Brightness and the Contrast settings available on the Computer menu and the Video menu, or you may also adjust the Synchronization and the Tracking settings by adding or subtracting the ***SYNC +/-*** and the ***TRACKING +/-*** buttons on the operation panel.
 - Check the lens for dirt or dust. Use the procedure depicted on page 40 for details on cleaning the lens.
- **Abnormal Image Coloring**

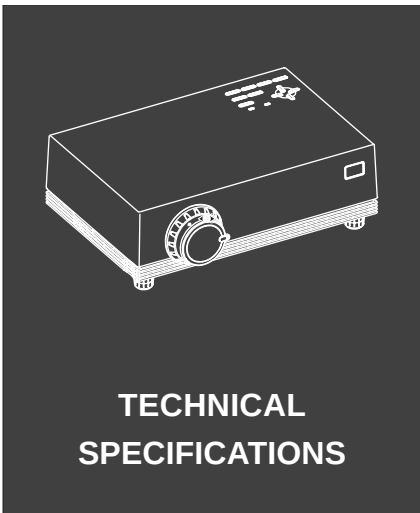
Abnormal image coloring occurs when the color balance is not set up properly. You may adjust the color according to the following steps:

 - If a computer image is being displayed, you may adjust the RGB settings on the COMPUTER menu.



- If a video image is being displayed, you may adjust the color intensity and tint settings on the VIDEO menu.
- **No Sound**
 - Check whether the audio output is in the Mute status. Press the **MUTE** button on the operation panel.
 - Check to ensure that the volume is not turned all the way down.
 - Check to ensure that the RCA Cable (Audio) is connected securely to the Audio source and the projector.
 - Check to ensure that a wrong source has not been selected. If so, press the **SOURCE** button on the operation panel or on the remote control for a right selection.
- **Unstable Image Displayed by VHS (Video Player)**
 - This is normal because the input signal from a VHS is unstable. Users are suggested to use S-video or component input instead, if possible. Check to ensure that an extra-long S-video cable is not being used.
- **No response with remote control**
 - Check if the battery has run out of power, or replace with new batteries.

When using the remote control, please take note that if the button on the remote control is pressed, this can result in continuous release of power and cause great power consumption.





General

Display Type	Liquid Crystal Panel Thin Film Transistor (TFT)
Resolution	1024 (horizontal) X 768 (vertical) pixels
Image size	28 inches~300 inches
Projection distance	5 feet~50 feet
Remote control range	7 meter (23 feet)
Maximum volume	1 + 1 W stereo

Optical

Aspect ratio	4 X 3 (horizontal X vertical)
Zoom ratio	1 : 1.25

Projector lamp

Type	UHE
Power	150W



Mechanical (with lens and feet)

Height	3.9 inches
Width	11.6 inches
Depth	7.7 inches
Weight	6.6lbs

Electrical

Voltage	100 V ~ 240 V, AC
Rated frequency	50/ 60 Hz
Power consumption	300 W

Environmental

Temperature	Operation: 5 ~ 35°C (41~95°F) Storage: 0 ~ 65°C (32 ~ 140°F)
Humidity	Operation: 20~80%RH, non-condensing Storage: 10~90%RH, non-condensing



Support Modes

This projector displays images at an SVGA/XGA resolution(800*600/1024*768pixels),the projector will compress the image to 1024*768 pixels/1280*1024@75Hz.

The following table lists the display modes supported by this projector

Format	Hor Pix (Pixels)	Ver Pix (Lines)	H Freq. [K Hz]	V Freq. [Hz]	Pix CLK [MHz]	
PC/AT NECPC400	640	400	24.832	56.416	21.050	
VGA 60	640	480	31.469	59.941	25.175	
DOS/V	VESA72	640	480	37.861	72.809	31.500
	VESA75	640	480	37.500	75.000	31.500
	VESA85	640	480	43.269	85.008	36.000
	SVGA56	800	600	31.156	56.250	36.000
	SVGA60	800	600	37.879	60.317	40.000
SVGA72	800	600	48.077	72.188	50.000	
SVGA75	800	600	46.875	75.000	49.500	
SVGA85	800	600	53.674	85.061	56.250	
XGA60	1024	768	48.363	60.004	65.000	
XGA70	1024	768	56.476	70.069	75.000	
XGA75	1024	768	60.023	75.029	78.750	
XGA85	1024	768	68.678	84.997	94.500	
SXGA70	1152	864	63.851	70.012	94.499	
SXGA75	1152	864	67.500	75.000	108.000	
SXGA60	1280	1024	63.981	60.020	108.000	
SXGA75	1280	1024	79.977	75.025	135.001	
Mac	MAC 13"	640	480	35.000	66.667	30.240
	MAC 16"	832	624	49.107	75.087	55.000
	MAC 19"	1024	768	60.241	74.927	80.000
	MAC 19"	1024	768	48.193	59.278	64.000
	MAC 21"	1152	870	68.682	75.062	100.001
Video	NTSC	720	480	Subcarrier frequency 3.58		
	PAL					
	SECAM	720	576	Subcarrier frequency 4.43		

The frequencies of some computes may cause the image to be displayed incorrectly.



• **Computer In and Monitor Connector Pin Assignments**

The connectors of the Computer In are video RGB 15-pin micro D-type connectors. The pin assignments for both connectors are as follows:

Input Pin	Signal
1	Red Signal Input
2	Green Signal Input
3	Blue Signal Input
4	No function
5	GND
6	Red GND
7	Green GND
8	Blue GND
9	No function
10	Sync GND
11	No function
12	SDA
13	Horizontal Sync input
14	Vertical sync input
15	SCL

- Some older graphic subsystems and boards may cause problems when they are used together with DDC monitors.
- Avoid compatibility claims for these systems and boards.
- Clearly label monitors that are only suitable for DDC compatible graphic subsystems and boards.





We provide authorized distributors, dealers and service centers to provide maintenance to the projectors. Please contact authorized representatives in your locality for information pertaining to your product and after-sale services.

If you need more information on this product, contact the appropriate distributors or dealers that you bought this machine from or contact the service center.