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PROJECTOR OWNER'S MANUAL

Dukane

28A7250

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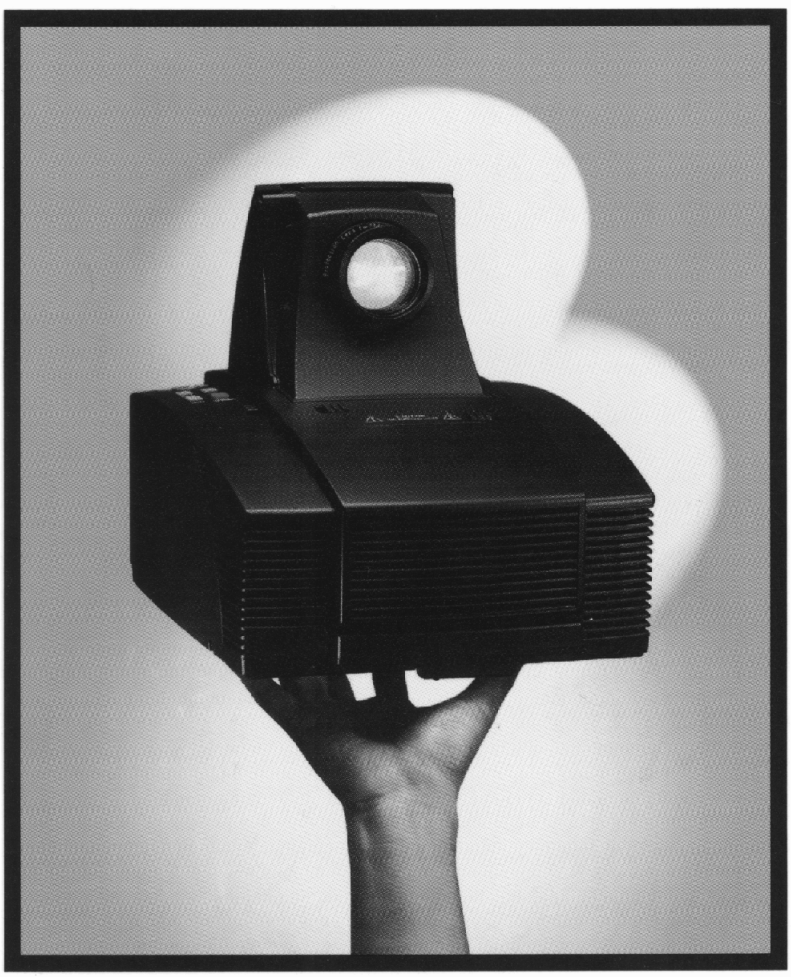
DUKANE

28A7250 ImagePro Projector

User's Manual



LCD Projection Display

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.

CE

Trademarks

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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 instruction.

⚠ **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 timer 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 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

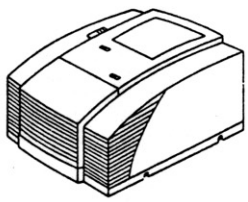
About the Product

This product, designed with a high-powered metal halide lamp, is an SVGA data/ video portable projection display. The outstanding feature of it are listed as follows:

- 10.34lbs (4.7 kg) lightweight compact design
- 330-watt user replaceable metal-halide lamp
- Single panel 6.4” TFT LCD projection system
- 800 x 600 addressable pixels
- Compression for 1024 x 768 XGA computer image
- 16.7M (24-bit) displayable colors
- XGA/ SVGA/ VGA/ VESA/ Mac/ NEC PC-98/ Fujitsu FM Towns compatible
- NTSC / NTSC 4.43/ PAL / SECAM composite video & S-Video
- Remote control with mouse function
- Automatic image adjustment function
- Multilingual OSD menu adjustments
- Advanced functions--
  keystone correction/ zoom/ freeze/ pointer

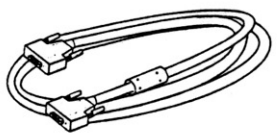
Package Overview

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.



LCD Projection Display

Power Cord



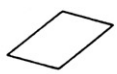
VGA Cable

S-Video Cable

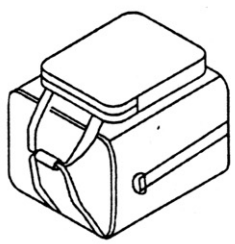
RCA Audio/ Video Cable

Audio-in Cable for Computer

User's Manual



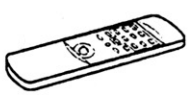
Warranty Card



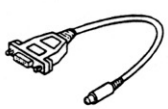
Soft Bag

Remote Mouse Package:

