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PROJECTOR OWNER'S MANUAL

Dukane

7700

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DUKANE

7700 Series



User's Manual

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Introduction

Notices and Safety Precautions

Information in this document is subject to change without prior notification for the sake of improving reliability, design and function.

This document contains proprietary information protected by copyright. All rights are reserved. No part of this manual may be reproduced by any mechanical, electronic, or other means in any form without first obtaining prior written permission from the developer.

All brand or product names are trademarks or registered trademarks of their respective companies.

Personal computers and computer software, referred to in this manual, are not included with this unit.

To prevent accidents caused by improper handling or operation, please take note of the following precautions.

Do not attempt to service the product yourself beyond replacing the lamp or dust filters. Opening the case may expose the handler to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

Follow all hazard markings and instructions on the product. Openings in the cabinet are provided for ventilation; to ensure safe and reliable operation of the product and to protect it from overheating be sure that these openings are not blocked. This product may not be used in a built-in installation unless proper ventilation is provided.

Be careful when handling the Metal Halide Lamp.

There is a risk of eye damage from the intense illumination provided by the Metal Halide Lamp. Avoid direct viewing or unprotected viewing back into the projection lens.

While operating, Metal Halide Lamps are under **very high internal pressure**. Even after the lamp is turned off, the pressure remains high until the lamp cools down. At room temperature the internal pressure drops to about one atmosphere.

Notices and Safety Precautions (continued)

The metal halide lamp is mounted in a lamp module which includes the reflector. Do not get fingerprints on the glass of the lamp or the reflector. If fingerprints should get on the glass, clean it with alcohol and a clean, lint free cloth or tissue. Cleaning should be done before the lamp is turned on. A hot lamp may etch the fingerprint permanently into the glass.

Keep the product away from dirt and dust, and periodically wipe its surface with a soft, dry cloth. Stubborn marks may be removed using a soft cloth moistened with a mild detergent.

Avoid condensation caused by moving the projector from a cold environment to a warm, humid environment. If condensation should occur, allow the projector to dry out completely before powering it up.

If the product will not be in use for a long period of time, disconnect the power plug from the AC outlet.

Avoid using the product under the following conditions: Extremely hot, cold or humid environments, areas susceptible to dust, near an appliance generating a strong magnetic field, or in direct sunlight.

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

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

Introduction

This product bears the following safety certifications: UL, CUL and TUV/GS.

This product should not be directly connected to telephone circuits.

FCC Statement

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at the user's own expense.

Canadian Notice

This class A digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numérique de classe A respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

European EN 55022 Notice

This is a Class A product when evaluated to EN 55022. In a domestic environment it may cause radio interference, in which case the user may be required to take adequate measures. The typical use is in a conference room, meeting room or auditorium.

Wenn das Produkt Dukane projector ut in Duetschland verkauft wird, Muss es Umwelt geschuetzt sein. (Klass B)
Dieses Product muss mit dem Bundesamt fuer Pos un Telekommunikation registriert sein.

EU Manufacturers Declaration of Conformity

This Dukane projector conforms to the following European Union Directives and the standards stated:

Low Voltage Directive 73/23/EEC including amendments

EN 60950 - Safety of IT Equipment

Electromagnetic Compatibility Directive 89/336/EEC including amendments

EN 55022 - (Class A) IT equipment emissions

EN 50081-1 - Generic Emissions for Light Industrial Equipment

EN 60555-2 - Harmonic Disturbances

EN 50082-1 - Generic Immunity for Light Industrial Equipment

IEC 801-2 - ESD

IEC 801-3 - Radiated E Field

IEC 801-4 - Electrical fast transients

The compliance reports are available to proper authorities and the product is appropriately marked.

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.

projector Technology Labels



Optimum Projection Technology™ is a revolutionary optics design created by Dukane engineers. Miniaturized optical parts, uniquely combined, display high-quality images while reducing the size and weight of the projector.



The projector incorporates Genesis Microchip ImEngine™ digital signal processing to create an entirely new set of pixels optimized for the projectors resolution

projector Warning Labels

Warning: Do not look directly into the projector lens when the projector is operating -- the light may damage your eyes.

Warnung: Das von der Hochintensitäts-Entladungslampe abgegebene Licht ist so stark daß bei direkten Kontakt die ernsthafte Gefahr von Augenschäden besteht. Vermeiden Sie es, direkt bzw. ungeschützt

Caution No user-serviceable parts inside. Refer servicing to qualified personnel

Attention Entretien et réparations internes ne sont autorisés qu' au personnel technique qualifié.

Vorsicht Wartung und Reparatur nur durch Fachkräfte

Precaucion Acceso interno solo. Autorizado a personal técnico qualificado.

Projector Certification Labels



Accessories

AC Power Cord

VGA Cable

Computer/Video Player Stereo Audio Cable

Dual Male RCA to Female 3.5mm adapter

Composite Video Cable

User Manual

RegistrationCard

Quick Reference Card

Peace of Mind Brochure

Remote Control

Plug and Play Utility Diskette

MAC Adapter (optional)

Extra Lamp Module (optional purchase)

Getting Started

Kensington Security Lock

To provide protection against unauthorized movement of the projector, Dukane has built-in a Kensington™ security slot.

This security slot is located at the left rear of the projector as shown in the illustration below.

The security cable installs as shown and can be purchased wherever notebook computers are sold.

