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PROJECTOR OWNER'S MANUAL

Boxlight

LP610

Need a replacement lamp for this projector?

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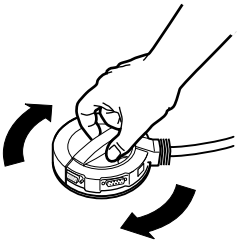
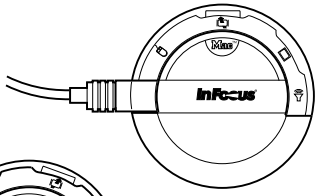
Quick Start

LitePro® 610/620

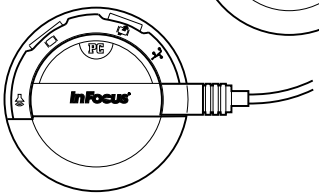
1 Rotate the CableWizard selector to expose the correct connectors for your computer.



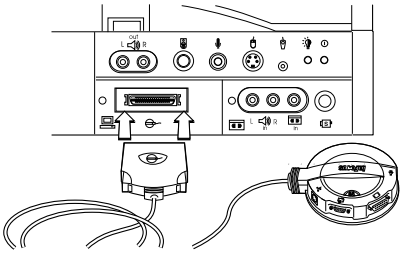
Macintosh® or PowerBook™? →



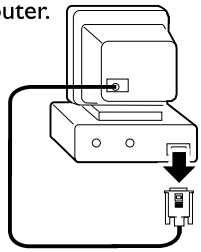
IBM®-compatible PC? →



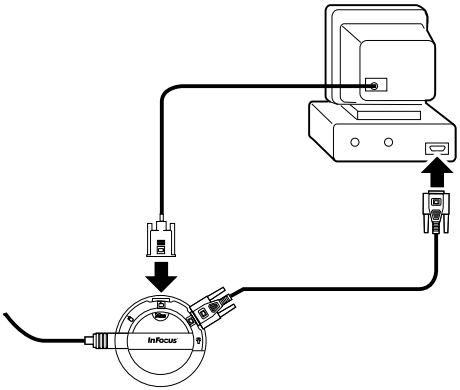
2 Plug the CableWizard into the projector.



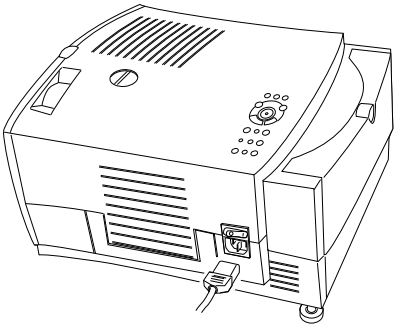
3 Unplug the cable that connects your monitor to your computer.



4 Attach the CableWizard to your computer.



5 Plug the power cord into the projector and into an electrical outlet.



6 Turn on the projector. Turn on your monitor. Turn on your computer. Refer to the *LitePro 610/620 User's Guide* for more information.

009-0279-00 (English)

InFocus® SYSTEMS

QUICK START

LitePro® 610/620

SAFETY SUMMARY: Please read these instructions before using your LitePro 610 or 620. Failure to comply could result in fire, electrical shock, personal injury or equipment damage.

Definition of Safety Icons on Product Labels

Refer to the User's Guide for more information.

Avoid hot surfaces.

Bulb explosion hazard.

Don't Look Into The Lens!

Be extremely careful not to look directly into the lens when the projector is on. The bright light can harm your eyes. Be especially careful to keep children from looking into the lens.

Don't Disassemble

Do not open the projector's case! Doing so exposes you to an electric shock hazard. Except for the projection lamp, there are no user-serviceable parts. All service must be performed by an In Focus Systems Authorized Service Provider.

Avoid Hot Surfaces

The rear of the projector becomes very hot during operation. Avoid touching the exhaust grill on the lamp door. Allow the projector to cool for at least 45 minutes before opening the lamp door to replace the lamp. The inside of the lamp housing can be very hot. Use extreme care. Avoid touching the hot surfaces inside.

Use Only The 610/620 Power Cord

Always use the power cord that came with the projector. Although other cords might look the same, they have not been safety-tested with the 610 or 620. Never use the power cord if it's damaged or frayed. When you disconnect the projector, always remove the power cord from the electrical outlet first, then from the projector.

Don't Defeat The Purpose Of The Grounding Plug

The projector is grounded through the grounding conductor on the power cord. To avoid electric shock, plug the power cord into a properly wired receptacle.

Avoid Liquid Spills

Don't set drinks on top of the projector. Spilled liquids can flow inside causing damage.

Don't Block Ventilation

Openings in the case provide ventilation to protect the projector from overheating. Keep loose papers and other objects away from the bottom, top and side grills. Don't place the projector on top of or close to a computer or other heat-producing equipment.

InFocus® SYSTEMS

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SAFETY SUMMARY

Please read these instructions carefully before using your LitePro 610 or 620. Failure to comply with them could result in fire, electrical shock, personal injury or damage to equipment.

These graphics are used throughout this manual to draw your attention to important information about the projectors.

NOTE: *Additional useful details or tips.*

CAUTION: *Steps to avoid damage to your equipment.*

WARNING: *Steps to avoid personal injury.*

These graphics are used on LitePro labels.

Attention: Refer to this User's Guide for important safety information.

Hot Surfaces: Avoid touching hot surfaces. Do not touch until the LitePro has cooled.

Lamp Explosion Hazard: If you continue to use the lamp after the lamp monitor light comes on, it may explode, severely damaging your LitePro. Be sure to replace the lamp when the lamp monitor light comes on as described in this User's Guide. Refer to the section titled "Replacing the Projection Lamp" for information about changing the bulb.

Do not look into the lens!
Be extremely careful not to look into the projection lens when the LitePro is turned on. The bright light may harm your eyes. Be especially careful to keep children from looking into the lens.

Turning projector on and off
Allow the projector to warm up for three minutes before turning it off; allow the projector to cool down for three minutes before turning it back on. Repeatedly turning the projector on and off without waiting three minutes may cause the lamp to explode.

Power source
Use only a three-wire grounding type power source. The nominal power source should not exceed 240 volts rms between the supply conductors or between either conductor and the ground.

Power cord
Use only the power cord that was shipped with the LitePro. Although other power cords might be similar in appearance, they have not been safety-tested with the 610 or 620. Do not use a power cord if it has become damaged or frayed. Contact your In Focus dealer or call In Focus if you need to replace your power cord.

Grounding
The projector is grounded through the grounding conductor on the power cord. To avoid electric shock, plug the power cord into a properly wired receptacle. Do not defeat the purpose of the grounding-type plug.

Lamp
To avoid overheating and unacceptable image quality, replace the projection lamp with a lamp of the specified type. Refer to page 52 for lamp specifications and to page 41 for instructions on replacing the lamp.