Remote Receiver Cable



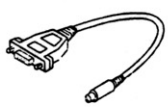
Remote Mouse



PC PS/2 Remote Adapter

PC PS/2 Mouse Adapter

Battery x 3



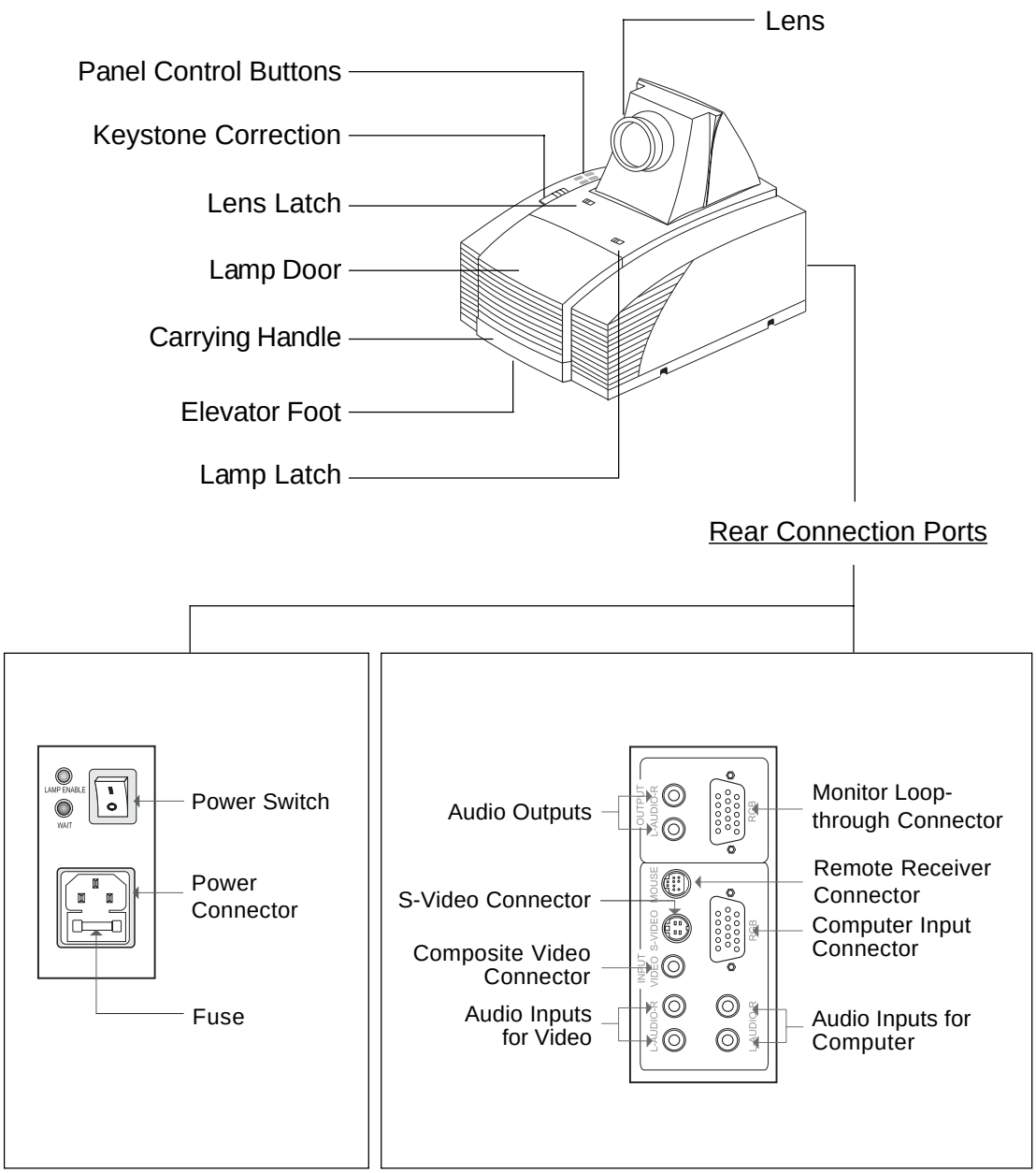
Mac Remote Adapter

Mac Mouse Adapter

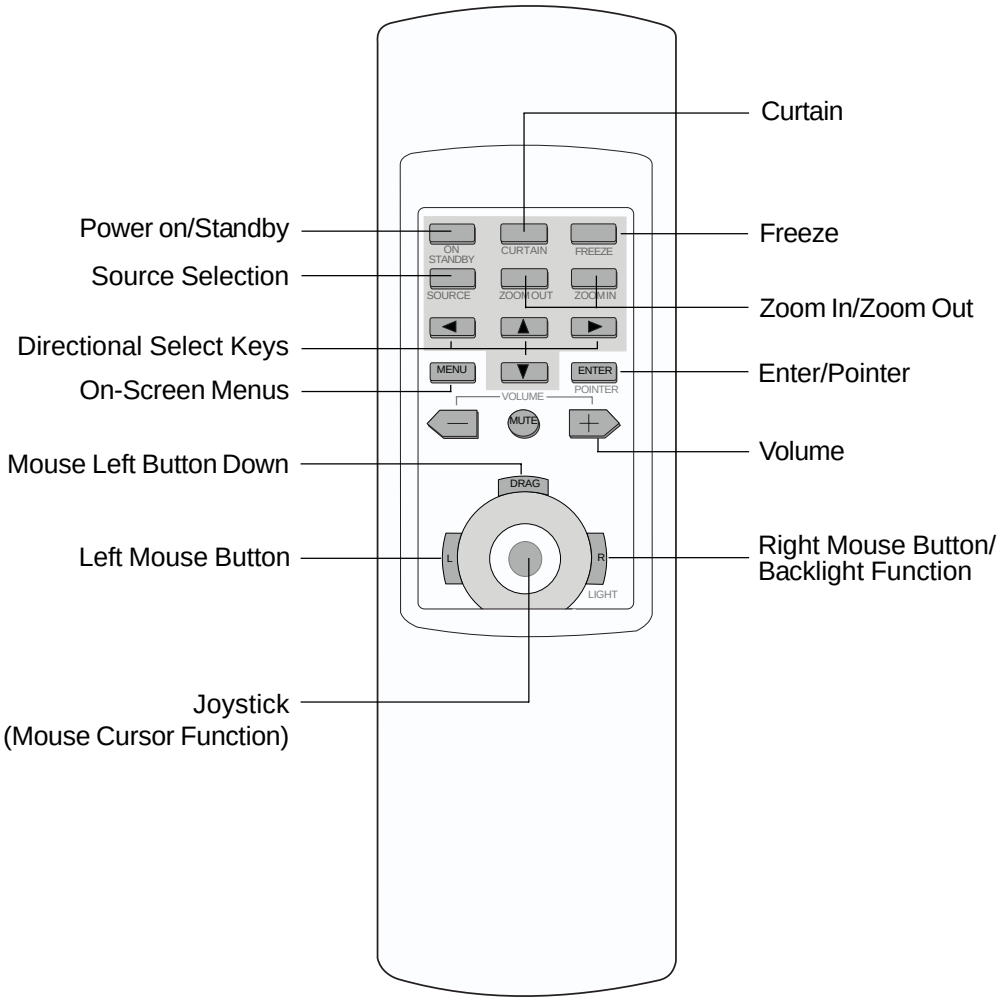
Installation

Product Overview

◆ Main Unit



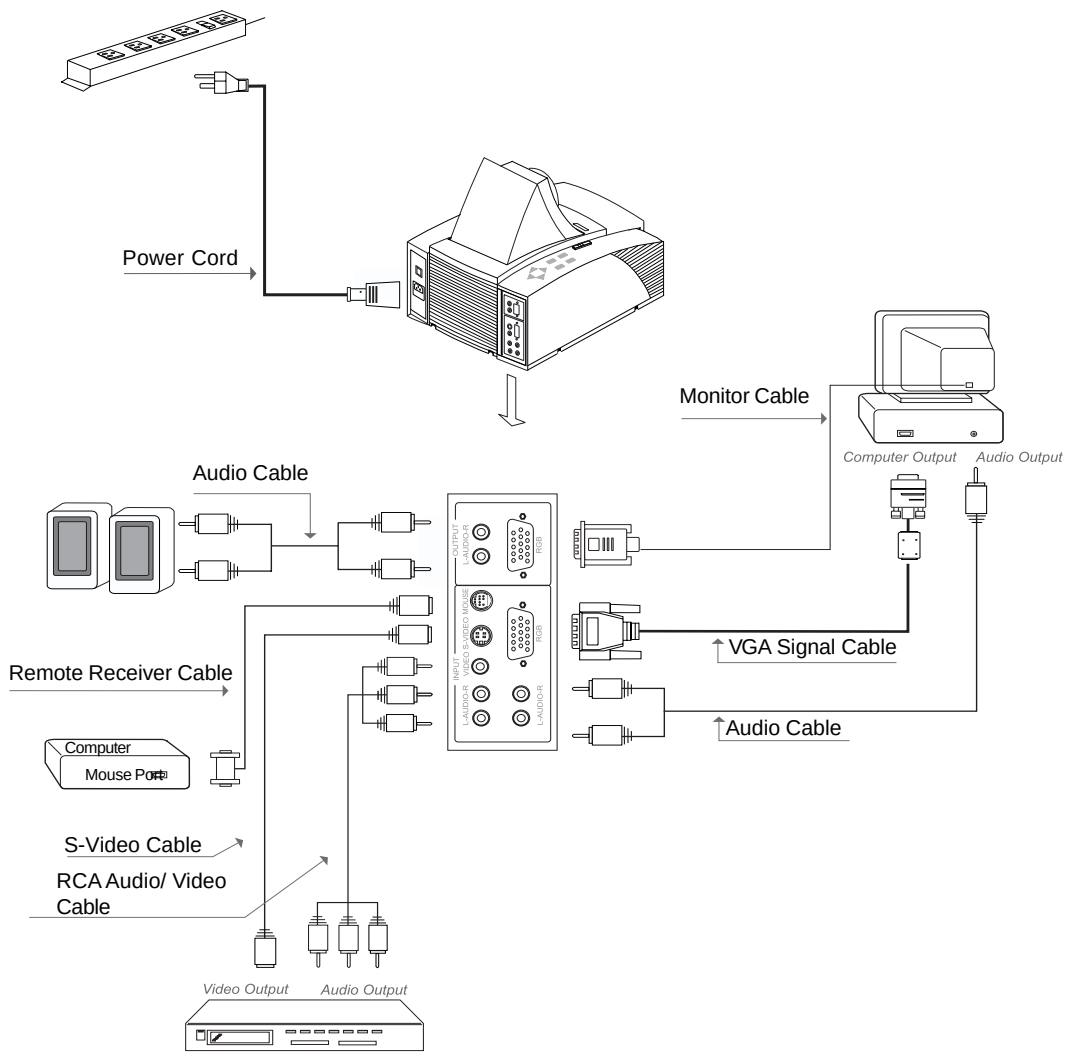
◆ Remote Control



** For more detailed information, please refer to "Function Descriptions" on page 13.*

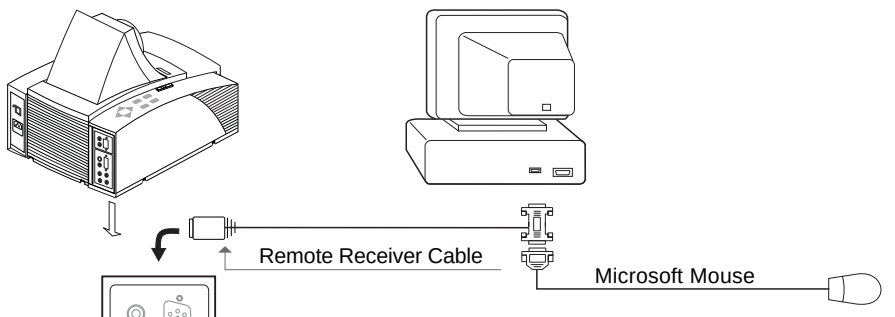
Start Your Installation

◆ Connecting the Projection Display

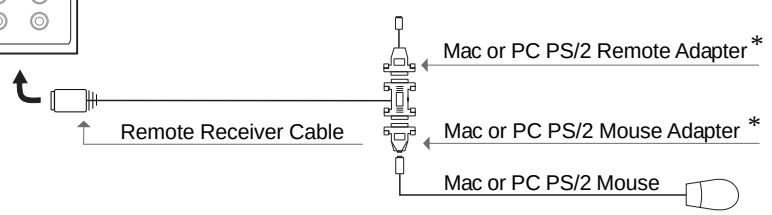


◆ Remote Control Connections

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