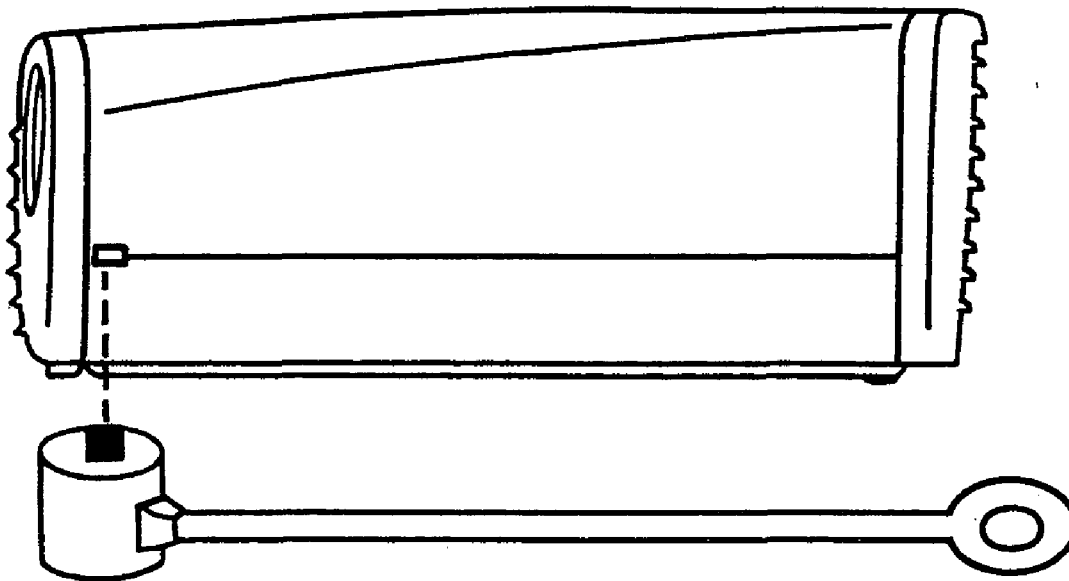


Figure 1: Kensington Security Lock

This chapter will explain the set-up and connection procedures for your Dukane projector. It includes information pertaining to basic adjustments and interfacing with other equipment.

Connecting to Power

- 1 Insert the power cord into the AC input socket of the projector as shown in figure 2.
- 2 Connect the other end of the cord to an AC outlet.

Turning On The Projector

The following is the power up procedure for the Dukane projector.

Flip the power switch located at the side of the projector as shown in figure 2. The following will occur.

- The fan will come on briefly, shut down briefly, restart and the Metal Halide lamp will light.
- The logo will appear on the projected image.
- Within five seconds of power up, the projector will search for a signal source to display.
- If there is more than one source present the projector will first display the the source that was last detected.
- If there is no source present, the logo will be displayed.

Caution: Do not turn off the lamp soon after striking. Allow the lamp to remain on for at least a minute so that it may reach full temperature. Failure to do so may result in degraded lamp performance.

Note: If the projector is turned off and back on within a short time, allow a cool down period of 45 seconds before attempting to restrike.

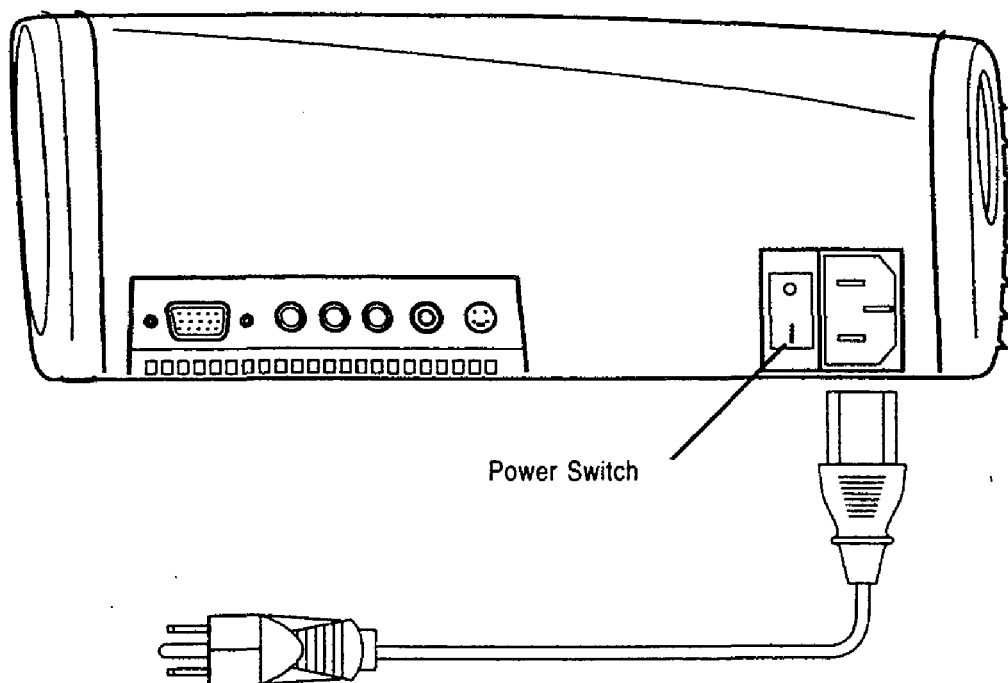


Figure 2: Connecting to Power

Optional Plug and Play Windows Drivers

This projector has plug and play capability. Windows 95 and Windows 98 handle plug and play differently. The following procedures describe how to install the projector with each Windows version.

Note: The projector will operate very well without installing the plug and play software. Installing the plug and play software will inform the computer of the optimum parameter settings for projector operation.

Windows 95

On bootup, Windows 95 will detect the projector and will install its generic Plug and Play monitor drivers. For best performance of the projector it is advisable to install the drivers designed specifically for it. These drivers are on the provided floppy disk.

The following procedure outlines the method for installing the display driver for the projector on your computer.

