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## **Usage Notice**

## **Precautions**

Follow all warnings, precautions and maintenance as recommended in this user's guide to maximize the life of your unit.

★ Warning- Do not look into the lens. The bright light may hurt your eyes.
★ Warning- To reduce the risk of fire or electric shock, do not expose this product to rain or moisture.

★ Warning- Please do not open or disassemble the product as this may cause electric shock.

★Warning- When changing the lamp, please allow unit to cool down, and follow all changing instructions.

★ Warning- This product will detect the life of the lamp itself. Please be sure to change the lamp when it shows warning messages.

★ Warning- After changing a new lamp, please reset the lamp life from OSD menu.

<u>^</u> Warning- Before switching off the product, please keep the cooling fan running for a few minutes.

<u>Marning</u> When connecting the projector to computer, please turn on the projector first.

★ Warning- To reduce the risk of injury to the eyes, do not look directly into the laser light on the remote control and do not point the laser light into anyone's eyes. This remote control is equipped with a Class II laser that emits radiation.

★ Warning- When the lamp reaches the end of its life, it will burn out and may make a loud popping sound. If this happens, the projector will not turn back on until the lamp module has been replaced. To replace the lamp, follow the procedures listed under "Changing the Lamp".

#### Do:

- Turn off the product before cleaning.
- Use a soft cloth moistened with mild detergent to clean the display housing.
- Disconnect the power plug from AC outlet if the product is not being used for a long period of time.

#### Don't:

- Block the slots and openings on the unit provided for ventilation.
- Use abrasive cleaners, waxes or solvents to clean the unit.
- Use under the following conditions:
  - Extremely hot, cold or humid environment.
  - In areas susceptible to excessive dust and dirt.
  - Near any appliance generating a strong magnetic field.
  - Place in direct sunlight.

## **Product Features**

This product is an XGA single chip 0.7" DLP<sup>TM</sup> projector. The outstanding features of it are listed as follows:

- ◆ True XGA, 1024 x 768 addressable pixels
- ◆ 6.4 lbs (2.9 kgs) compact design
- 1000 ANSI Lumens high brightness
- ♦ High contrast ratio 1000 : 1
- Single chip DLP<sup>TM</sup> technology
- ◆ PureProgressive<sup>™</sup> processing technology for artifact-free film materials.
- ◆ HDTV compatible (480P,1080i,720P)
- NTSC/NTSC4.43/PAL/PAL-M/PAL-N/SECAM and HDTV compatible
- High-tech DVI connection for digital and analog video connectivity
- ◆ Full function wireless remote controller
- ♠ Multimedia audio integration
- User friendly multilingual on-screen display menu
- Advanced electronic keystone correction
- User friendly control panel
- Luxurious carrying case included
- SXGA compression and VGA, SVGA re-sizing
- 200 Watts user replaceable UHP lamp
- Mac compatible

## **Package Overview**

This projector comes with all the items shown below. Check to make sure your unit is complete. Contact your dealer immediately if anything is missing.



Projector with lens cap



RS232 Cable



VGA Cable



S-Video Cable



Audio Cable Jack/RCA



Composite Video Cable



DVI to D-Sub Cable



D-Sub to RCA Cable for HDTV/Component



Wireless Remote Controller



User's Guide



Carrying Case



Battery x 2



User's Manual



Power Cord (According to Country)

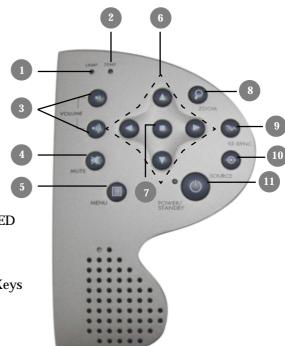
## **Product Overview**

## **Main Unit**



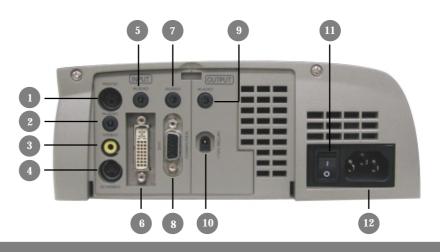
- 1. Panel Control
- 2. Power Connector & Power Switch
- 3. Connection Ports
- 4. Focus Ring
- 5. Zoom Lens
- 6. Zoom Ring
- 7. Speaker
- 8. Remote Control Receiver
- 9. Elevator Button
- 10. Elevator Foot