***CAUTION**: Be sure to replace the projection bulb when the lamp monitor light comes on as described on page 41. If the lamp remains in use too long, there is a danger of bulb explosion. If this happens, your LitePro will be severely damaged.*

Lamp compartment
To avoid burns or an explosion hazard, do not open the lamp module door until the projector is turned off and the lamp has cooled. The hot lamp contains high pressure and can explode if damaged or old. Follow the instructions in this manual for lamp replacement carefully.

Hot surfaces
Allow the projector to cool at least 45 minutes before replacing a lamp. When you open the lamp housing, be very careful not to touch the hot surfaces inside.

Ventilation and overheating
Openings in the projector case provide ventilation to protect it from overheating. Keep loose papers and other objects well away from the bottom, top and side grills. Do not place the projector on top of or close to a computer or other heat-producing equipment.

Liquid spills
Do not set drinks on top of the projector. Spilled liquids can flow inside and cause damage.

Do not disassemble
All service must be performed by an In Focus Authorized Service Provider. The only user-serviceable part in the projector is the projection lamp, which you can replace by opening the lamp cover in the front of the projector as described on page 41. Do not open any other part of the projector. If your LitePro needs repair, call In Focus Customer Service as described on page 4. Before you call Customer Service, you may want to refer to "Trouble-shooting" starting on page 45 to see if you can resolve the problem yourself.

***NOTE**: If you open the projector, you will void the warranty.*

INTRODUCTION

The In Focus Systems LitePro® 610 and 620 multimedia projectors combine powerful and sophisticated features with easy-to-use, intuitive controls. Built-in multimedia features include high-fidelity stereo audio by JBL™, a palette of 16.7 million colors and Digital Light Processing™ (DLP) technology. The 600 series projectors are ideal for high-performance business, training and imaging applications that demand exceptional color quality. The 610 has VGA graphics, the 620 has SVGA graphics. The user interfaces of the two products are identical; information in this User's Guide applies to both products.

Image Resolution

LitePro 610

The VGA resolution of the projected image of the 610 is 640x480. The projector displays computer images that are 640x480 or lower just as they appear on your computer's monitor. Screen resolutions between 640x480 and 800x600 are compressed to 640x480. The projector cannot compress screen resolutions above 800x600. If your computer's screen resolution is higher than 800x600, reset it to a lower resolution before you connect the projector.

LitePro 620

The SVGA resolution of the projected image of the 620 is 800x600. The projector displays computer images that are 800x600 or lower just as they appear on your computer's monitor. Screen resolutions between 800x600 and 1024x768 are compressed to 800x600. The projector cannot compress screen resolutions above 1024x768. If your computer's screen resolution is higher than 1024x768, reset it to a lower resolution before you connect the projector.

NOTE: *The 620 automatically expands 640x480 images to 800x600. You can display these images at 640x480 by turning off the Auto Resize feature. See "Auto Resize" on page 37 for more information.*

Compatibility

The projector is compatible with a wide variety of computers and video devices, including:

- IBM-compatible computers, including laptops, up to 800x600 resolution (LitePro 610) or 1024x768 resolution (LitePro 620) at 60Hz.
- IBM PS/2 in VGA and MCGA modes.
- Apple Macintosh and PowerBook computers up to 800x600 resolution (LitePro 610) or 1024x768 resolution (LitePro 620).
- Various VCRs, camcorders and laser disc players.

The projector is not compatible with these systems:

- IBM-compatible computers in CGA or EGA graphics mode.
- Macintosh 128, 512, Plus, SE, SE/30 or Classic.

Unpacking the Projector

The projector comes with the parts shown in Figure 1. Check to make sure all are included. If any parts are missing, contact your In Focus dealer immediately.

If you are experienced in setting up presentation systems, use the *LitePro 610/620 Quick Start* card that was included in the shipping box. For complete details on connecting and operating the projector, refer to the appropriate sections of this User's Guide.

NOTE: *The contents of your shipping box may vary depending on the LitePro 610/620 configuration you ordered.*

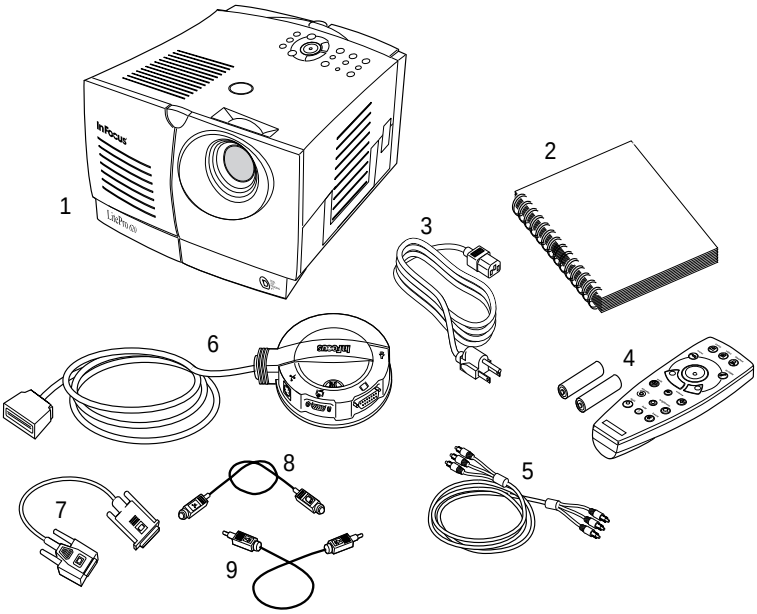

FIGURE 1

Shipping box contents

1. LitePro 610 or 620 projector
2. *LitePro 610/620 User's Guide*
3. power cord
4. remote and batteries
5. RCA audio/video (A/V) cable
6. CableWizard
7. CableWizard computer cable
8. CableWizard mouse cable
9. CableWizard audio cable

Not shown: Quick Start card, remote cable

Usage Guidelines

- Do not look directly into the projection lens when the projector is turned on. The bright light may harm your eyes.
- The top and bottom of the projector can be very hot to the touch after use. Use extreme care or let it cool before lifting it.
- Do not block the grills at the front, side, top or bottom of the projector. Restricting the air flow through the projector can cause it to overheat and turn off.
- Handle the projector as you would any product with glass components. Be especially careful not to drop it.
- Avoid leaving the projector in direct sunlight or extreme cold for extended periods of time. If this happens, allow it to reach room temperature before use.
- Transport the projector in a vendor-approved hard or soft case. Call your In Focus dealer for more information.

NOTE: *If the projector overheats and turns off, you must wait 45 seconds before you attempt to turn it back on.*

If You Need Assistance

The first place to look for help is in this manual. Be sure to check the guidelines in "Troubleshooting" on page 45.

