



User's Manual

English

FCC Notice

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

Trademarks

Trademarks are the rights of their respective owners.

Part #:36.80702.001

Table of Contents

Usage Notice

ecautions 2

Introduction

About the Product	3
Package Overview	4

Installation

Product Overview	5
Connecting the Projection Display	8
Powering On/Off the Projection	11
Adjusting the Image Size	12

User Controls

User Control Overview	14
Function Descriptions	16

Appendices

Troubleshooting	20
Maintenance	22
Ceiling Installation	26
Accessories	29
Specifications	30
Compatibility Modes	31

Usage Notice

⚠ 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 directions.
⚠ 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.
⚠ Warning-	Before switching off the product, please keep the cooling fan running for a few minutes.

Precautions

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

Do:

- □ Turn off the product before cleaning.
- □ Use only a dry soft cloth or clean room wiper when cleaning lens and lamp set.
- 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 for your cleaning.
- 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.

Introduction

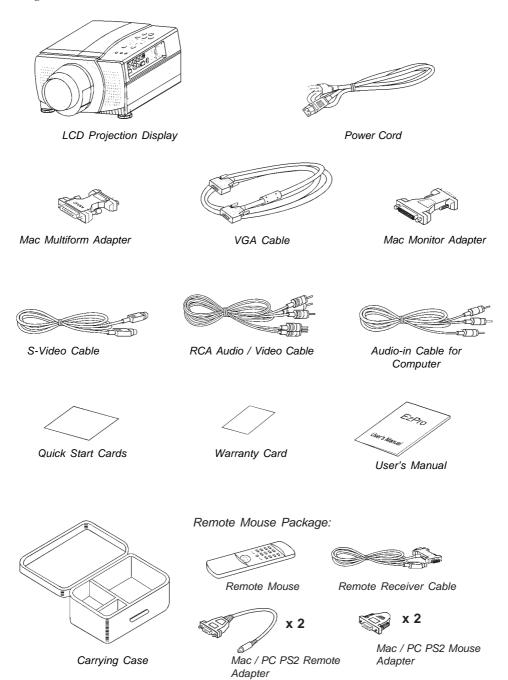
About the Product

This product, designed with a high-powered metal halide lamp, is an SVGA polysilicon LCD projection display. The outstanding features of it are listed as follows:

- □ 12 lbs (5.4 kg) lightweight compact design
- □ 250-watt user replaceable metal-halide lamp
- □ Triple 1.3" poly-silicon TFT LCDs projection system
- □ 800 x 600 addressable pixels
- □ Compression / Panning for 1024 x 768 XGA computer image
- □ 16.7M (24-bit) displayable colors
- SVGA/ VGA/ VESA/ Mac/ NEC PC-98 compatible
- NTSC / PAL / SECAM composite video & S-Video
- Remote control with mouse function
- One minute protection device for warming up the lamp
- Intelligent resizing function
- Multilingual OSD menu adjustments