## **Panel Control**



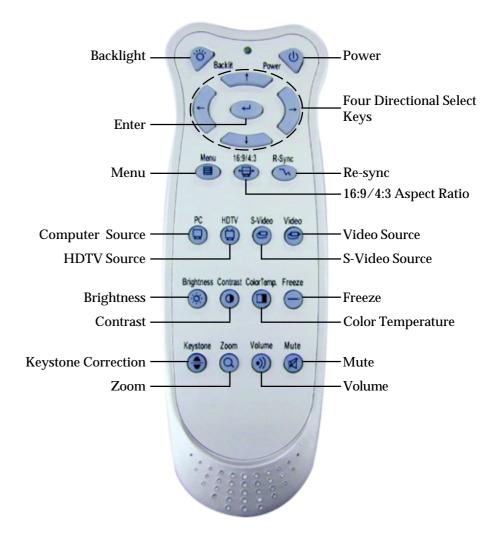
- 1. Lamp Warning LED
- 2. Temperature Warning LED
- 3. Volume
- 4. Mute
- 5. Menu (On/Off)
- 6. Four Directional Select Keys
- 7. Enter
- 8. Zoom
- 9. Re-sync
- 10. Source
- 11. Power /Standby

## **Connection Ports**

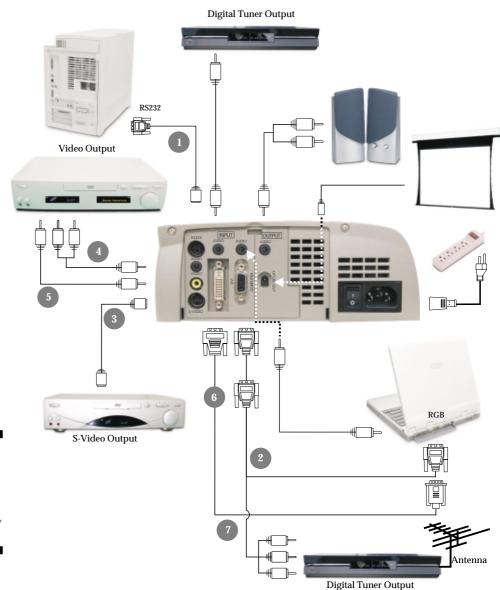


- 1 RS232 Input Connector
- 2. Audio Input for Video
- 3. Composite Video Input Connector
- 4. S-Video Input Connector
- 5. Audio Input for DVI
- 6. DVI Input Connector
- 7. Audio Input for Computer
- 8. PC Analog Signal/HDTV/Component Video Connector
- 9. Audio Output Connector
- 10. 12V Relay Connector
- 11. Power Switch
- 12. Power Connector

## **Full Function Wireless Remote Controller**



## **Connecting the Projector**



- 1. RS232 Cable
- 2. VGA Cable
- 3. S-Video Cable
- 4. Audio Cable Jack/RCA
- 5. Composite Video Cable
- 6. DVI to D-Sub Cable
- 7. D-Sub to RCA Cable for HDTV/ Component

To ensure the projector works well with your computer, please configure the display mode of your graphic card to make it less than or equal to 1024 X 768 resolution. Make sure timing of the display mode is compatible with the projector. Refer to the "Compatibility Modes" section on page 27.

## **Power On/Off the Projector**

## **Powering On the Projector**

- 1. Remove the lens cap. •
- **2.** Ensure that the power cord and signal cable are securely connected.
- **3.** Turn on the main power switch on the side of the projector and allow the projector to warm up for 1-2 minutes. **②**
- **4.** Turn on the lamp by pressing "Power/Standby" button on the control panel. **⑤**

The startup screen will display and count down for 20 seconds and the Power/Standby indicator will light solid amber.

The "LAMP" LED indicator will light solid green.

- **5.** Turn on your source (computer, notebook, or video player ,etc...) The projector will detect your source automatically.
- If the screen displays "No Signal", please make sure the signal cables are securely connected.
- If you connect multiple sources at the same time, use the "Source" button on the Remote Control or Panel Control to switch.



\*Turn on the projector first and then the computer.