If this manual doesn't answer your question, call your In Focus dealer. You can also call In Focus Customer Service directly at **1-800-799-9911**. Call between 6 a.m. and 5 p.m. PST, Monday through Friday. In Europe, call In Focus in The Netherlands at **(31) 23-5623200**. In Singapore, call **(65) 334-9005**.

The In Focus World Wide Web address is **http:\\www.infs.com**.

Warranty

These products are backed by a limited one-year warranty. The details of the warranty are printed at the back of this manual. Longer term warranties can be purchased from your In Focus dealer. Refer to page 54 for part numbers.

SETTING UP THE PROJECTOR

1 Place the projector on a flat surface.

- The projector must be within 10 feet of your power source and within 10 feet of your computer.
- If you want to project from behind a translucent screen, set up the projector behind your screen. See “Rear Projection” on page 40 to reverse the image.
- If you are installing the projector on the ceiling, see the *LitePro* 610 / 620 *Ceiling Mount Installation Guide* for recommendations. To turn the image upside down, see “Ceiling” on page 39. The Ceiling Mount Kit is sold separately. See “Accessories” on page 53.

2 Position the projector the desired distance from the screen.

- The distance from the lens of the projector to the screen determines the size of the projected image. Figure 2 shows three projected image sizes for the 610; Figure 3 shows image sizes for the 620. For more information, see “Projected Image Size” on page 60.

3 Make sure the projector and your computer are turned off.

***NOTE**: An optional extension cable, sold separately, lets you increase the distance between the projector and your computer to 50 feet. See “Accessories” on page 53.*

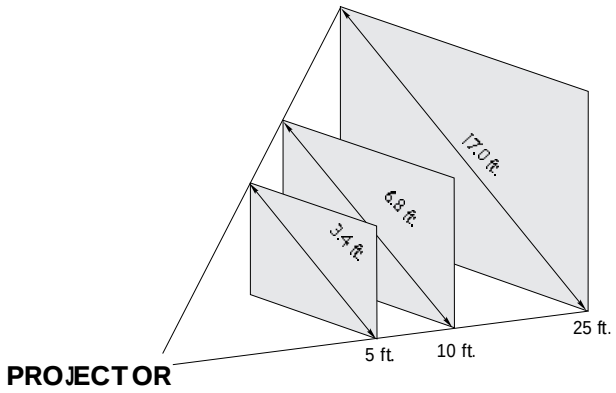

FIGURE 2

Projected image size for LitePro 610

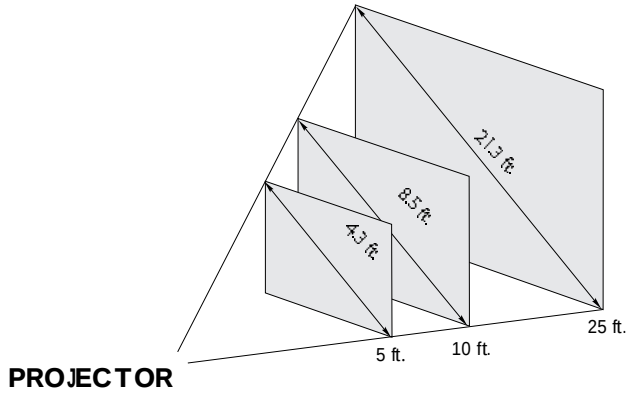

FIGURE 3

Projected image size for LitePro 620

Connecting the CableWizard to the Projector

The CableWizard™ simplifies the connection process by providing a central hub for all the connections between the projector and your computer. The connectors on the CableWizard are labeled with icons.

Connect the end of the CableWizard cord to the connector on the projector's connector panel (Figure 4).

CAUTION: *Turn off your computer, monitor and the projector whenever you connect or disconnect cables.*

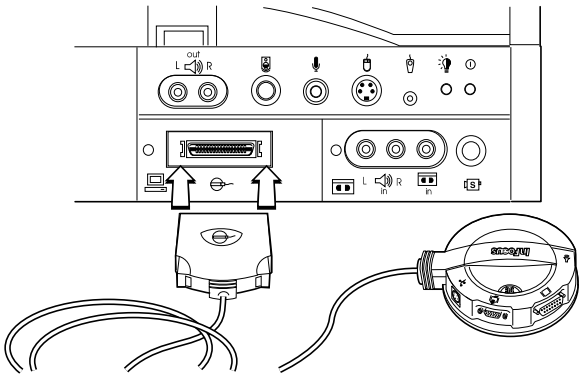

FIGURE 4

Connecting the CableWizard cable to the projector

Selecting Connectors on the CableWizard

Turn the selector on the top of the CableWizard to reveal the correct connectors for your computer.

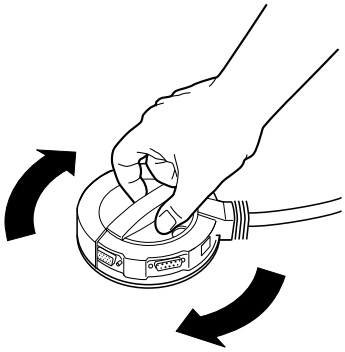

FIGURE 5

Selecting connectors on the CableWizard

- If you're connecting an **IBM-compatible desktop or laptop computer**, turn the selector until the window displays "PC".

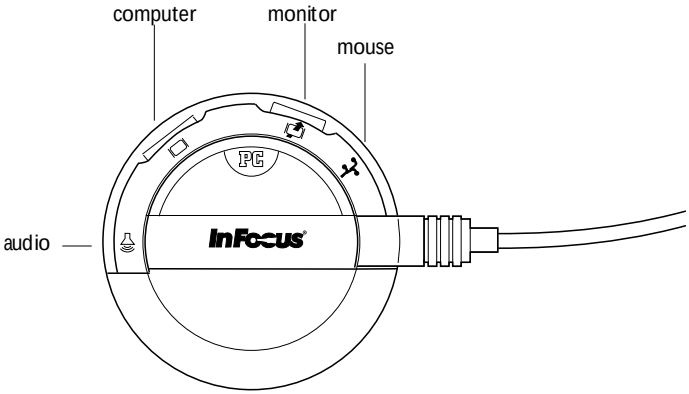

FIGURE 6

Selecting the IBM-compatible connectors on the CableWizard

- If you're connecting a **Macintosh desktop or an Apple PowerBook computer**, turn the selector until the window displays "Mac™" (Figure 7).