- 1 In Windows 95 open the control panel
- 2 Click on the Display Icon
- 3 Select Settings
- 4 In the Settings window, click on Advanced Properties (This button is not always available on all computers. It may be called "Change Display Type")
- 5 Click on the Monitor Tab (may be Monitor Type)
- 6 Click on Change
- 7 Insert the supplied floppy disk in drive A
- 8 Use the "Have Disk" option
- 9 Click on OK
- 10 Click on close

Plug and Play (continued)

Windows 98

- 1 Connect the computer to the projector as shown in figure 3 on page 15
- 2 Power up the projector
- 3 Power up the computer
- 4 During the bootup sequence a message will appear saying that Windows has found new hardware and is searching for appropriate drivers.
- 5 An "Add New Hardware" Wizard will appear saying it is searching for plug and play monitor drivers
- 6 Click on Next
- 7 A window asking "What do you want Windows to do" will appear
- 8 Click on "Search for Best Driver"
- 9 A window saying "Windows will search for a new driver.. etc" will appear
- 10 Insert the UltraLight SP1 driver disk into the floppy drive and select "Floppy Disk Drive"
- 11 Click on Next
- 12 Windows will say that it has found an updated driver for this device.
- 13 Click on Next
- 14 Windows will say that "Windows is now ready to install the best driver for this device" and will display the directory for the driver.
- 15 Click on Next
- 16 A message saying "Windows has finished installing the software..etc." will appear
- 17 Click on Finish

Connecting to a Signal Source

Connecting to computer video

- 1 If you have a desktop computer disconnect the computer monitor cable from your computer. If you have a laptop, move to step 2.
- 2 Connect one end of the supplied 15 pin cable to the computer monitor output connector on the computer. Macintosh computers require an adapter* (optional) between the computer monitor output and the 15 pin cable.
- 3 Connect the other end of the cable to the Computer Input connector on the projector.
- 4 Activate the laptop's external video (VGA) port. This is usually accomplished using the Fn key in conjunction with one of the functions keys (Fn+F5 for example).

Note 1: To insure maximum protection from radio interference, the end of the 15 pin cable with the interference suppressor should be connected to the computer.

Note 2: See page 28 in the appendix for a list of manufacturers and the methods they use to activate the laptops external video port.

Connecting to computer audio

- 1 Connect one end of the supplied 3.5mm to 3.5mm audio cable to the computer audio input connector of the projector.
- 2 Connect the other end of the audio cable to the computer audio out connector.

Connecting to video player video

- 1 Connect one end of the supplied composite video cable (RCA to RCA) to your video player video output connector.
- 2 Connect the other end of the composite video cable to the video input connector of the projector. See figure 4.

Connecting to video player audio

- 1 Connect one end of the supplied 3.5mm to 3.5mm audio cable to the video audio input connector of the projector.
- 2 Connect the other end of the 3.5 mm cable to the supplied 3.5mm to dual RCA adapter and connect the adapter to the video player audio output. See figure 4.

Note: If your video player has an S-video output, you can get a better picture making the connection with an S-video cable.

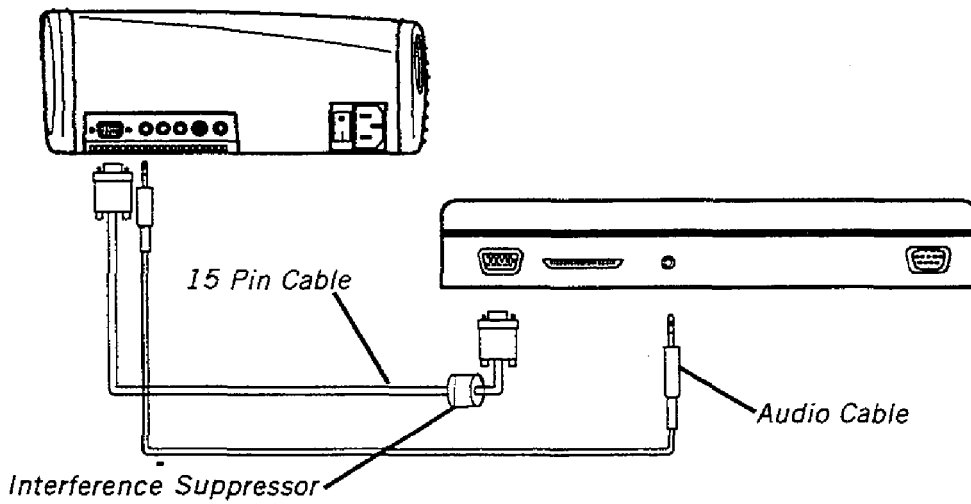


Figure 3: Connecting to a Computer

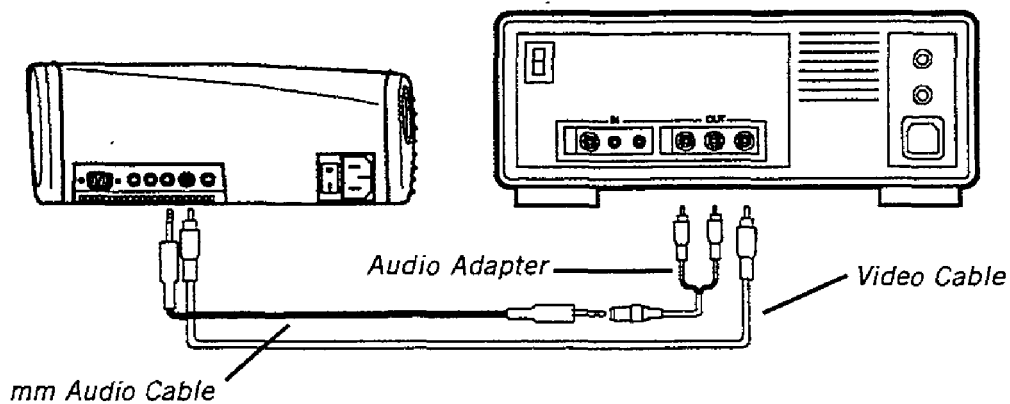


Figure 4: Connecting to a Video Player

*To request a Mac adapter, call Dukane technical support at 1-800-676-2487

Operating The Projector

Projector Keypad Controls

Figure 5 shows the layout of the Projector keypad controls.