(Microsoft Mouse Connection)



(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 matching adapters as shown in the drawing.*

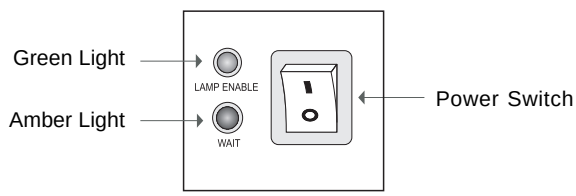
Powering On/Off the Projection Display

◆ Powering On the Projection Display.

- **Switch on the power; then turn on the lamp by pressing "STANDBY" button.**
  Press the " I " sign of the power switch to turn on the projection display. After a few seconds, press the "Power on/Standby" button to power on the projection lamp. At this time, the "Power on/Standby" indicator (the Green Light, see following figure) will be illuminated.

* *If you wish to turn off the projection display for a short period of time, press the "Power on/Standby" button. The Amber Light will illuminate. This indicates the projection lamp is powered off and is cooling down.*

* *If you want to turn on the projection lamp again, you must wait at least 1 minute until the Amber Light is OFF. Be sure the Amber Light is in OFF status so that you can press the "Power on/Standby" button to turn on the projection lamp.*



◆ Powering Off the Projection Display

- **Turn off lamp power first for three minute and then switch off the power.**
  Press "Power On/Standby" button to make the display in "Standby" mode first and wait for three minutes, then you can switch off the power.