Package Overview

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



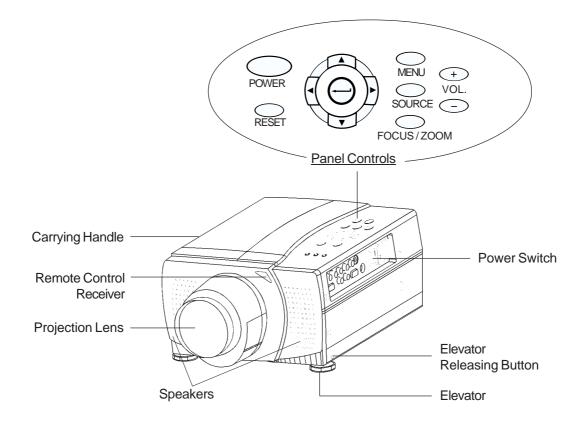
English

5

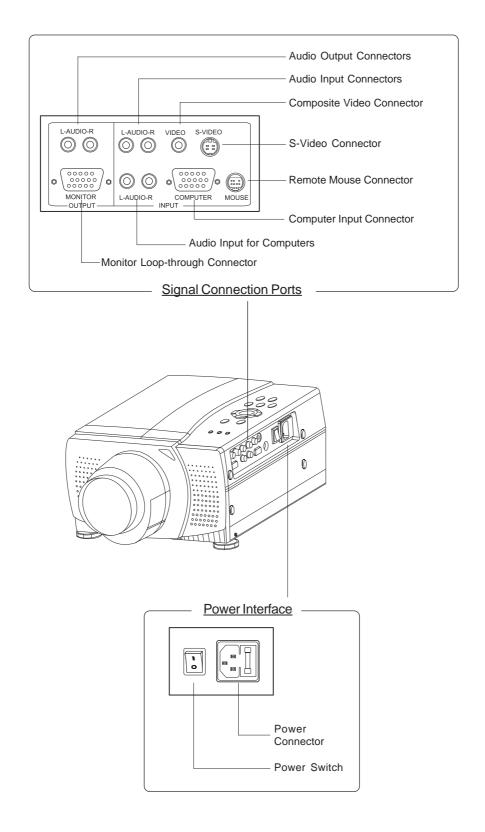
Installation

Product Overview

Main Unit

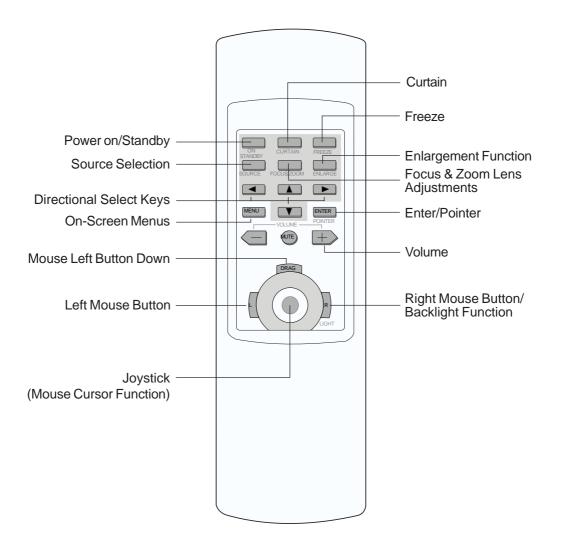


Connection Ports



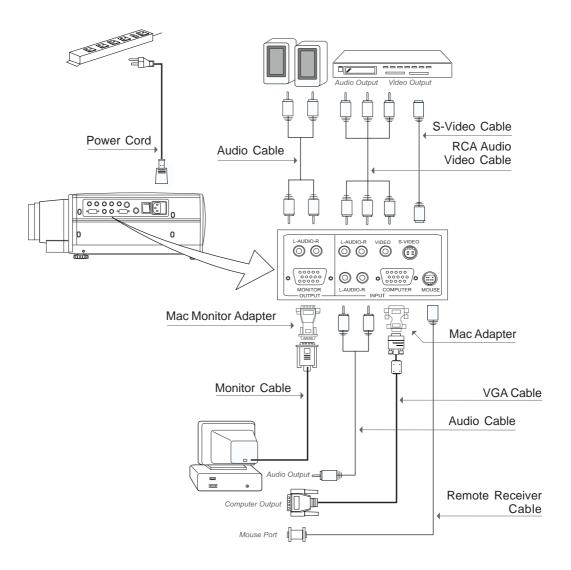
7

Remote Control



* For more detailed information, please refer to "Function Descriptions".

Connecting the Projection Display



* For Macintosh, use the Mac adapter.

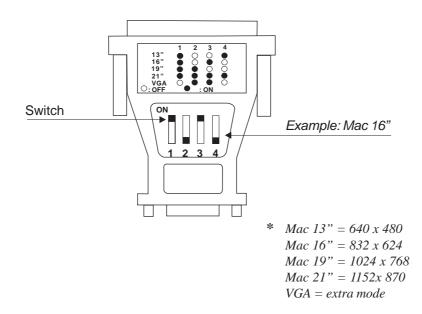
(Select the correct Mac type on your adapter, refer to the Macintosh spec. on page 9 or 31)

* To ensure the projection display 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 projection display. Refer to the "Compatibility Modes" section on page 31.