The Lamp Status LED provides information on the condition of the lamp.

The lamp conditions indicated by the lamp status LED are as follows:

- Flashing Green (Striking Lamp)
- Steady Green (Lamp Lit)
- Steady Yellow (Service Mode-Front Panel Off)
- Flashing Red (Trying to Restart)
- Steady Red (Lamp Fault)

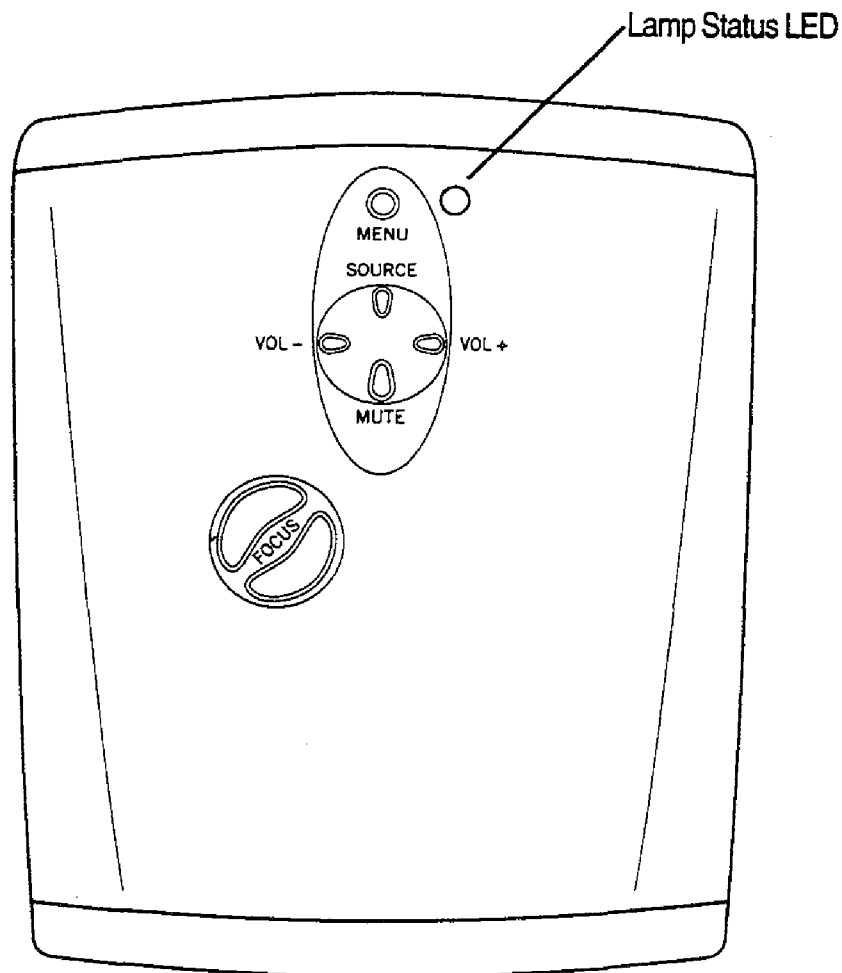


Figure 5: Keypad Controls

Adjusting Focus

To adjust focus, rotate the focus adjust knob on top of the projector as shown in Figure 6.

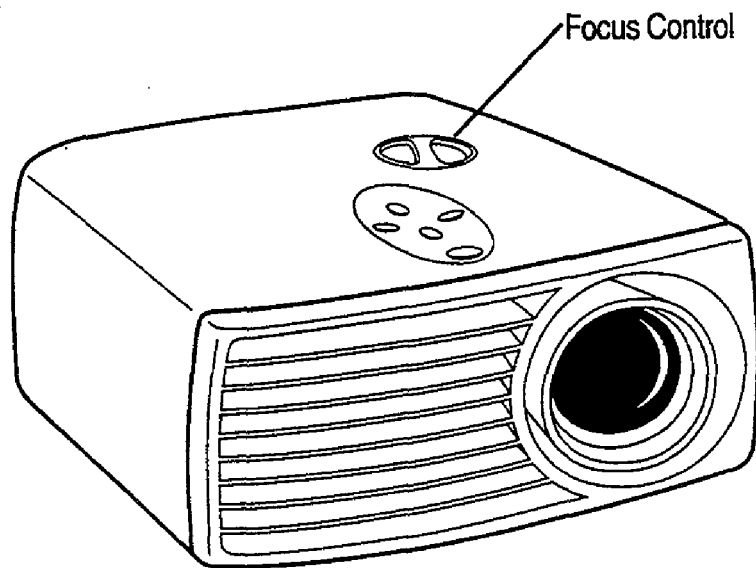


Figure 6 Focus Adjust

Adjusting Height

To adjust the height of the front of the projector, Dukane has provided a quick-release elevator foot under the front center of the projector. To set the appropriate image height, press the release mechanism shown in figure 7 and lift.