NOTE: *You must disconnect all cables before turning the selector on the CableWizard.*

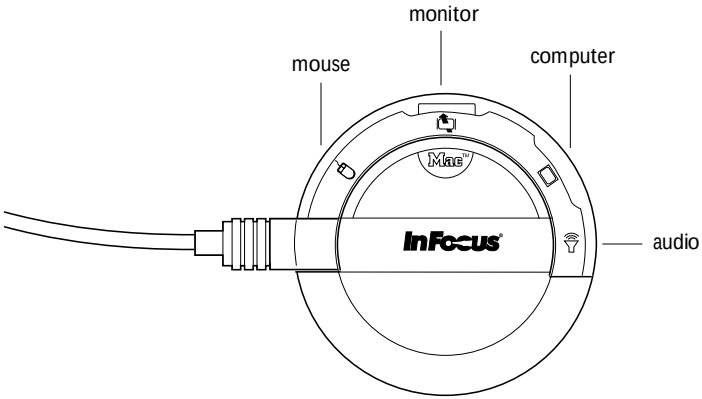

FIGURE 7

Selecting the Macintosh connectors on the CableWizard

Preparing to Connect Your Equipment to the Projector

Now you're ready to connect your equipment. Computers are connected to the CableWizard. Video players and other equipment, such as external speakers, are connected directly to the projector.

Steps for connecting different types of equipment are given on the pages listed below.

***NOTE**: Before you continue, make sure the projector and your equipment are turned off. If you're connecting a computer, make sure the distance between it and the projector is 10 feet or less and you've selected the appropriate connectors on the CableWizard.*

Computer/Equipment	Page
IBM-compatible desktop computer	page 9
IBM-compatible laptop computer	page 11
Macintosh desktop computer	page 13
Apple PowerBook	page 15
Video player	page 17
External speakers or subwoofer	page 19
Microphone	page 19
PS/2-compatible mouse	page 20
Remote control cable	page 20

Connecting an IBM-Compatible Desktop Computer

1. Locate the cable that connects your monitor to your computer. Unplug it from the computer.

2. Plug the end of the CableWizard computer cable into the video connector on your computer.

3. Plug the end of the CableWizard computer cable into the connector on the CableWizard.

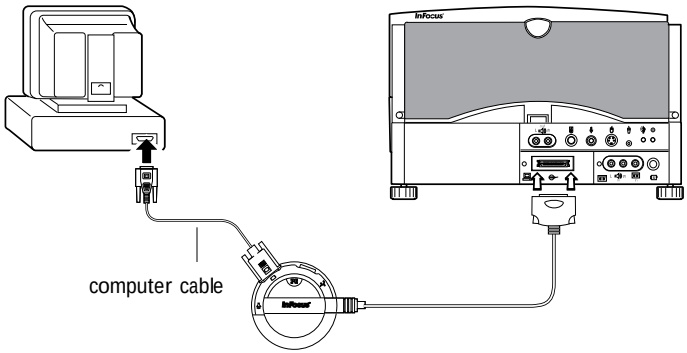

FIGURE 8

Connecting the CableWizard computer cable to an IBM-compatible desktop computer

Do you want to display the image on your computer's monitor as well as on the projection screen?

1. Plug your monitor's cable into the connector on the CableWizard.

Do you want to play your computer's audio on the projector?

1. Unplug the audio cable, if present, from your computer.

2. Plug either end of the CableWizard audio cable into the audio connector on your computer.

3. Plug the other end of the CableWizard audio cable into the connector on the CableWizard.

Do you want to control your computer's mouse from the projector's remote or keypad?

1. Unplug the mouse cable from your computer.
2. Plug the end of the CableWizard mouse cable into the mouse connector on your computer.
3. Plug the end of the CableWizard mouse cable into the connector on the CableWizard.

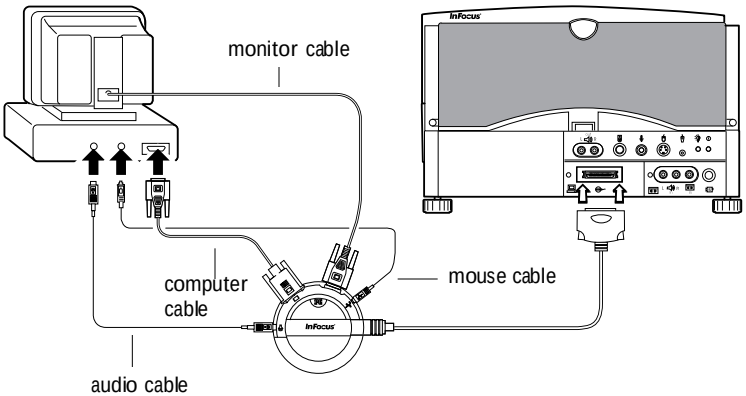

FIGURE 9

Connecting the CableWizard monitor, audio and mouse cables to an IBM-compatible desktop computer

Now you're ready to power up the projector and your computer. Skip to "Powering up the Projector and Adjusting the Image" on page 21.

Connecting an IBM-Compatible Laptop Computer

1 Plug the end of the CableWizard computer cable into the video connector on your computer.

2 Plug the end of the CableWizard computer cable into the connector on the CableWizard.

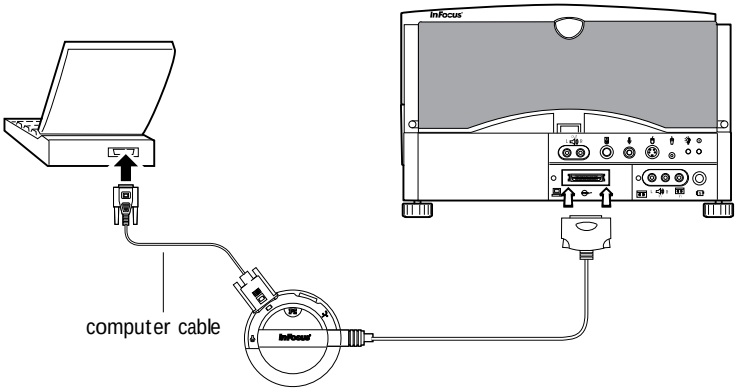

FIGURE 10

Connecting the CableWizard computer cable to an IBM-compatible laptop computer

Do you want to play your computer's audio on the projector?

1 Plug either end of the CableWizard audio cable into the audio connector on your computer.

2 Plug the other end of the CableWizard audio cable into the connector on the CableWizard.

NOTE: *Many laptop computers do not automatically turn on their external video port when a secondary display device such as a projector is connected. Refer to your computer manual for the command that activates the external video port. Activation commands for some laptop computers are listed in the Appendix of this manual on page 55.*

NOTE: *If you don't want audio or mouse control, you can use the CableWizard Lite. CableWizard Lite is ordered separately. See "Accessories" on page 53.*

Do you want to control the computer's mouse from the projector's remote or keypad?

1. Locate the mouse cable and unplug it from your computer.
2. Plug the end of the CableWizard mouse cable into the mouse connector on your computer.
3. Plug the end of the CableWizard mouse cable into the connector on the CableWizard.