9

Connecting the Mac adapter

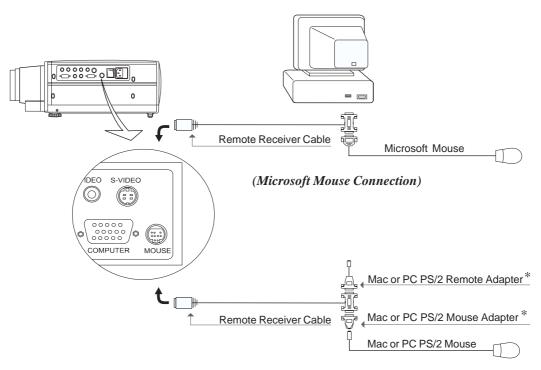
1. Switch the supplied Mac adapter to your desired resolution. Refer to following figure and the section of compatibility mode on page 31.



- 2. Connecting the Mac adapter to the VGA cable and your host computer.
- 3. Turn on the projection display first and then the computer.
- * Restart your computer when changing the resolution of this Mac adapter.

Connecting the remote control

Follow regular setup procedures. Make sure you have a 100% compatible Microsoft Mouse and a Microsoft Mouse driver installed.



(Mac or PC PS/2 Mouse Connection)

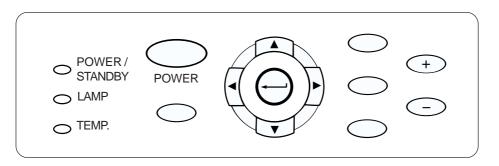
Setting Up Procedure:

- 1. Turn off your computer.
- 2. Unplug the mouse from your computer.*
- 3. Connect the remote receiver cable to the computer and the projection display.
- 4. If you need an external mouse, connect the mouse with the other end of the receiver cable.
- 5. Turn on your projection display first and then your computer.
- 6. Begin your presentation.
- * If you have a Mac or PC PS/2 mouse, use the supplied matching adapters as shown in the drawing.
- * This remote control does not support the windows 3.1 version.

Powering On/Off the Projection Display

- Powering On Projection Display.
- Switch on the power; then turn on the lamp.

The "POWER/STANDBY" indicator will blink green when the display initializes. After you press the "POWER" button, it will light green solidly and also the "LAMP" indicator lights amber of about 30 seconds.



- Powering off projection display
- Turn off lamp power first for one minute and then switch off the power.

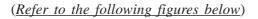
Press "POWER" button first, you will see the second "LAMP" indicator blinking. You have to wait for about one minute until this indicator has been extinguished then you can switch off the power.

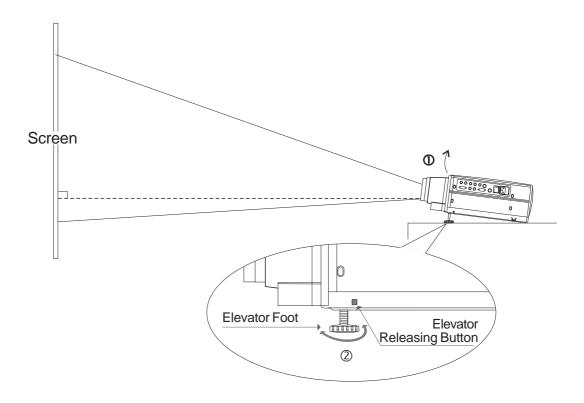
- * When the "LAMP" indicator lights amber solidly, please change a new lamp module.
- * When the "TEMP." indicator lights amber solidly, it indicates the display has been overheated. The display will automatically shut down itself. Under normal usage environment, the display can be switched on again for your presentation. If not, you may contact your local dealer or our service center.