## **Powering Off the Projector**

- 1. Press the "Power/Standby" button to turn off the projector lamp.
- 2. After pressing the "Power/Standby" button, you will see a message "Power off the lamp?" on the on-screen display. Press the "Power/Standby" button again to confirm. Otherwise the message will disappear after 5 seconds.
- 3. "Power/Standby" LED indicator will light solid amber for about 30 seconds. After the "Power/Standby" indicator starts flashing, you can turn off the main power switch on the side of the projector.
  If you want to turn on the projector, you must press the "Power/Standby" button within 90 seconds of the start of the indicator flashing.
- **4.** Do not turn on the projector immediately following a power off procedure.
- When the "LAMP" indicator flashs green for about 10 seconds, you will see a message "Fan Fail" on the on-screen display. Please contact your local dealer or Optoma service center.
- When the "TEMP" indicator lights solid orange, it indicates the projector has been overheated. You will see a message "Over Temperature" on the onscreen display. The projector will automatically shut itself down. Under normal conditions, the projector can be switched on again for your presentation. If the problem persists, you should contact your local dealer or Optoma service center.

## **Adjusting the Projected Image**

## **Adjusting the Projector Height**

The projector is equipped with an elevator foot for adjusting the projector height.

To raise the projector:

- **1.** Press the elevator button **①**.
- 2. Raise the projector to the desired display angle ②, then release the button to lock the elevator foot into position.
- 3. Use **3** to fine-tune tilt-adjustment.
  - To lower the projector:
- 1. Press the elevator button.
- **2.** Lower down the projector, then release the button to lock the elevator foot into position.
- **3.** Use **3** to fine-tune tilt-adjustment.

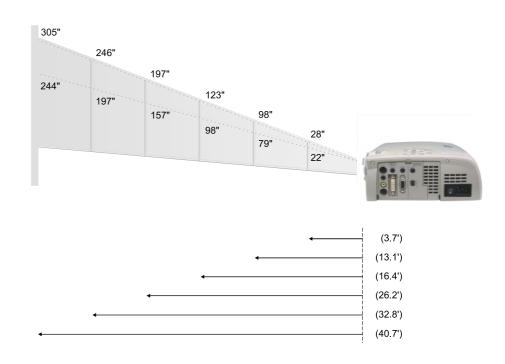


## **Adjusting the Projector Zoom / Focus**

You may adjust zoom ring to zoom in / out. Rotate the zoom ring counterclockwise to zoom in and clockwise to zoom out. To focus the image, rotate the focus ring until the image is clear. The projector will focus at distances from 3. 7 feet to 40.7 feet (1.1 m to 12.4 m).



## **Adjusting Projection Image Size**



Screen	Max.	28"	98"	123"	197"	246"	305"
(Diagonal)	Min.	22"	79"	98"	157"	197"	244"
Screen	Max.(WxH)	22.4" x 16.8"	78.4" x 58.8"	98.4" x 73.8"	157.6" x 118.2"	196.8" x 147.6"	244.0" x 183.0"
Size	Min.(WxH)	17.6" x 13.2"	62.4" x 46.8"	78.4" x 58.8"	125.6" x 94.2"	157.6" x 118.2"	195.2" x 146.4"
Dista	nce	3.7'	13.1'	16.4'	26.2'	32.8'	40.7'

This graph is for user's reference only.

## **Panel Control & Remote Control**

There are two ways for you to control the functions: Remote Control and Panel Control.

## **Panel Control**

### Remote Control





### **Use the Remote Control**

#### **Backlit**

▶ When you press "Backlit" button, all buttons on remote controller will flash fluorescent yellow. Return to normal mode, press "Backlit" button again.

#### Power

▶ Refer to the "Power On/Off the Projector" section on page 9~10.

### **Four Directional Select Keys**

Use **O** to select items or make adjustments for your selection.

#### Enter

▶ Confirm your selection of items.

### Menu

▶ Press "Menu" to open the on-screen display (OSD) menus and press ★ key to select menu items . To exit OSD, press the "Menu" button again. The projector will save any change you made automatically.

#### 16:9 / 4:3

▶ You can use this function to fit your desired aspect ratio type.

#### Re-Syno

▶ Automatically synchronizes the projector to the input source.

#### PC

▶ Press "PC" to choose RGB, DVI-Digital, DVI-Analog sources.

#### **HDTV**

▶ Press "HDTV" to choose Component and HDTV sources.

#### S-Video

▶ Press "S-Video" to choose S-Video source.