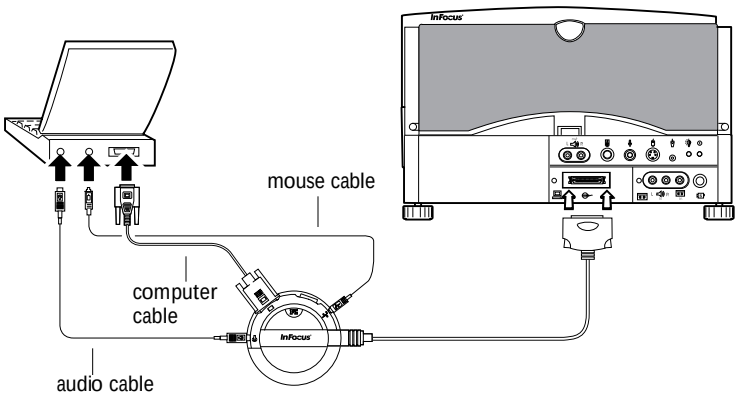

FIGURE 11

Connecting the CableWizard audio and mouse cables to an IBM-compatible laptop computer

Now you're ready to power up the projector and your laptop. Skip to "Powering up the Projector and Adjusting the Image" on page 21.

Connecting a Macintosh Desktop Computer

1. Locate the cable that connects the monitor to your computer. Unplug it from the computer.
2. Plug the end of the CableWizard computer cable into the video connector on your computer.
3. Plug the end of the CableWizard computer cable into the connector on the CableWizard.

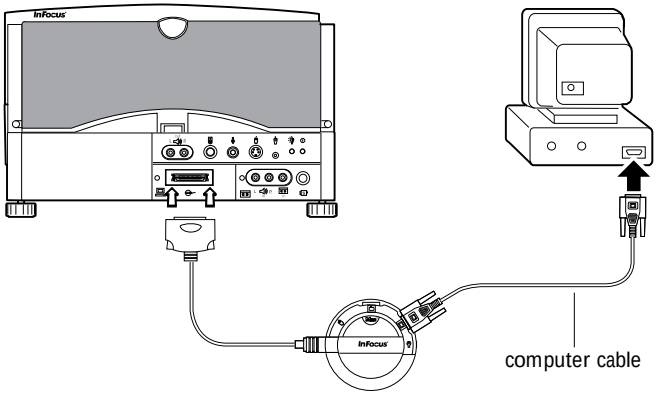

FIGURE 12

Connecting the CableWizard computer cable to a Macintosh desktop computer

Do you want to display the image on your computer's monitor as well as on the projection screen?

1. Plug the monitor's cable into the connector on the CableWizard.

Do you want to play your computer's audio on the projector?

1. Unplug the audio cable, if present, from your computer.
2. Plug either end of the CableWizard audio cable into the audio connector on your Macintosh.
3. Plug the other end of the CableWizard audio cable into the connector on the CableWizard.

Do you want to control the computer's mouse from the projector's remote or keypad?

1. Unplug the mouse from your Macintosh or locate an unused ADB connector.
2. Plug the end of the CableWizard mouse cable into the mouse or the (ADB) connector on your Macintosh.
3. Plug the end of the CableWizard mouse cable into the connector on the CableWizard.

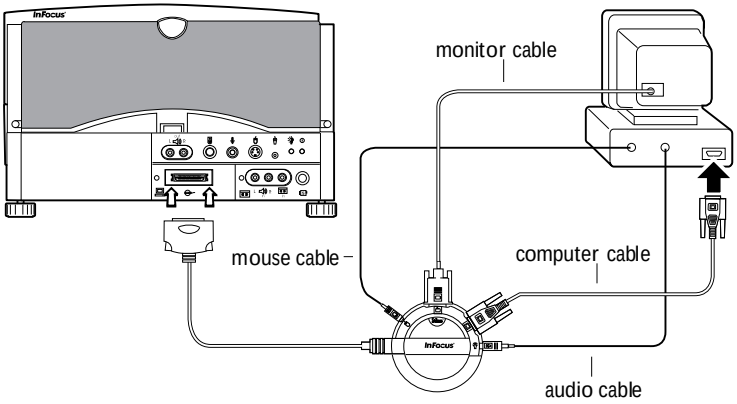

FIGURE 13

Connecting the CableWizard monitor, audio and mouse cables to a Macintosh desktop computer

Now you're ready to power up the projector and the Macintosh. Skip to "Powering up the Projector and Adjusting the Image" on page 21.

Connecting an Apple PowerBook Computer

1. Plug the end of the CableWizard computer cable into the video connector on your PowerBook.
2. Plug the end of the CableWizard computer cable into the connector on the CableWizard.
3. If you want the projector's display to be the same as the PowerBook's screen, turn on video mirroring. (See "Using Video Mirroring with a PowerBook Computer" on page 59 for additional information.)

NOTE: *Some PowerBooks require the Apple-supplied video-out cable for external video. Connect it between the PowerBook and the CableWizard computer cable as shown in Figure 14.*

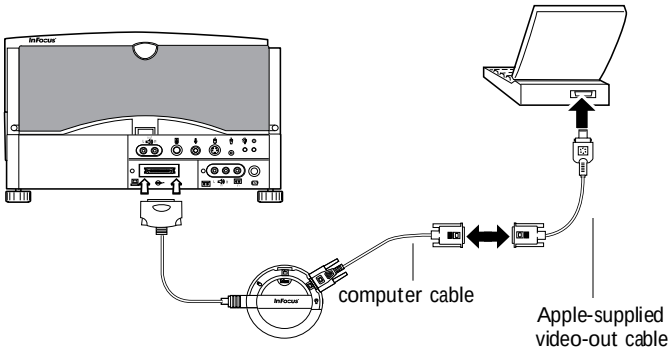

FIGURE 14

Connecting the CableWizard computer cable to an Apple PowerBook

Do you want to play your computer's audio on the projector?

1. Plug either end of the CableWizard audio cable into the audio connector on your PowerBook.
2. Plug the other end of the CableWizard audio cable into the connector on the CableWizard.

Do you want to control the computer's mouse from the projector's remote or keypad?

1. Locate the mouse cable and unplug it from your PowerBook.
2. Plug the end of the CableWizard mouse cable into (ADB) connector on your PowerBook.
3. Plug the end of the CableWizard mouse cable into the connector on the CableWizard.