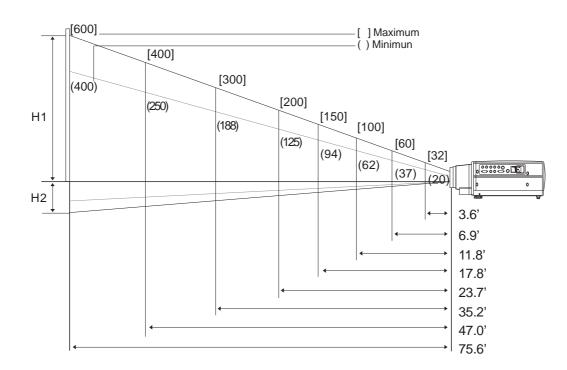
Adjusting the Image Size

• Adjusting the Image Size.

- Press "FOCUS / ZOOM" button from the display, you can see you a zoom icon on the screen. Then press "+"or "-" to adjust it. (Refer to the below Figure.)
- Adjust the height of projected image.
 - ① Press "FOCUS / ZOOM" button from the display, you can see you a focus icon on the screen. Then press "+"or "-" to adjust it.
 - ^② Press the elevator releasing button to release the elevator foot.







Screen	Max	. 32"		60"	100"		150"	20	0"	300"	,	400"	640"
Screen	Min.	. 20"		37"	62"		94"	12	.5"	188"		250"	400"
Dista	ance	3.6'		6.9'	11.8'	1	17.8'	23.	.7'	35.2	,	47.0'	75.6'
Screen	Size	20"		60"	100"		150	"	2	200"		300"	400"
$(\mathbf{W} \mathbf{x} \mathbf{H})$	inch	16 x 12	49	9 x 36	80 x 60)	120 x	90	160	x 120	24	40 x 180	320 x 240
Height	(H1)	10.7 incl	n 32	2 inch	53 inch		80 inch		106 inch		1	60 inch	212 inch
Height	(H2)	1.3 inch		0 inch	7.0 inch		n 10.0 ir		14.	0 inch	20	0.0 inch	28.0 inch

• Focus the image

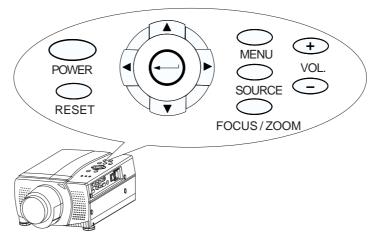
Press "FOCUS/ZOOM" button from the display, you can see a "FOCUS" icon on the screen. Then press "+" or "-" to adjust it.

User Controls

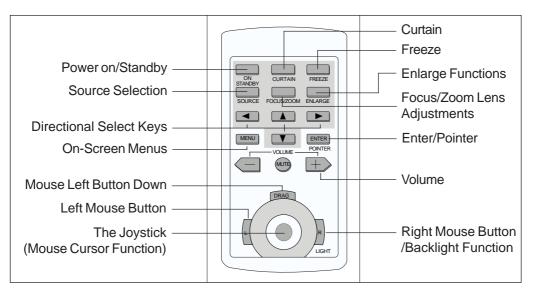
User Control Overview

There are two ways for you to control the functions: panel control and remote control.

Panel control



Remote control



OSD menus

The OSD (On-Screen Display) menus will allow you to easily adjust the display functions. Press the "MENU" button for the OSD menu options.

When in VGA M03H/ M13H mode the OSD will be:

Language
Contrast
Tracking
Frequency
VGA Text/Graph
Audio
Rear Projection
Celing
Lamp Life
Lamp Warning
Exit

When in 1024 x 768 mode, the OSD will be:

Language
Contrast
Tracking
Frequency
Audio
Rear Projection
Celing
Pan/Compress
Lamp Life
Lamp Warning
Exit

When in other modes, the OSD will be:

	Lang	uage
--	------	------

Contrast Tracking Frequency Audio Rear Projection Celing Lamp Life Lamp Warning Exit When in video souces, the OSD will be:

Language

Contrast/Brightness Color/Tint Audio Rear Projection Celing Lamp Life Lamp Warning Exit

Function Descriptions

• Basic functions:

Power on/Standby	Press the "Power on/Standby" button to turn on the projection lamp.
Menu	Press "Menu" button to pop up the OSD menu.
Reset	Press "Reset" to return the display parameters of the current mode to its factory default settings.
Source	Use "Source" control to choose between video and computer source.
▶ Focus	Press "FOCUS / ZOOM" button from the display, you will see the focus icon appearing on the screen. Then use "+" or "-" to make adjustments.
Zoom Lens	Press "FOCUS / ZOOM" button from the display, you will see the zoom icon appearing on the screen. Then use "+" or "-" to make adjustments.
"+","-"Keys	 Use these two keys to adjust screen size and foucs. You can also use these two keys to enlarge or resume the projected image.
▶ Enter ()	It means the "Enter" function, used for confirming your selec- tion.
Four Directional Select Keys	 (1) Use ▲ or ➤ button to select items. Use ∢ or ➤ to make adjustments for your selection. (2) Use ▲ or ➤ button to change vertical positioning of the image; and ∢ or ➤ button to change the horizontal position ing of the image.

Language	Choose "Language" item to select your choice of English, German, French, Spanish, Italian, Japanese and Chinese.
Audio	 (1) Volume adjustments: "+", "-", "Mute" (2) Audio adjustments: Bass, Treble, Balance, Volume, 4 sound modes.
Rear Projection	Choose this function from OSD menu for a rear projection.
Ceiling	Choose this funtion from OSD menu for a ceiling projection.
Lamp Life	This function tells you how much lamp life remains. Please refer to the section of "changing the lamp " on page 23 for more information.
Lamp Warning	Choose this function to show or hide the warning message of changing a new lamp.
▶ Exit	Choose "Exit" item to leave OSD menu.

Presentation functions - computer source

▶ Pointer Press the "Pointer" button to show a hand shape pointer. Use ▲, ▼, ◀ or ▶ button to move pointer around the projected image.

Freeze	Press the "Freeze" button to still the screen image.
Curtain	Press "Curtain" button to cover all the screen, then use \checkmark or \checkmark to pull up or down the curtain. Use \blacktriangleleft or \triangleright button to choose curtain color.
Enlarge	Press "Enlarge" from the remote control first and then use "+" or "-" button to enlarge or resume the projected images. Use "Enter" key to exit this function.
Contrast	Choose this function from OSD menu to adjust contrast of the image.
Tracking	Choose "Tracking" item to synchronize the signal timing of the display to that of the graphic card. When you experience an unstable or flickering image, use this function to correct it.
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.
Pan/Compress	"Panning/Compression" function. When in 1024 x 768 mode, choose this function to display the whole image.
VGA Text/Graph	Choose "VGA Text/Graphic" from OSD menu to toggle between the VGA text mode (mode M03H) and graphic mode (mode M13H).

• Presentation functions -- video source

Contrast/Brightness	To adjust the contrast or brightness of the image, select "Contrast/Brightness" from OSD menus.	
Color/Tint	To adjust the color or tint of the image, select "Color/ Tint" from OSD menus.	
▶ Freeze	Press the "Freeze" button to still the screen image.	

Appendices

Troubleshooting

If you are experiencing trouble with the projection display, refer to the follows. If the problem persists, please contact your local dealer or our service center.

Problem: No image appears on screen.

- Press "Power on/Standby" button.
- 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 securely installed. Please refer to the "Changing the lamp" section.
- Ensure the cooling fan is on. If not, you may need to change the fuse. Please refer to the "Changing the fuse" section.

Problem: Partial, scrolling or incorrectly displayed image.

- If you are using a PC:
 - A. When the resolution of your computer is 1024 x 768 , choose the "Pan / Compress " function from OSD menu to display a whole image.
 - B. Resolution of your computer is higher than 1024 x 768. Follow the steps outlined below to reset the resolution.

For Windows 3.x:

- 1. 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:

- 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 x 768 resolution.