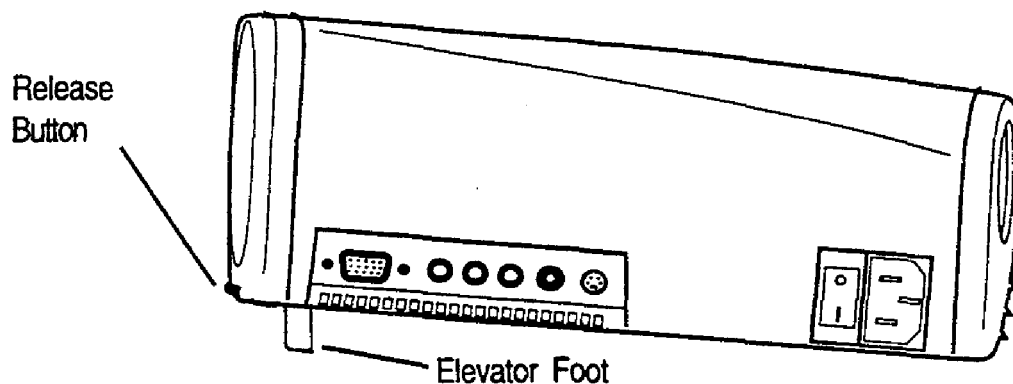


Figure 7: Quick Release Elevator

Menus

The projector on-screen menus provide the means to access all of the projector functions. There are three levels of menus. Typical examples of each level are shown on the opposite page. To access the menus follow the instructions below.

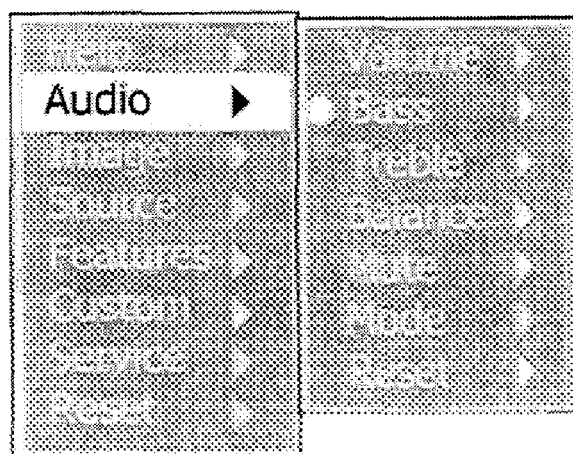
Menu Operation

1. Press the *Menu* button on the remote control or on the projector's keypad to bring up the on-screen main menu and the sub-menu for the highlighted selection.
2. Press the *Up* or *Down* arrow keys on the remote control or on the projector keypad to highlight a menu item.
3. Use the *Right* arrow key to move to the sub-menu.
4. Press the *Up* or *Down* keys to highlight your choice.
5. Press the *Right* arrow key to bring up either a numeric level display that will indicate the level or value of that choice or a second sub-menu that will provide the final selections.
6. Use the *Up* or *Down* arrows to adjust the level or make a final selection.

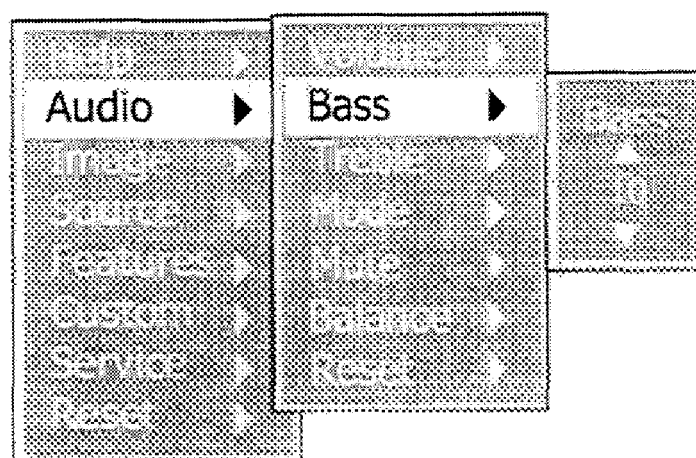
A *Reset* function is available at the bottom of the main menu and of each sub-menu.

Any changes or adjustments made are saved when the projector is powered down. The projector will remember the configuration settings for the last ten signal sources used with the projector and recall those settings whenever one of those devices is detected.

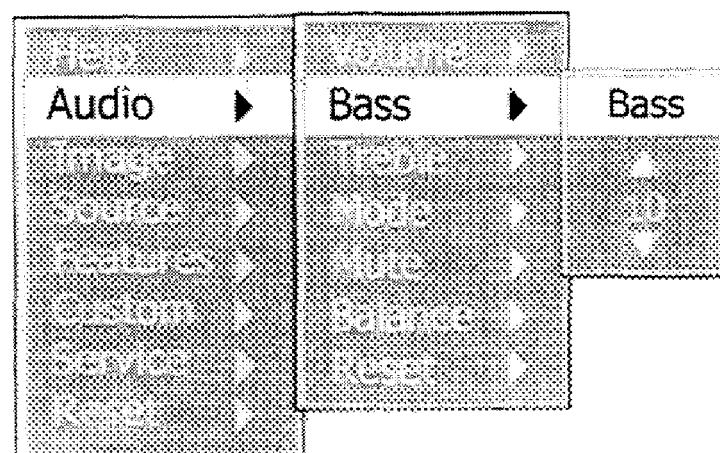
Menu level #1
First level choice
and associated
sub-menu



Menu level #2
First level choice,
sub-menu choice
and associated
level adjust



Menu level #3
First level choice,
sub-menu choice
and selected level
adjust



Audio Menu

Access the *Audio* menu from the Main menu as described on page 18.

The following adjustments are available from the *Audio* menu:

Volume, Bass, Treble, Mode, Mute and **Balance**.

The **Mode** submenu also allows you to select the following stereo modes:

Stereo (normal stereo), **Enhanced** (stereo with a 3D space effect), **Left Mono** and **Right Mono**

Image Menu

The Image menu provides a series of choices that determine how the projected image will appear on screen.

Different sub-menu choices will appear depending on whether the signal source is data or video. If no data or video source is present the **Image** menu will not appear.

The *Data* sub-menu consists of **Frequency, Tracking, Vertical, Horizontal, Brightness** and **Room Light**.