#### Video

▶ Press "Video" to choose Composite source.

#### **Brightness**

▶ Adjusting the brightness of the image.

#### **Contrast**

▶ The contrast controls the degree of difference between the lightest and darkest parts of the picture.

### Color Temp.

▶ Adjust the color temperature. The range is from "Low" to "High". The factory default is "Mid". With the higher temperature, the screen looks colder; with the lower temperature, the screen looks warmer.

#### **Freeze**

▶ Press the "Freeze" button to still the screen image.

### **Keystone**

▶ Adjust image distortion caused by tilting the projector. (±16 degrees)

#### Zoom

▶ When you press "Zoom" button, the zoom icon appears on the screen. Press or button to zoom in or zoom out of the image.

### Volume

▶ Increases/decreases speaker volume.

### Mute

Use to mute sound.

### **Use the Panel Control**

## Power / Standby

▶ Refer to the "Power On/Off the Projector" section on page 9~10.

#### Source

▶ Press "Source" to choose RGB, DVI-Digital, DVI-Analog, S-Video, Composite, Component and HDTV sources.

#### Re-Sync

▶ Automatically synchronizes the projector to the input source.

#### Zoom

▶ When you press "Zoom" button, the zoom icon appears on the screen. Press or button to zoom in or zoom out of the image.

### **Four Directional Select Keys**

#### **Enter**

▶ Confirm your selection of items.

#### Menu

▶ Press "Menu" to open the on-screen display (OSD) menus and press key to select menu items . To exit OSD, press the "Menu" button again. The projector will save any change you made automatically.

### Mute

▶ Use to mute sound.

### Volume

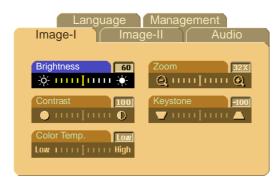
▶ Increases/decreases speaker volume.

## **On-Screen Display Menus**

## How to operate

- ▶ The Projector has multilingual On-Screen Display(OSD) menus that allow you to make image adjustments and change a variety of settings. In computer source, the OSD will be the "Computer OSD". In video source, the OSD will be the "Video OSD". The projector will detect the source automatically.
- To open the OSD menu, press the "Menu" button on the Remote Control or Panel Control.
- Press key key to select the required item and adjust the settings by key. When a specified item is selected, the color of the item will change from yellowish brown to blue.
  - **E.g.:** Brightness → Contrast → Color Temp. → Zoom → Keystone → Brightness...
- While using key to adjust the parameter or required function in the items of the submenu, confirm all the functions of the main menu by pushing "Enter" button after all/part of the items have been modified. Press "Enter" button to confirm, and the screen will be back to the main menu at once. Only key is enabled now.
- To exit the OSD, press the "Menu" button again.

## Computer mode



## Image-I (Computer mode)

## **Brightness**

Adjusting the brightness of the image.

- ▶ Press the to darken image.
- ▶ Press the ▶ to lighten the image.

#### **Contrast**

The contrast controls the degree of difference between the lightest and darkest parts of the picture. Adjusting the contrast changes the amount of black and white in the image.

- ▶ Press the to decrease the contrast.
- ▶ Press the ▶ to increase the contrast.

### **Color Temperature**

Adjust the color temperature. The range is from "Low" to "High". The factory default is "Mid". With the higher temperature, the screen looks colder; with the lower temperature, the screen looks warmer.

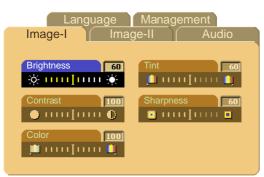
#### Zoom

- ▶ Press the ▶ to Magnify an image up to a factor of 32 times on the projection screen.
- ▶ Press the to Diminish the zoom in image.

### **Keystone (Keystone Correction)**

Adjust image distortion caused by tilting projection. (±16 degrees)

## Video mode



## Image-I (Video mode)

## **Brightness**

Adjusting the brightness of the image.

- Press the to darken the image.
- ▶ Press the ▶ to lighten the image.

### **Contrast**

The contrast controls the degree of difference between the lightest and darkest parts of the picture. Adjusting the contrast changes the amount of black and white in the image.

- ▶ Press the to decrease the contrast.
- ▶ Press the ▶ to increase the contrast.

#### Color

The color setting adjusts a video image from black and white to fully saturated color.