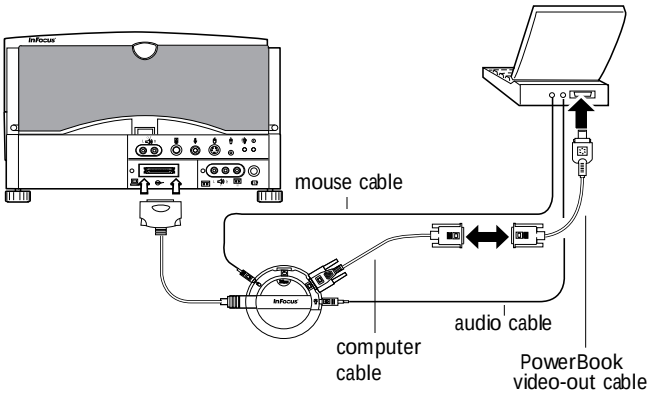

FIGURE 15

Connecting the CableWizard audio and mouse cables to a PowerBook

Now you're ready to power up the projector and your PowerBook. Skip to "Powering up the Projector and Adjusting the Image" on page 21.

Connecting a Video Player

1 If your video player uses a round, one-prong composite video connector, you'll need only the A/V cable that shipped with the projector.

- If your video player uses a round, four-prong S-video connector, you'll also need an S-video cable in addition to the A/V cable. The S-video cable is sold separately. (See "Accessories" on page 53.)

2 Plug the A/V cable's yellow connector into the "video-out" port on your video player (Figure 16). This port may be labeled "To Monitor."

- If you're using an S-video cable, connect it to the "s-video out" connector on the video player (Figure 17).

3 Plug the other yellow connector into the (composite video) connector on the back of the projector.

- If you're using S-video, plug the other end of the cable into the (s-video) connector on the projector (Figure 17).

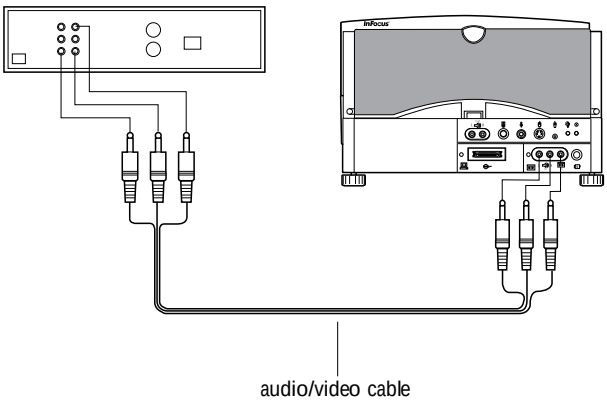

FIGURE 16

Connecting the projector to a video player using the standard A/V cable (with composite video connector)

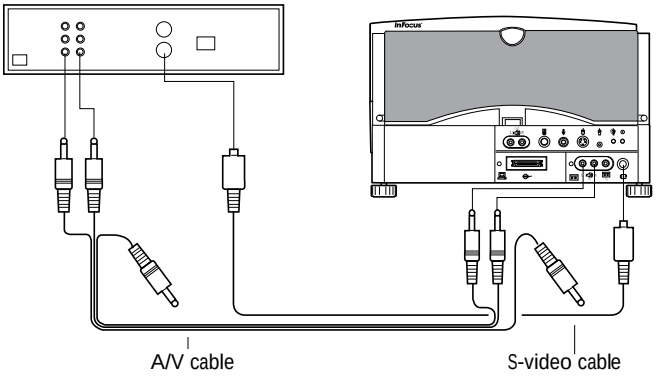

FIGURE 17

Connecting the projector to a video player using an S-video cable and the audio connectors on the standard A/V cable

4 Plug the A/V cable's white connector into the left "audio out" port on your video player. Plug the cable's red connector into the right "audio out" port on the video player (Figure 16 and Figure 17).

5 Plug the A/V cable's other white and red connectors into the left and right 🔊 (audio in) ports on the projector.

CAUTION: *Your video player may also have a "Video Out" port for a coaxial cable connection. Do not use this to connect to the projector.*

The projector is compatible with the three major broadcast video standards: NTSC, PAL and SECAM. It automatically adjusts to optimize its performance for the incoming video. You can also set the video standard manually from the projector's Controls menu; see "Video Standard" on page 39.

Connecting an External Speaker and a Subwoofer

- To connect one or two external speakers, plug the speaker cables into the separate red and white L R (audio out) connectors on the projector.
- To connect a subwoofer, plug the subwoofer's cable into the connector on the projector.

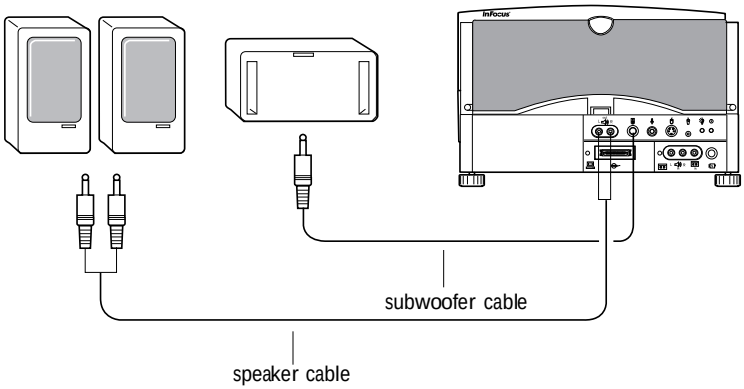

FIGURE 18

Connecting an external speaker and a subwoofer

***NOTE**: The external speakers must have their own power source.*

Connecting a Microphone

- To connect a microphone, plug the microphone cable into the connector on the back of the projector.

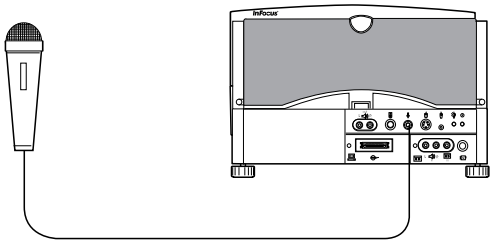

FIGURE 19

Connecting a microphone

***CAUTION**: Always keep the source volume at its lowest level when installing the microphone. For information about setting the microphone level, see page 35.*

Connecting a PS/2-Compatible Mouse

The mouse connector on the projector will be used to connect a PS/2-compatible mouse. Call your In Focus dealer for availability.

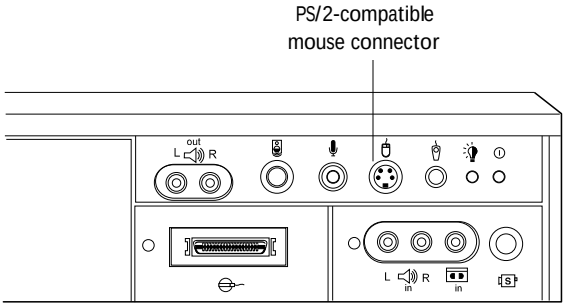

FIGURE 20

The PS/2-compatible mouse connector on the projector

Connecting the Remote Control Cable

If the projector cannot receive the remote's signal, as may be the case if you're using rear projection, connect the remote directly to the projector with the remote cable.