* *After pressing the "Power on/Standby" button , you will see a message- "Power off the lamp?". Press the "Power on/Standby" button again to turn off the lamp. Otherwise the message will disappear itself 5 seconds later.*

* *The projection display will automatically shut down when the lamp is powered off and is not turned back on within 5 minutes. Please switch off the power if this occurs.*

* *Always remember to turn off the projection lamp first and allow it to cool for a few minutes before switching off the power.*

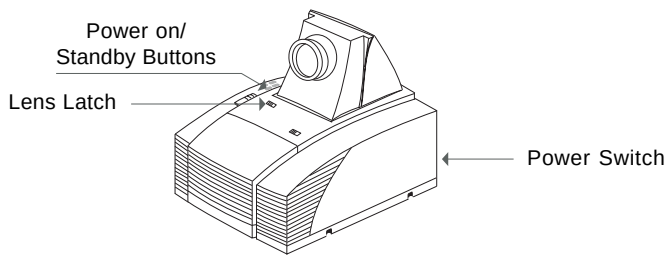
Adjusting the Image Size

- Positioning the projection display

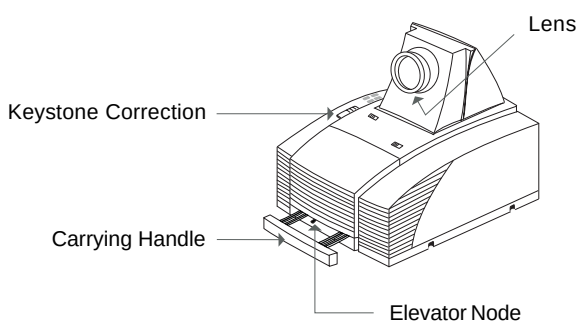
Projection Distance	5 ft. (1.5 m)	6.5 ft. (2 m)	9.5 ft. (3 m)	13 ft. (4 m)	20 ft. (6 m)
Image Size (diagonal)	40" (1.01m) (min.)	60" (1.52m)	80" (2.03m)	110" (2.79m)	160" (4.06m) (max.)

(projection distance and image size)

- Slide the lens latch and pop up the projection lens. Switch on the power and press the "Power on/Standby" button. See "Powering On/Off the Projection Display" on page 9 for more information.



- Adjusting the screen image.
  1. Rotate the projection lens to focus the image.
  2. Slide the keystone correction button to adjust image shape.
  3. Adjust the elevation:
     (1) Pull out the carrying handle.
     (2) Lift the projection display to the desired angle.
     (3) Press down on the elevator node to loosen the elevator foot.