The *Video* sub-menu consists of **Contrast, Brightness, Sharpness, Room Light, Color** and **Tint**.

Most of the choices are easy to understand. Those that are not are described below.

Frequency

The projector is automatically set to the optimum frequency based on the detected data input signals. In some cases however, manual frequency adjustment may be required.

The Frequency adjustment acts as a horizontal size control matching the projector to the computer. A misadjusted frequency will cause evenly spaced dark vertical lines or distortions to appear on the projected image. Use the frequency level control to adjust the frequency until the lines spread apart and finally disappear.

Tracking

The projector is automatically set to the optimum tracking value based on the detected data input signals. In some cases however manual tracking adjustment may be required.

The Tracking adjustment is used to remove the last indications of noise or shaded areas that remain on the screen after completing the Frequency adjustment. No Tracking adjustment should be made until the Frequency adjustment is checked. It may be necessary to adjust the Frequency and Tracking a few times to correctly match the projector to the computer.

Note: Once the frequency and tracking are set, the projector will remember the settings and use them whenever again connected to that computer.

Tip:

*For Windows 95 users the best screen to use when adjusting **Frequency** or **Tracking** is the Windows shut down screen. To access this screen, click on the **Start** button on the task bar and click on **Shut Down**. When the frequency adjustment is completed, click on **No** and return to your active screen.*

Room Light

There are three room light settings **Dark**, **Normal** and **Bright**. Each *Room Light* value sets the optimum levels of brightness, contrast and color saturation to compensate for different room lighting conditions.

Source Menu

The **Source** menu allows you to choose between a **Computer** source or one of two separate video sources, **Composite** video or **S-Video**.

Note: If a computer or video source is lost and no other source is detected, a No Source message will appear in the bottom left corner of the screen.

Features Menu

Select the **Features** option, from the **Main** menu to preset your style preferences for the projected display.

The choices available from the features menu are:

Language (selects one of five languages)

Curtain (selects the color of the reveal curtain)

PAL-M (enables PAL-M)

Ceiling (inverts the image vertically)

Rear (reverses the image horizontally)

Custom Menu

The projector can be used with many different video sources in many different environments. **Custom** allows the user to save up to four different user configurations for up to four video or data sources. The parameters that will be saved as a custom mode for data, video or both are as follows:

Frequency (data) Tracking (data)

Vertical Position (data) Horizontal Position (data)

Room Light (both) Brightness (both)

Sharpness (video) Color (video)

Tint (video) Contrast (video)

Custom Menu (continued)

The choices in each of the four **Custom** sub-menus are:

Active (sets this mode to on)

Inactive (sets this mode to off)

Set (selects the current configuration to be saved in this mode)

The saved **Custom** mode for a device is saved with and takes priority over the ten saved modes whenever that device is detected.

Tip:

Set all custom modes to "inactive" prior to adjusting the projector to your preferences and saving those preferences as a custom mode.

Service Menu

The **Service Menu** provides information on projector life, lamp life and software version.

The choices in the **Service Menu** are as follows:

Info (information about software version)

Lamp (information about the lamp hours used and hours remaining)

Note: When the lamp life reaches 900 hours and thereafter till 950 hours the message "lamp expires in XX hours" will appear in the bottom left corner of the projected image and will stay on for 4 minutes. At 950 hours the message "lamp expired" will appear and stay on permanently till the lamp is replaced and the timer reset."

Reset Lamp Timer

To insure continued proper operation of your projector, DO NOT reset the lamp timer unless you are replacing the lamp.

To reset the lamp timer press and hold the menu button while pressing the up button 4 times. The following message will appear on the screen: "Only reset the lamp timer when replacing the lamp". Below the warning message you will be directed to "Press menu to reset" or "press the down arrow to cancel".

Remote Control

The remote control allows remote access to all projector functions.

- Source
- Menu
- Curtain
- Up, Down, Left, Right arrow keys
- Volume up and down
- Mute

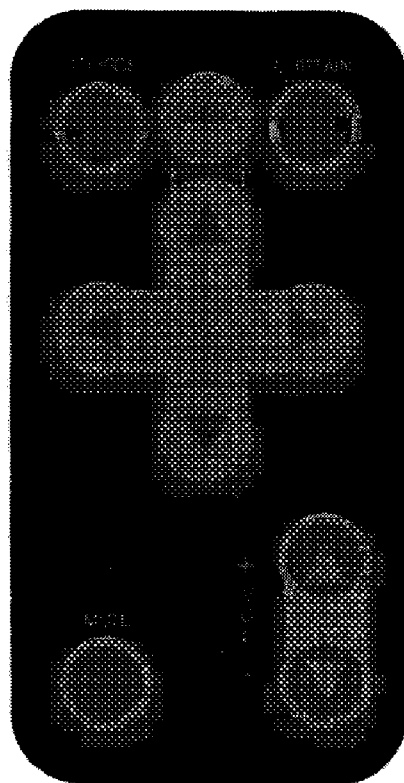


Figure 8: Remote Control

Appendix

Replacing the Lamp Module

Lamp Removal

1. **Important: Disconnect power cord from projector.**
2. The lamp module is very hot. Allow five minutes for it to cool down.
3. Remove two screws from the front panel.
4. Pull the front panel straight back from the projector.
5. Loosen the screw at the top center of the lamp module.
6. Grasp the lamp shroud and tilt the top of the module toward the front of the projector.
7. Lift the lamp module out of the projector.

Lamp Replacement (replace with Dukane part number 456-201)

1. Insert the spade connectors at the bottom of the new lamp module into the mating connectors in the projector. **The spade connectors must be inserted all the way down into the mating connectors.**
2. Align the lamp module with the module alignment pins and snap the lamp module into place.
3. Tighten the screw at the top center of the lamp module.
4. Replace the front cover.
5. Reset the lamp timer as described on page 23.