1. Plug the end of the remote cable with the cylinder into the connector on the projector.
2. Plug the other end into the connector on the remote.

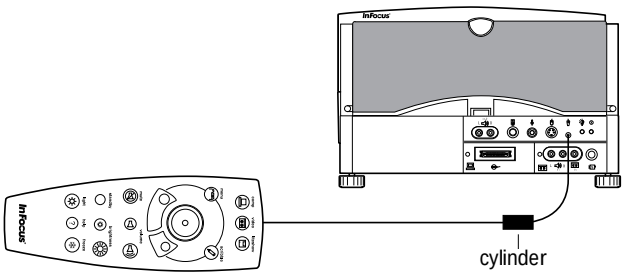

FIGURE 21

Connecting the remote control cable

Powering up the Projector and Adjusting the Image

1 Plug the power cord into the projector (Figure 22), then plug it into your electrical outlet. A surge-protected power strip is recommended if power surges are common in your area.

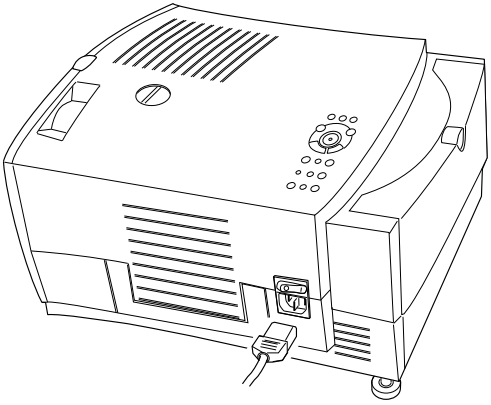

FIGURE 22

Connecting the power cord to the projector

2 Turn on the projector by pressing the "l" side of the power switch.

- The power indicator and lamp module LEDs light solidly while the projector initializes, then the power LED blinks green while the projector powers up. When the projector reaches full power, the power LED lights solid green and the lamp LED goes out (Figure 23).

3 If you connected a video player, turn it on.

- Press the **video** button to display the image from your video player. The video source indicator LED displays a solid green indicating the video source is active (Figure 23). Press **computer** to return to your computer's image.
- Use the **volume** buttons on the remote control or keypad to adjust the volume.
- If you don't want to hear the sound from your video player, press the **mute** button.

***NOTE**: Always use the power cord that shipped with the projector.*

***CAUTION:** If the lamp LED remains solidly lit after the LitePro has powered on, the lamp needs to be replaced. If the lamp remains in use too long, it may explode and severely damage the LitePro. Refer to "Replacing the Projection Lamp" on page 41 for details.*

NOTE: *With some computers, the order in which you power up the equipment is very important. We recommend that you always turn on the computer LAST.*

4 Turn on your monitor if you've connected it.

5 Turn on your computer. The computer image should display on the projection screen.

- The computer source indicator LED displays a solid green indicating the computer source is active (Figure 23).
- If necessary, use the **brightness** buttons on the remote control or keypad to adjust the brightness. You can make further adjustments to the image from the projector's on-screen menus. To open the menus, press the **menu** button on the remote control or keypad. Then select the Display menu or the Image menu. For more information about the menus, see page 32.
- If you don't want to hear the sound from your computer or video player, press the **mute** button on the remote control or keypad. (Pressing **mute** does not mute the microphone.)

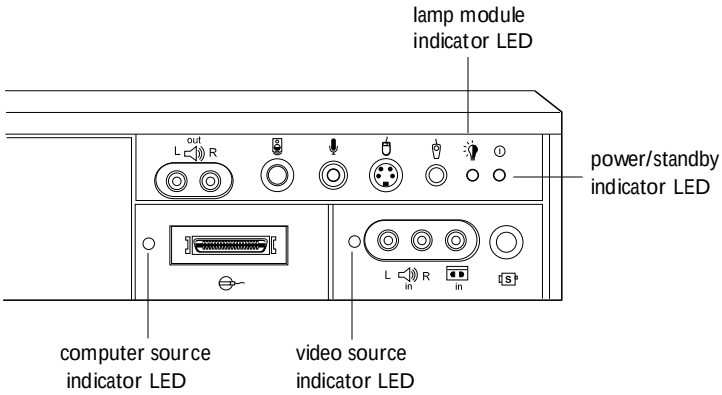

FIGURE 23

Indicator LEDs

Turning Off the Projector

If you want to turn off the projector for a short period of time, press the **standby** button on the remote control or keypad. This turns off the lamp but keeps the projector running. The power/standby indicator LED (Figure 23) blinks green while the projector is in standby. To exit standby mode, press the **standby** button once. (It takes several seconds for the projection lamp to reach full power and project the image again.)

To completely power off the projector, press the "O" side of the power switch. If you want to turn the projector back on immediately, you should allow at least three minutes for the lamp to cool.

***CAUTION**: Do not repeatedly turn the projector on and off. It may cause the lamp to explode.*

***NOTE:** When you disconnect the projector, always remove the power cord from the electrical outlet first, then from the projector.*

USING THE PROJECTOR

This section describes how to use and make adjustments to the projector. It also provides a reference to the remote control buttons and the options available from the on-screen menus.

Basic Image Adjustment

1. Make sure you have powered up your equipment in the right order (page 21).
2. If the image doesn't display completely, adjust the height of the projector (page 26) or center the image by adjusting its horizontal or vertical position (page 38).
3. If the image is out of focus, rotate the lens to focus it (page 26).
4. If the image appears to shimmer or if it has blurry vertical bars after you have adjusted the focus, turn **Auto Image** (page 37) off and then back on to reset the automatic sync and tracking. If that doesn't clear up the image, adjust the sync (page 37) and / or the tracking (page 38) manually.
5. If the colors don't look right, adjust the brightness (page 29). The signal synchronization might need readjustment after changing the brightness (page 37).

Using the Remote Control

Point the remote control at the projection screen or at the front or rear of the projector. The range for optimum operation is about 40 feet. If you point the remote at the projection screen, the distance to the screen and back to the projector must be less than or equal to 40 feet. For best results, point the remote directly at the front or the rear of the projector.

NOTE: *If you can't aim the remote control at the projector so that its signal is received — for example, when using rear projection — use the remote control cable to connect the remote directly to the projector (page 20).*

Adjusting the Projector

To focus the image, rotate the projection lens until the image is clear.

The projector is equipped with a self-locking, quick-release elevator button and adjustable-height feet. By raising the back of the projector, you lower the projected image.