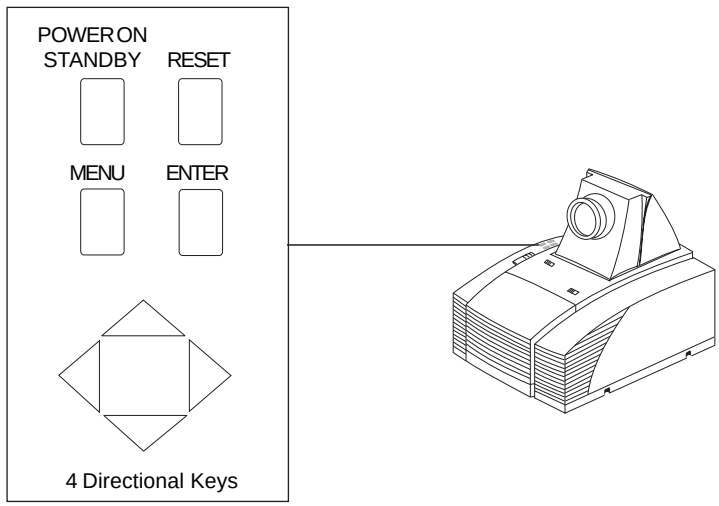


User Controls

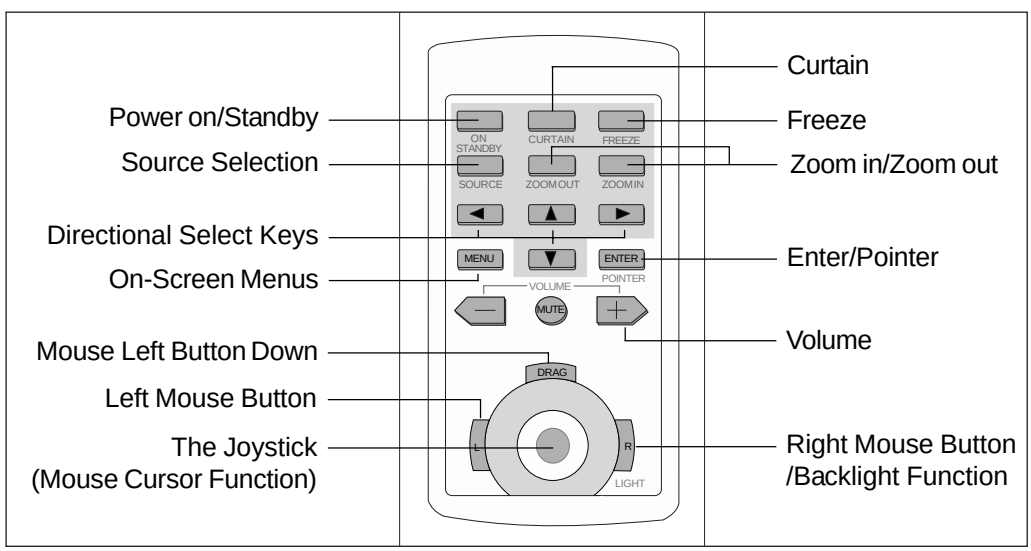
User Control Overview

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

◆ Panel Control



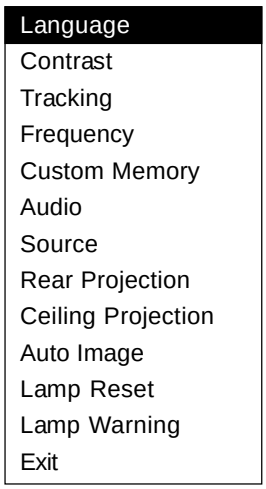
◆ Remote Control



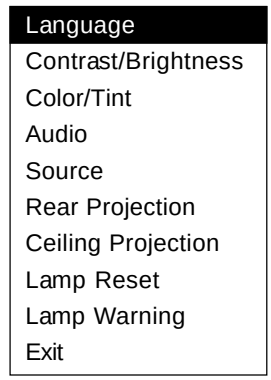
◆ OSD Menus

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 computer sources, the OSD will be:



▶ When in video sources, the OSD will be:



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.
Enter	“Enter” is used for confirming your selection.
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 positioning of the image.
Language	Choose “Language” item to select your choice of English, French, German, Spanish, Italian, Japanese and Chinese.
Audio	(1) Volume adjustments: “+”, “-”, “Mute” (2) Audio adjustments: Bass, Treble, Balance, Volume, 4 sound modes.
Source	Use “ Source” control to choose between video and computer source.
Rear Projection	Choose this function from OSD menu for a rear projection.

Ceiling Projection	Choose this funtion from OSD menu for a ceiling mounted projection.
Lamp Reset	After changing a new lamp, reset the lamp life timer from OSD menus.
Lamp Warning	Choose this function to show or hide the warning message.
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 ▲ or ▼ to pull up or down the curtain.
Zoom In/Zoom Out	Press “Zoom In” button to enlarge the projected image, “Zoom Out” to resume the image.
Contrast	Choose this function from OSD menu to adjust contrast of the image.

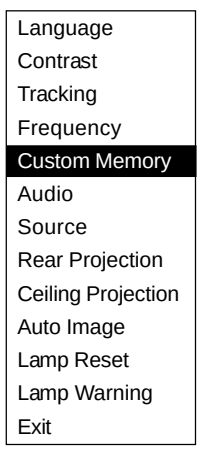
Tracking

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.

Custom Memory



This function enables you to save your current settings for the computer source. To use this function, first choose “Custom Memory” from OSD menus, and go to the custom group you need (such as “Custom 3”), then select “Save” and press “Enter” to save your current settings; or choose “Open” and press “Enter” to load your preset settings. There are six groups of custom memories for your use.
If you want to come back to RGB standard source, go to the “RGB Standard” mode located before “Custom 1” in Custom Memory OSD menus.

** When opening your preset custom setting, you may experience a “Invalid” message appearing on the screen. This means the computer you connected or the current setting is the wrong one, not what you preset in the projection display.*

** The “Reset” function of this projection display only works in RGB Standard mode.*

Auto Image

Choose “Auto Image” from OSD menus to obtain an optimum quality for your projected image.

** “Auto Image” function will not support 1024 x 768 resolution.*

** This feature could not perform well in case of input weak signal from VGA cable.*

◆ 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:

  Resolution of your computer is higher than 800x600. 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 800x600.

  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 800x600 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 “Change Display Type” button.
  5. Select the “Change” button under the “Monitor Type” box.

6. Under “Manufacturers”, select “Standard monitor types”
7. Verify that the resolution setting of the monitor display is less than or equal to 800x600.

- 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 or Apple PowerBook:

  1. Insert a Mac signal adapter and change the mode into Macintosh 13” of 640 x 480 resolution.
  2. Change the adapter into VGA mode for IBM PC 640 x 480, 800 x 600, or 1024 x 768 display settings.

- 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

◆ 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.

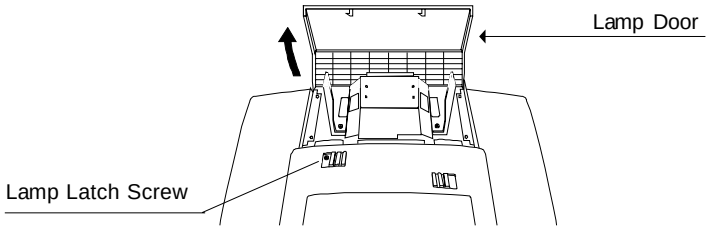
Make sure the projection display has cooled for at least 30 minutes before change the lamp.