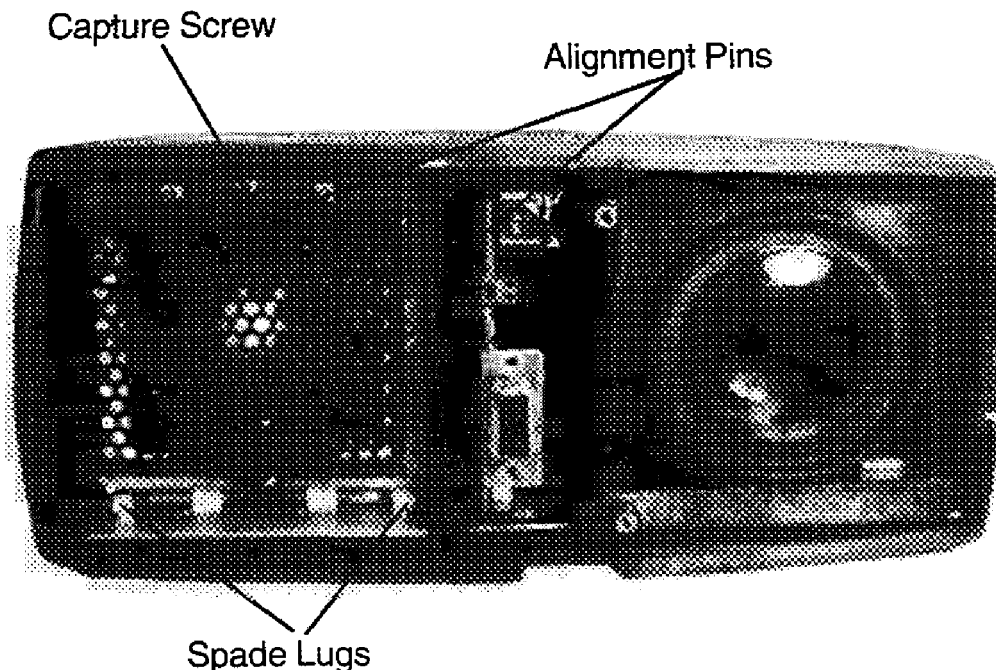


Figure 9: Lamp Replacement

Trouble Shooting

Warning: Except to change the projection lamp, do not attempt to open the projector cabinet to service it yourself. There are potentially **dangerous voltages** and other hazards.

If you encounter problems with the projection system, please refer to the section below. If you cannot solve the problem, please contact your supplier or contact Dukane Technical Support at 800-676-2487

Problem: Using a laptop computer, only the logo or blank screen is projected.

Solution: Check that the video output port on the laptop computer has been activated. The logo or blank screen will only appear if there is no signal present. Most laptop manufacturers have a method for activating the external videoport. Activating the external video port is usually accomplished using the function (FN) key on the laptop keyboard in conjunction with one of the regular function keys, e.g. hold down the FN key while pressing F5. (see the appendix page 28, "Laptop External Video Port Activation") Some laptops require a reboot to allow the computer to check for an attached external monitor and then activate the external port. Some Macintosh computers activate the external port by opening the **Mac Control Panel** and selecting **Video Mirroring**.

Problem: The projected display has vertical lines or vertical shaded areas in the background.

Solution: This symptom indicates that the frequency of the projector does not match the frequency of the computer. To correct this press the **Menu** button on the remote control or the keypad on the projector. Select **Picture** from the main menu then select **Frequency**. Using the up and down arrows on the remote control or on the projector keypad, adjust the frequency up or down until the shaded areas spread apart and disappear.

Tip:

*For Windows 95 users the best screen to use when adjusting **Frequency** or **Tracking** is the Windows shut down screen. To access this screen, click on the **Start** button on the task bar and click on **Shut Down**. When the frequency adjustment is completed, click on **No** and return to your active screen.*

ouble Shooting (continued)

Problem: When viewing text on the projected display some of the characters seem darker or thicker than others.

Solution: This symptom indicates that the frequency of the projector does not match the frequency of the computer. To correct this press the **Menu** button on the remote control or the keypad on the projector. Select **Picture** from the main menu then select **Frequency**. Using the left and right arrows on the remote control or on the projector keypad, adjust the frequency as described previously.

Problem: Noisy display in video mode.

Solution: Use a continuity tester to check for poor or open ground on the video cable.

Problem: Display is lacking red, blue, or green color.

Solution: Check the contrast adjustment or check the VGA cable for bent or broken pins.

Problem: The bottom of the projected display is straight but the top is crooked.

Solution: Align the projector so that it is perpendicular to the screen.

Problem: Remote control is intermittent or inoperative.

Solution: Make sure the IR window on the front of the projector is not blocked. Check the battery.

Problem: The projected image is rolling vertically or horizontally.

Solution: Check for bent or broken pins on the VGA cable. The problem may also be related to the computer refresh rate. The projector is able to synchronize with refresh rates between 55 and 85Hz, depending on the output resolution of the computer. Any refresh rate outside these limits may cause problems with the projector. Check the refresh rate of the computer and adjust if necessary.

Problem: Dark (brown or yellow) areas appearing in the projected image.

Solution: Remove the lamp module and check for darkening of the lamp. If the lamp has dark areas, replace the lamp module.

Laptop External Video Port Activation

Most laptop manufacturers have a method for activating the external monitor (VGA) port.

For IBM compatible computers, activating the VGA port is usually accomplished using the function (Fn) key on the laptop keyboard in conjunction with one of the regular function keys, for example, hold down the Fn key while pressing F12. Some laptops require a reboot to allow the computer to check for an attached external monitor and then activate the external port.