If the projection display is still not projecting the whole image, you will need to also 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 x 768.
- If you are using a Notebook PC:
 - 1. You are required to implement above steps of resolution setting of computer first.
 - 2. Switch the Notebook PC display to the "external display only" or "CRT only" mode.
- If you are using an Apple Macintosh:

Resolution of your computer is higher than that of the projection display. You may need to change the Mac type on the supplied Mac Adapter. Refer to Mac Adapter information on page 9.

▶ If you are using an Apple PowerBook:

Resolution of your PowerBook is higher than that of the projection display. You may need to change the Mac type on the supplied Mac Adapter. Refer to Mac Adapter information on page 9.

• If you are experiencing difficulty in changing resolutions or your monitor freezes, restart all the equipment and the projection display.

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' screens when a second display device is in use. Each of them has 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.

Maintenance

• Cleaning the air filter

Cleaning Procedure:

- 1. Turn off the power.
- 2. Remove the air filter cover.
- 3. Remove the air filter from the filter cover.
- 4. Clean the air filter with a vacuum cleaner.
- 5. Place the air filter back in position. Make sure the air filter is fully inserted.

Air Filter

Air Filter Cover

Air Filter

 \triangle Do not clean the filter with water. Doing so may damage the air filter. Do not operate the projector with air filter removed.

Changing the lamp

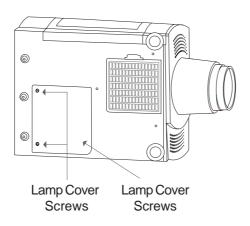
The projection display will detect the lamp life itself. It will show you a warning message when the lamp is used over working hours. When you see this message, change the lamp as soon as possible. Please refer to the "Accessories" on page 29 for the order information.

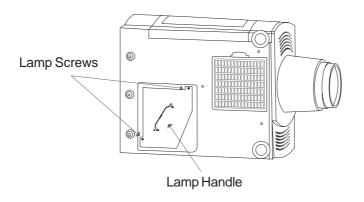
Make sure the projection display has cooled for at least 30 minutes before change the lamp.

▲ Warning: Lamp compartment is hot! Allow it to cool before changing lamps!

Lamp Changing Procedure:

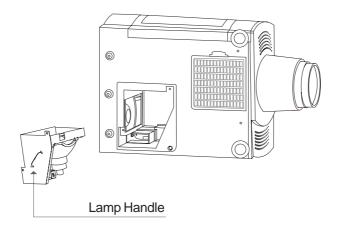
- 1. Turn off the power and allow the projector to cool down.
- 2. Disconnect the power cord.
- 3. Unscrew the 2 screws of the lamp cover and remove the cover.





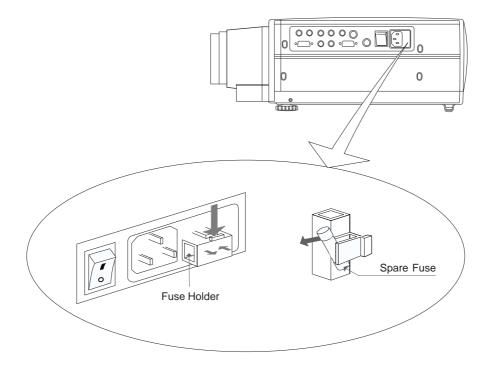
4. Unscrew the 2 screws of the lamp module and pull out the lamp module by the handle.

5. Replace the new lamp module by handle and tighten the screws.



- 6. Place the lamp cover back in position and lock the 2 screws.
- 7. Remember to reset the lamp life timer from OSD menus.

• Changing the fuse



Fuse Changing Procedure:

- 1. Switch off the power and unplug the power cord.
- 2. Pull out the fuse holder.
- 3. Remove the blown fuse and then insert the spare fuse.
- 4. Put the fuse holder back in position.

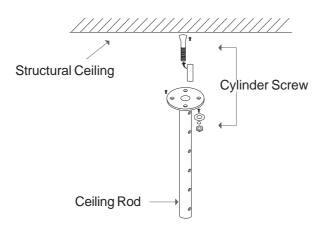
Warning: Installing the projection display on the ceiling must be done by a qualified technician. Contact your dealer for more information.