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

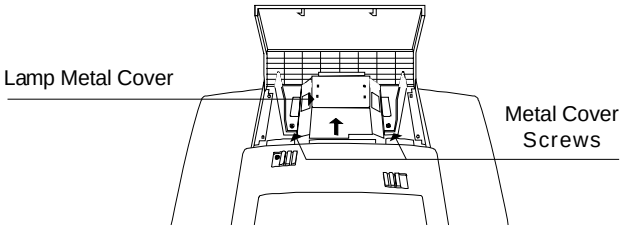
*** We suggest you a Professional Engineer to change the projection lamp module.**

Lamp Changing Directions:

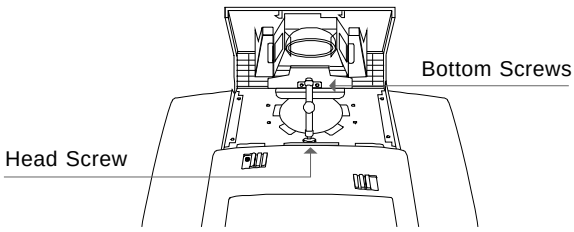
1. Use a cross screwdriver to remove the screw of the lamp latch.
   Open the lamp door.



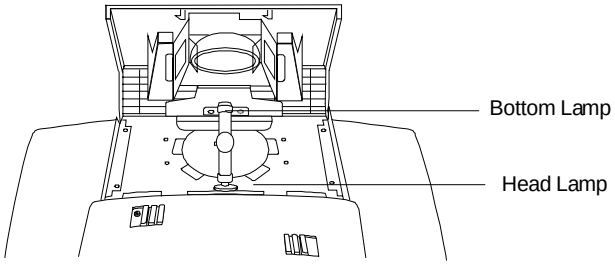
2. Remove the screws on the metal protection cover and then open this metal cover.



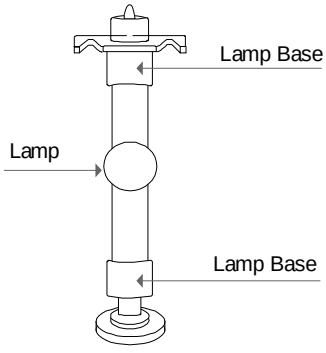
3. Unscrew the two screws on the bottom of the lamp module.
   Then release the head screw of the lamp module.



4. Take out the used lamp from the usage position. Take out the head of the lamp first and then the bottom. Be careful of the hot lamp.



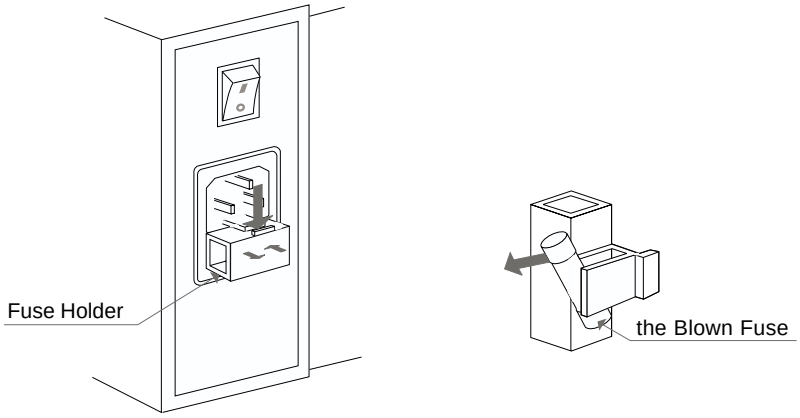
5. Replace a new lamp.
   Hold the new lamp by its base (we suggest you to put gloves on) and then push it firmly into the usage position. Remember to push the bottom of the lamp back to its position first and then the head. Tighten the screws.



⚠ **Warning: Never touch the glass or white powder of the lamp as finger oil, dust or water will damage the lamp.**

6. Close the metal cover and then tighten the screws.
   Close the lamp door and then tighten the screw beside the lamp latch.

◆ 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 a new fuse.
4. Put the fuse holder back in position.