The following chart describes the methods used by the listed manufacturers to activate the external video port. Some manufacturers have several models that require different activation methods, those methods are listed.

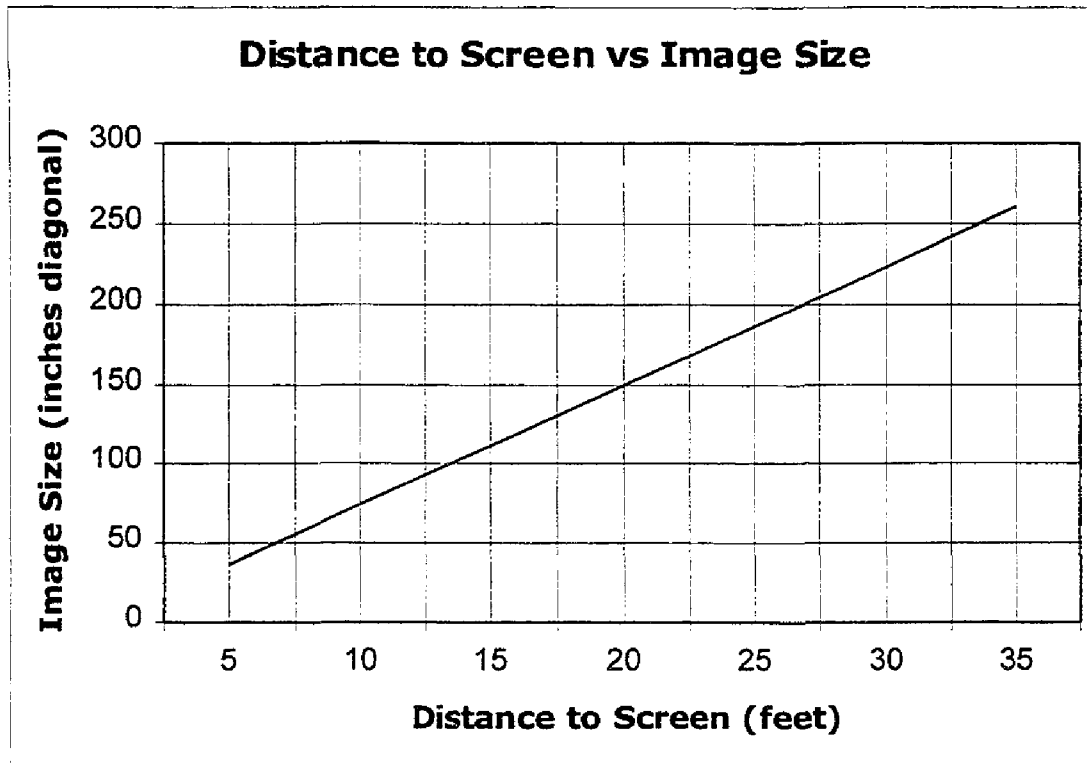
Some laptops require that the operator access a setup menu that will allow activation of the external video port.

Computer Manufacturer	Port Activation Keys
Acer	Ctrl-Alt-Esc (for setup menu) Fn-F5
AST	Fn-F5 Fn-F1 Fn-F12
Compaq	Fn-F4
DEC	Fn-F5 Fn-F4
Dell	Fn-F12 Fn-F8 NeoMagic screen for setup
Epson	Fn-F10
Fujitsu	Fn-F10
Gateway	Fn-F1 Fn-F5 Fn-F3

Computer Manufacturer	Port Activation Keys
Hitachi	Fn-F12 Fn-F7
Hewlett Packard	Automatic on bootup Fn-F5
IBM	Fn-F7
Micron	Fn-F2
Mitsubishi	SW2 on-off-off-off
NEC	Fn-F2 Fn-F3 Fn-F10
Panasonic	Fn-F2
Samsung	Fn-F4 Fn-F6
Sanyo	Setup screen
Sharp	Fn-F5 Dip switch to CRT
Texas Instruments	Fn-F2 Fn-F10 Fn-F12
Toshiba	Fn-F5 Fn-F6
Winbook	Ctrl-Alt-F10 Fn-F10 Fn-F6 Fn-F12
Zenith	Fn-F10 Fn-F2 Fn-F1 Fn-F7
Zeos	Ctrl-Shift-D Fn-F1

Distance to Screen vs Image Size

The following chart and table will help you determine the distance between the projector and the screen that is required to produce the desired screen image size.



Distance to Screen (feet)	Diagonal (inches)	Height (inches)	Width (inches)
5	37	22	30
10	74	45	60
15	112	67	89
20	149	89	119
25	186	112	149
30	223	134	179
35	260	208	208

Specifications

Computer Compatibility	IBM Compatibles Apple Mac Family
Video Compatibility	NTSC-M/N/4.43 PAL-M/N/B/D/G/H/IK/L Secam (B,D,G,K,K1,L) Composite and S-Video
Audio	Built-in stereo audio system with two internal 2 watt amplifiers and speakers.
Number of Colors	16.7 Million
Display Type	1 panel polysilicon LCD
Display Format	XGA (1024x768)with compres- sion SVGA (800x600) VGA (640x480) resized to SVGA
Contrast Ratio	100 to 1
Light Source	200 Watt Metal Halide Lamp Dukane #456-201
Lamp Life	1000 Hours
Brightness	500 Lumens
Horizontal Frequency	24.366 - 70 KHz
Vertical Frequency	55.378 - 85Hz
Cooling	Internal fans and ventilation
Electrical Supply	AC 100/115/230V, 50 to 60Hz 2.4/2.2/1.1 A
Power Consumption	275 Watts
Temperature	Ambient Operating 10C to 32°C Ambient Storage -20°C to +60°C
Dimensions	7.5 X 10.5 X 3.9 inches
Weight	5 Lb

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