- Press the to decrease the amount of color in the image.
- ▶ Press the ▶ to increase the amount of color in the image.

### **Tint**

The tint adjusts the color balance of red and green.

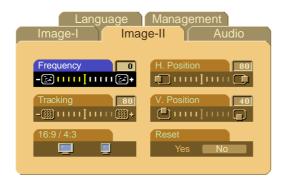
- ▶ Press the to increase the amount of green in the image.
- ▶ Press the ▶ to increase the amount of red in the image.

### **Sharpness**

Adjusting the sharpness of the image.

- ▶ Press the to decrease the sharpness.
- ▶ Press the ▶ to increase the sharpness.

### Computer mode



## Image-II (Computer mode)

### **Frequency**

"Frequency" is for changing the display data frequency to match the frequency of your computer's graphic card. When you experience a vertical flickering bar, use this function to make an adjustment.

### **Tracking**

Choose "Tracking" item to synchronize the signal timing of the display with that of the graphic card. When you experience an unstable or flickering image, use this function to correct it.

### <u>16:9/4:3</u>

You can use this function to fit your desired aspect ratio type.

#### **Horizontal Position**

- ▶ Press the to move the image left.
- ▶ Press the ▶ to move the image right.

### **Vertical Position**

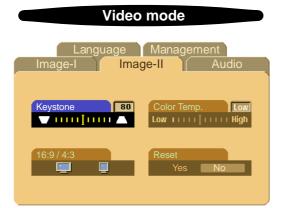
- ▶ Press the to move the image up.
- ▶ Press the ▶ to move the image down.

### Reset

Choose "Yes" to return the display parameters back to factory default.



Reset: Reset items include both Image-I and Image-II settings.



## Image-II (Video mode)

## **Keystone Correction**

Adjust image distortion caused by tilting the projector. ( $\pm 16$  degrees)

16:9/4:3

You can use this function to fit your desired aspect ratio type.

### **Color Temperature**

Adjust the color temperature. The range is from "Low" to "High". The factory default is "Mid". With the higher temperature, the screen looks colder; with the lower temperature, the screen looks warmer.

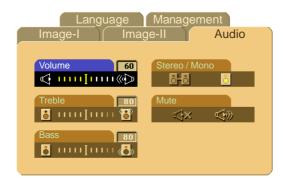
### Reset

Choose "Yes" to return the display parameters back to factory default.



**♦ Reset**: Reset items include both Image-I and Image-II settings.

## Computer / Video mode



## Audio

### **Volume**

- ▶ Press the ▶ to increase the volume.

#### <u>Treble</u>

The treble setting controls the higher frequencies of your audio source.

- ▶ Press the ▶ to increase the treble.

#### **Bass**

The Bass setting controls the lower frequencies of your audio source.

- Press the to increase the bass.

### Stereo / Mono

- Mono : Mono sound effect.
- ▶ Stereo osund effect.

#### **Mute**

- ▶ Choose the left icon to turn mute on.
- ▶ Choose the right icon to turn mute off.

### Computer / Video mode

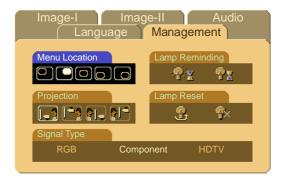


## Language

## **Language**

You can display the multilingual OSD menu . Use the and key to select your prefered language.

## Computer / Video mode



## Management

#### **Menu Location**

Choose the Menu location on the display screen.

### **Projection**



## Front-Desktop

The factory default setting.



#### Rear-Desktop

When you select this function, the projector reverses the image so you can project behind a translucent screen.

## ) [<del>\*\*</del>

#### **Front-Ceiling**

When you select this function, the projector turns the image upside down for ceiling-mounted projection.



#### **Rear-Ceiling**

When you select this function, the projector reverses and turns the image upside down at same time. You can project from behind a translucent screen with ceiling mounted projection.

#### Signal Type

Select signal type between RGB, HDTV and Component video sources.

#### **Lamp Reminding**

Choose this function to show or to hide warning message when the changing lamp message is displayed. The message will show up 30 hours before end of life.

## **Lamp Reset**

Reset the lamp setting only when the new lamp is replaced.

## **Troubleshooting**

If you are experiencing trouble with the projector, refer to the following. If the problem persists, please contact your local dealer or Optoma service center.