Specifications

LCD Panel	- active matrix TFT color LCD
	- 6.4” panel x 1
	- tr=30ms, tf=50ms response time
	- 200:1 contrast ratio
Lamp	- 330-watt metal halide
Display Resolution	- 800 pixels(H) x 600 lines(V)
Displayable Color	- 16.7M colors
Image Size	- 40” to 180” diagonal
Projection Distance	- 5 ft. to 20 ft. / 1.5 m to 6 m
Computer Compatibility	- IBM & VESA VGA 640 x 350, 70/85Hz
	640 x 400, 70/85Hz
	720 x 400, 70/85Hz
	640 x 480, 60/72/75/85Hz
	VESA SVGA 800 x 600, 56/60/72/75/85Hz
	XGA 1024 x 768 compressed, 60/70/75Hz
	- Apple Macintosh 640 x 480, 67Hz
	(IBM PC extra mode select)
	- NEC PC-98 series 640 x 400, 56/70Hz
	640 x 480, 60Hz
	- Fujitsu FM Towns 640 x 400, 55Hz
	640 x 480, 60Hz
Video Compatibility	- NTSC/NTSC 4.43/ PAL/ SECAM compatible
	- composite video & S-Video capability
H. Frequency	- 15kHz~60kHz horizontal scan
V. Frequency	- 50Hz~85Hz vertical refresh
Multimedia Audio	- two internal speakers with 3 watt output
	- built-in amplifier with 3 watt x 2 output
Power Supply	- auto switch
	- AC input 100~120V / 200~240V, 50/60Hz
I/O Connectors	- power: AC power input socket
	- computer input: 15-pin D-sub connector
	- computer output: VGA 15-pin D-sub connector
	- video input: composite video RCA jack x 1 / S-Video jack x 1
	- audio input: 2 pairs of L/R RCA jacks
	- audio output: 1 pair of L/R RCA jacks
	- remote mouse input: DIN 9-pin female connector
Weight	- 10.34 lbs / 4.7 kg
Dimensions (W x H x D)	- 10.2 x 6.4 x 12.5” / 259 x 162 x 317 mm
Environmental	- operating temperature: 10^{o}~32^{o}C/50^{o}~90^{o}F
	humidity: 80% maximum
	storage temperature: -20^{o}~60^{o}C/-4^{o}~140^{o}F
	humidity: 80% maximum
Safety Regulation	- FCC class A, CE Mark, VCCI-I, UL, CUL, TÜV

Compatibility Modes

Mode	Resolution	H. Frequency (kHz)	V. Frequency (Hz)
IBM & VESA VGA	640 x 350	31.47	70.09
IBM & VESA VGA	640 x 350	37.86	85.08
IBM & VESA VGA	640 x 400	31.47	70.09
IBM & VESA VGA	640 x 400	37.86	85.08
IBM & VESA VGA	720 x 400	31.47	70.09
IBM & VESA VGA	720 x 400	37.93	85.04
IBM & VESA VGA	640 x 480	31.47	59.94
IBM & VESA VGA	640 x 480	37.86	72.81
IBM & VESA VGA	640 x 480	37.50	75.00
IBM & VESA VGA	640 x 480	43.27	85.00
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
Apple Macintosh	640 x 480	34.97	66.61
Apple Macintosh	640 x 480	35.00	66.67
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
Fujitsu FM-Towns	640 x 400	24.37	55.38
Fujitsu FM-Towns	640 x 480	31.47	59.94

* XGA 1024 x 768 compression computer image.

LEGAL INFORMATION

FIVE-YEAR LIMITED WARRANTY

This Dukane LCD projector is warranted to the original purchaser for a period of five (5) years from the original purchase date - in normal use and service - against defects in material and workmanship. DUKANE CORPORATION EXPRESSLY DISCLAIMS ALL OTHER WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

During the warranty period, Dukane Corporation will repair or replace (at the manufacturer's option) any such defective parts (except for the lamp, which is subject to whatever warranties the manufacturer may provide) without charge to the purchaser for parts or labor when the product is returned, prepaid and insured, with proof-of-purchase date. This remedy is void if the product has been damaged by accident, unreasonable use, neglect, improper service or other causes not arising out of defects in material or workmanship.

Dukane Corporation disclaims all liability for incidental or consequential damage of any kind, including all damages arising out of any interruptions in operation of the product and all damages to software.

No person, firm, or representative is authorized to assume any obligation or to make any warranty on behalf of the Dukane Corporation other than as stated above.

THIS LIMITED WARRANTY IS VALID FOR U.S.A AND CANADA.
FOR OTHER LOCATIONS, LOCAL WARRANTIES APPLY.

LAMP REPLACEMENT SERVICE & REPAIR POLICY & PROCEDURE

For service and parts, contact the Dukane AV Service Department
at 1 (800) 676-2487 within the USA or 1 (630) 584-2300 worldwide.
If you would like to send a facsimile (FAX), dial 1 (630) 584-5156 worldwide.

When requesting warranty service, please have the sales receipt available along with the model name and serial number.

If it becomes necessary to return the projector, use the original packing material and box (if retained) or pack securely. Dukane Corporation will not be liable for any pick-up or delivery charges or any expenses incurred for service calls or service supplied by anyone other than the Dukane AV Service Department.

Audio Visual Products

Dukane Corporation
Audio Visual Products Division
2900 Dukane Drive
St. Charles, IL 60174-3395
E-mail: avsales@dukane.com

Phone: (630) 584-2300
Orders: (800) 676-2485
Information: (800) 676-2486
Fax: (630) 584-5156
Parts & Service: (800) 676-2487
Fax: (630) 584-0984

Part # 401-564-00