Do not attempt to install the projection display yourself.

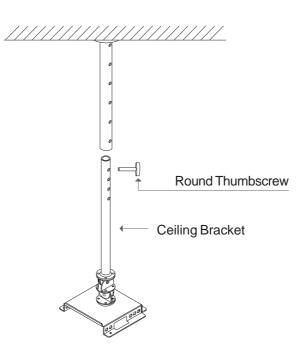
Ceiling Procedure:

Before your ceiling installation, refer to the "Adjusting the Image Size" on page 12 for the projection distance and image size.

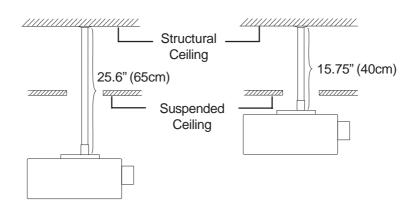
1. Drill four holes on the structural ceiling. Tighten the ceiling rod to the ceiling with the four cylinder screws.



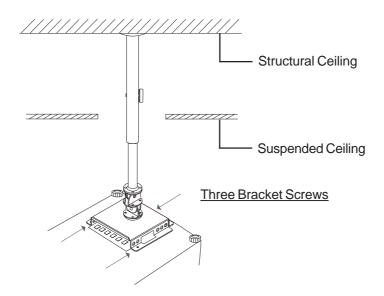
2. Lock the ceiling bracket with the ceiling rod by the supplied round thumbscrews. You may adjust your desired height by the holes on the bracket.



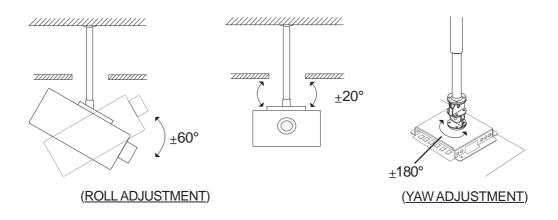
* The height of the ceiling rod is from 15.75 to 25.6 inches (40~65cm). You can adjust your desired height by each interval (one inch / 2.5cm) between the holes.



3. Lock the projection display to ceiling bracket with the three bracket screws.



- \triangle Warning: Do not block the air filter of the projection display.
- 4. Adjust the projection angle of the projection display. Fast and precise image is easily accomplished through the roll and yaw adjustment.



* Adjust the ceiling projection image from OSD menu.

Accessories

Standard Accessories	Part Number		
Quick Start Cards	36.80703.001		
User's Manual	36.80701.001		
Warranty Card	call for part numbers		
VGA Cable (2M)	42.53001.051		
Mac Multiform Adapter	42.80707.001		
Mac Monitor Adapter	42.50207.003		
S-Video Cable (2M)	42.50209.011		
RCA Audio/ Video Cable (2M)	42.80708.001		
Audio Cable for Computer (2M)	42.80715.001		
Remote Control	45.80701.001		
Remote Receiver Cable (2M)	42.80303.002		
Mac Mouse Adapter 4-Pin Female	42.80304.001		
Mac Remote Adapter 4-Pin Male	42.80305.001		
PC PS/2 Mouse Adapter 6-Pin Female	42.80306.001		
PC PS/2 Remote Adapter 6-Pin Male	42.80307.001		
Power Cord (North America)	42.50115.001		
Power Cord (Europe)	42.50112.001		
Power Cord (Japan)	42.50116.001		
Power Cord (Australia)	42.50117.001		
Carrying Case	call for part numbers		
Option Accessories	Part Number		
NEC PC-98 Signal Adapter	42.52112.001		
NEC PC-98 Monitor Adapter	42.50208.002		
Projection Lamp Module	70.80701.001		

Projection Lamp Module	70.80701.001
VGA Cable (5M)	42.53001.041
S-Video Cable (5M)	42.50209.021
RCA Audio/ Video Cable (5M)	42.80708.011
Audio Cable for Computer (5M)	42.80715.011
Remote Receiver Cable (5M)	42.80303.012
Ceiling Mount Module	call for part numbers