### Problem: No image appears on screen.

- ▶ Ensure all the cables and power connections are correctly and securely connected as described in the "Installation" section.
- ▶ Ensure the pins of connectors are not crooked or broken.
- ▶ Check if the projection lamp has been securely installed. Please refer to the "Changing the lamp" section.
- Make sure you have removed the lens cap and the projector is switched on.

### Problem: Partial, scrolling or incorrectly displayed image.

- ▶ Press the "Re-Sync" button on the Remote Control.
- If you use a PC:

If the resolution of your computer is higher than  $1024 \times 768$ . Follow the steps outlined below to reset the resolution.

#### For Windows 3.x:

- In the Windows Program Manager, click the "Windows Setup" icon in the Main group.
- 2. Verify that your display resolution setting is less than or equal to 1024 x 768.

#### For Windows 95,98,2K,XP:

- 1. Open "My Computer" icon, the "Control Panel" folder, and then double click the "Display" icon.
- 2. Select the "Setting" tab.
- 3. In the "Desktop Area" you will find the resolution setting. Verify that the resolution setting is less than or equal to  $1024 \times 768$  resolution.

## If the projector is still not projecting the whole image, you will also need to change the monitor display you are using. Refer to the following steps.

- **4.** Follow above steps 1~2. Click on the "Advanced Properties" button.
- 5. Select the "Change" button under the "Monitor" tab .
- 6. Click on "Show all devices". Then select "Standard monitor types" under the "Manufactures" box; choose the resolution mode you need under the "Models" box.
- 7. Verify that the resolution setting of the monitor display is less than or equal to  $1024 \times 768$ .
- ▶ If you are using a Notebook PC:
  - **1.** You are required to implement above steps of resolution setting of computer first.
  - Switch the Notebook PC display to the "external display only" or "CRT only" mode.
- If you are experiencing difficulty in changing resolutions or your monitor freezes, restart all the equipment and the projector.

## Problem: The screen of the Notebook or PowerBook computer is not displaying your presentation.

If you are using Notebook PC:

Some Notebook PCs may deactivate their own computers' screen when a second display device is in use. Each of them has a different way to be reactivated. Refer to your computer's documentation for detailed information.

▶ If you are using an Apple PowerBook: In Control Panels, open the PowerBook Display to select Video Mirroring "On".

### Problem: Image is unstable or flickering

- ▶ Use "Tracking" to correct it.
- ▶ Change the monitor color setting from your computer.

#### Problem: Image has vertical flickering bar

- ▶ Use "Frequency" to make an adjustment.
- ▶ Check and reconfigure the display mode of your graphic card to make it compatible with the product.

### **Problem: Image is out of focus**

- Adjust the Focus Ring on the projector lens.
- ▶ Make sure the projection screen is between the required distance 3.7ft.(1.1m)~ 40.7ft.(12.4m) from the projector.

#### Problem: The screen is outstretched when displaying 16:9 DVD.

The projector itself will automatically detect 16:9 DVD and adjust the aspect ratio by digitization to full screen with 4:3 default setting.

If the projector is still outstretched, you will also need to adjust the aspect ratio by referring to the following:

- Please select 4:3 aspect ratio type on your DVD player if you are playing a 16:9 DVD.
- ▶ If you can not select 4:3 aspect ratio type on your DVD player, please select 4:3 On Screen-Display(OSD) function of the projector for your display.

#### Problem: Image is reversed.

▶ To open "Menu" then select "Management" to adjust the projection.

### Problem: Lamp burns out or makes a popping sound

▶ When the lamp reaches its end of life, it will burn out and may make a loud popping sound. If this happens, the projector will not turn back on until the lamp module has been replaced. To replace the lamp, follow the procedures in the "Changing the Lamp".

## Changing the lamp

The projector will detect the lamp life itself. It will show you a warning message "Lamp is running out of standard lifetime. Be sure to replace the lamp as soon as possible." When you see this message, change the lamp as soon as possible.

Make sure the projector has been cooled down for at least 30 minutes before changing the lamp.

## **Lamp Changing Procedure:**

- 1. Turn off the power to the projector by pressing the Power/Standby button.
- 2. Allow the projector to cool down at least 30 minutes.
- 3. Turn off the main power switch.
- 4. Disconnect the power cord.
- **5.** Use screwdriver to remove the screw from the cover.
- **6.** Remove the cover.
- 7. Remove the 3 screws from the lamp module. 9
- 8. Pull out the lamp module.

To replace the lamp module, reverse the previous steps.









Warning: Lamp compartment is hot! Allow it to cool down before changing lamp!



Warning: To reduce the risk of personal injury, do not drop the lamp module or touch the lamp bulb. The bulb may shatter and cause injury if it is dropped.

## **Specifications**

- Single Chip DLPTM Technology Light Valve - 1000:1 (Full On / Full Off) Contrast Ratio

Lamp - 200W User Replaceable UHP Lamp

Number of Pixels - 1024 pixels(H) X 768 lines(V)

Displayable Color - 16.7M colors

-  $F/2.44\sim2.69$  f=28.8~34.5mm with 1.2 x zoom & **Projection Lens** 

focus

- 22"~305" Diagonal Projection Screen Size **Projection Distance** - 3.7~40.7 ft (1.1m~12.4m)

TV Line - 760 TV lines

- NTSC/NTSC 4.43/PAL/PAL-M/PAL-N/ Video Compatibility

SECAM and HDTV compatible

- Composite video & S-Video capability

- 15kHz~100kHz horizontal scan H. Frequency V. Frequency 43Hz~120Hz vertical refresh

Multimedia Audio - Two internal speakers with 3 watts output

**Power Supply** - Universal AC input 100~240V; Input Frequency 50-60Hz

**Power Consumption** - 320 watts at normal operation

90 % Uniformity

I/O Connectors Power: AC power input socket

- Computer Input:

One 30-pin DVI for Digital signal

One 15-pin D-sub for analog/component and

HDTV signal One RS232 input - Video Input:

One Composite video RCA input

One S-Video input

Audio Input: One phone jack for audio input

Audio Output: One phone jack for audio

output

- One 12V Relay

Weight - 6.4 lbs / 2.9 kgs

Dimensions (W x H x D) - 10.9 x 3.3 x 8.9 inches / 277 x 85 x 225 mm Environmental

**Operating Temperature:**  $0^{\circ}\text{C} \sim 40^{\circ}\text{C}/32^{\circ}\text{F} \sim 104^{\circ}\text{F}$ Humidity: 80% maximum

- Storage Temperature:  $-10^{\circ}\text{C} \sim 60^{\circ}\text{C} / 14^{\circ}\text{F} \sim 140^{\circ}\text{F}$ Humidity: 80% maximum

- FCC Class B,BSMI,CE Class B,VCCI-II,UL, Safety Regulation

cUL,TÜV

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## **Compatibility Modes**

Mode	Resolution	(ANALOG)		
Wiode	Resolution	V.Frequency (Hz)	H.Frequency (kHz)	
VESA VGA	640 X 350	85	37.9	
VESA VGA	640 X 400	85	37.9	
VESA VGA	640 X 480	60	31.5	
VESA VGA	640 X 480	72	31.9	
VESA VGA	640 X 480	75	37.5	
VESA VGA	640 X 480	85	43.3	
VESA VGA	720 X 400	85	37.9	
SVGA	800 X 600	56	35.2	
SVGA	800 X 600	60	37.9	
SVGA	800 X 600	72	48.1	
SVGA	800 X 600	75	46.9	
SVGA	800 X 600	85	53.7	
VESA XGA	1024 X 768	43	35.5	
VESA XGA	1024 X 768	60	48.4	
VESA XGA	1024 X 768	70	56.5	
VESA XGA	1024 X 768	75	60.0	
VESA XGA	1024 X 768	85	68.7	
* VESA SXGA	1280 X 1024	60	63.98	
* VESA SXGA	1280 X 1024	75	79.98	
MAC LC13"	640 X 480	66.66	34.98	
MAC II 13"	640 X 480	66.68	35	
MAC 16"	832 X 624	74.55	49.725	
MAC 19"	1024 X 768	75	60.24	
* MAC	1152 X 870	75.06	68.68	
MAC G4	640 X 480	60	31.35	
MAC G4	640 X 480	120	68.03	
MAC G4	1024 X 768	120	97.09	
I MAC DV	640 X 480	117	60	
I MAC DV	800 X 600	95	60	
I MAC DV	1024 X 768	75	60	
* IMAC DV	1152 X 870	75	68.94	
* IMAC DV	1280 X 1024	75	75	



**Remark**: "\*" compression computer image.