Specifications				
LCD panel	- active matrix TFT color LCD			
	- 1.3" poly-silicon panels x 3			
	- tr=12ms, tf=30ms response time			
	- 200:1 contrast ratio			
Lamp	- 250-watt metal halide			
Number of Pixels	- 1,557,504 {519,168 (832 x 624) x 3}			
Displayable Color	- 16.7M colors			
Projection Lens	- F2.5~3.2, f 47~75mm w/ 1.6X motor			

Displayable Obiol			
Projection Lens	- F2.5~3.2, f 47~75mm w/ 1.6X motor zoom & focus		
Image Size	- adjustable 20" to 400"		
Projection Distance	- 3.6 ft. to 75.6 ft. / 1.1 m to 23 m		
Pixel Frequency	- 60MHz		
Computer Compatibility	- IBM & VESA VGA 640 x 480, 60/72/75/85Hz		
	- VESA SVGA 800 x 600, 56/60/72/75/85Hz		
	1024 x 768 XGA compression, 60/70/75/85Hz - Apple Macintosh LC 13" 640 x 480, 67Hz Apple Macintosh II 13" 640 x 480, 67Hz Apple Macintosh 16" 832 x 624, 75Hz Apple Macintosh 19" 1024 x 768, 75Hz - NEC PC-98 series 640 x 400, 56/70Hz 640 x 480, 60Hz		
H. Frequency	- 15kHz~69kHz horizontal scan		
V. Frequency	- 50Hz~85Hz vertical refresh		
Video Compatibility	- NTSC / PAL / SECAM compatible		
. ,	- composite video & S-Video capability		
Multimedia Audio	- two internal speakers with 3 watt output		

built-in amplifier with 3 watt x 2 output
 auto switch
 AC input 100~120V / 200~240V, 50/60Hz

I/O Connectors	- power: AC power input socket
	- computer input: HDB 15-pin female connector
	- computer output: HDB 15-pin female connector
	- video input: composite video RCA jack x 1 / S-Video jack
	- audio input: 2 pairs of L/R RCA jacks
	- audio output: 1 pair of L/R RCA jacks
	- remoto mouse input: DIN 9-pin female connector
Weight	- 12lbs / 5.4kg
Dimensions (W x H x D)	- 9.8 x 5.9 x 15.7" / 250 x 150 x 398 mm
Environmental	- operating temperature: 10°~32°C/50°~90°F
	humidity: 80% maximum
	storage temperature: -20°~60°C/-4°~140°F
	humidity: 80% maximum

x 1

Safety Regulation - FCC class A, CE Mark, VCCI, UL, TÜV

Compatibility Modes

Mode	Resolution	H. Frequency (kHz)	V. Frequency (Hz)
VESA VGA	720 x 400	31.47	85.00
VESA VGA	640 x 400	31.47	85.01
VESA VGA	640 x 350	31.47	85.01
VESA VGA	640 x 480	31.47	59.94
VESA VGA	640 x 480	37.86	72.81
VESA VGA	640 x 480	37.50	75.00
VESA VGA	640 x 480	43.27	85.01
VESA SVGA	800 x 600	35.16	56.25
VESA SVGA	800 x 600	37.88	60.32
VESA SVGA	800 x 600	48.08	72.19
VESA SVGA	800 x 600	46.88	75.00
VESA SVGA	800 x 600	53.67	85.06
VESA XGA	1024 x 768	48.36	60.00
VESA XGA	1024 x 768	56.48	70.07
VESA XGA	1024 x 768	60.02	75.03
VESA XGA	1024 x 768	68.68	85.00
Apple Macintosh LC 13"	640 x 480	34.97	66.66
Apple Macintosh II 13"	640 x 480	35.00	66.68
Apple Macintosh 16"	832 x 624	49.72	74.55
Apple Macintosh 19"	1024 x 768	60.24	75.00
NEC PC-98 series	640 x 400	24.83	56.42
NEC PC-98 series	640 x 400	31.47	70.01
NEC PC-98 series	640 x 480	31.47	59.94