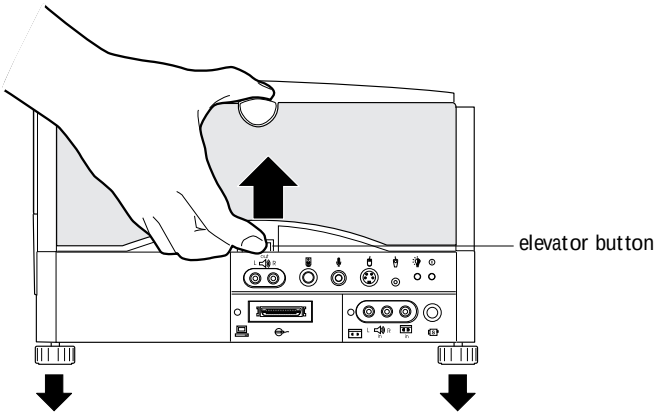

FIGURE 24

Quick-release elevator button and adjustable feet

To raise the projector (lower the image):

1. Press the quick-release button up while lifting the rear of the projector (Figure 24). The elevator feet automatically lower.
2. When the projector is the height you want, release the button to lock the elevator feet into position.
3. If necessary, rotate the elevator feet (Figure 25) to adjust the angle of the projected image.

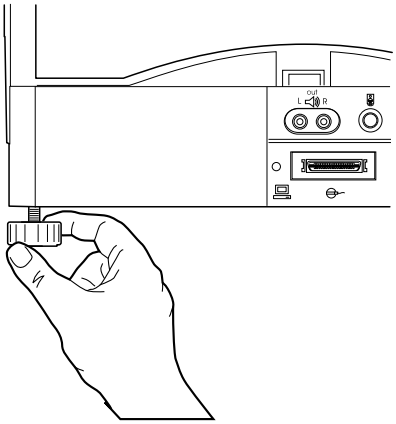

FIGURE 25

Adjusting the angle of the projected image

To lower the projector (raise the image):

1. Press the elevator's quick release button.
2. Push the projector down.
3. If necessary, rotate the elevator feet (Figure 25) to readjust the angle of the projected image.

Changing between Color and Monochrome Modes

The color dial on the top of the projector (Figure 26) allows you to select either color or monochrome modes. A monochrome image is significantly brighter than a color image.

To change color mode:

1. Insert a coin or other flat object into dial on the top of the projector.
2. Turn the dial to either color or monochrome .

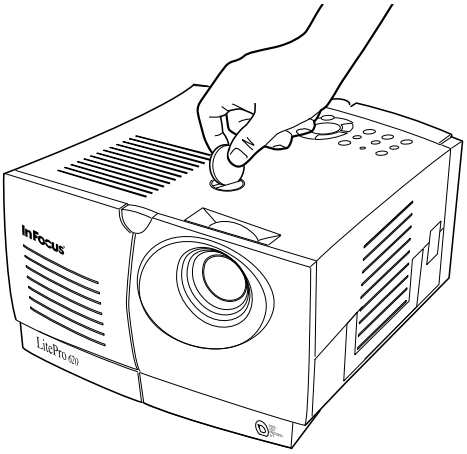

FIGURE 26

Changing color modes

Using the Remote and Keypad Buttons

This section provides an alphabetical reference to the remote and keypad buttons.

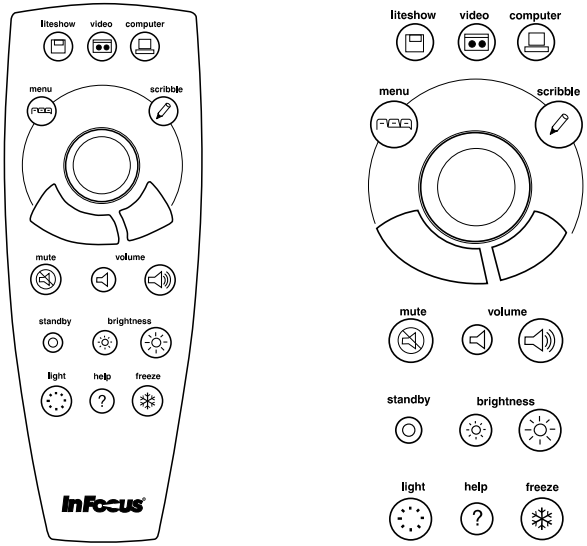

FIGURE 27

Remote control and keypad

Brightness

Adjusting the brightness lightens or darkens the image.

- To darken the image, press
- To lighten the image, press

The **brightness** buttons are auto-repeating; they repeat their function as long as you hold down the button.

Computer

When you have more than one source (computer or video) connected to the projector, you select between them by pressing the button for the source you want.

Press **computer** to display the computer image.

Freeze

The **freeze** button halts, or "freezes" the projected image. Use this button to freeze a frame of video (the video continues to run but the image is frozen). You also can freeze an image from a computer source on the screen, allowing you to perform other operations on the computer without the audience seeing them. Press **freeze** again when you want the image to return to normal.

Help

Press **help** to display the online help information.

Light

Press **light** to illuminate the buttons on the remote control or keypad. The light goes off automatically 10 seconds after you press any button.

Liteshow

The **liteshow** button will be used to display a LiteShow presentation from disk. Call your In Focus dealer for availability.

Menu

Press **menu** to open the on-screen menus. Press **menu** again to close the menus. When you close the menus, the projector saves any changes you made. For more information about the on-screen menus, see page 32.

Mute

Pressing the **mute** button silences the internal speakers. It also silences any external speakers that are connected. It does not mute the microphone. To return the volume to its previous setting, press **mute** again or press either **volume** button.

NOTE: *Pressing **mute** has no effect on microphone volume.*

Scribble

The **scribble** button activates on-screen annotation.

1 Press the **scribble** button. The cursor changes to a pencil.

2. Press the right disk mouse button to display the color selector. Position the cursor on the desired color, then press the left mouse button. Press the right button again to close the color selector.
3. Move the pencil to where you want to start the annotation.
4. Press the left mouse button on the disk mouse. The cursor changes to an upright pencil.
5. Use the disk mouse to draw your annotation. Press the left mouse button to finish the annotation.
6. To exit Scribble, press the **scribble** button. The annotation is automatically deleted (it cannot be saved).

Standby

When you press **standby**, the display and audio turn off and the screen becomes black. After 15 seconds the lamp goes out if you haven't pressed any other buttons.

- If you press **standby** again within 15 seconds, the projector returns to normal operations immediately.
- If you press **standby** again after the lamp goes out, there can be up to a 30-second delay before the lamp turns back on.

Video

When you have more than one source (computer or video) connected to the projector, you select between them by pressing the button for the source you want.

Press **video** to display the image from your video player.

Volume

- To increase the volume, press
- To decrease the volume, press

The **volume** buttons are auto-repeating; they continue to adjust the volume as long as you hold them down. Volume adjustments are saved for each source you have connected.

NOTE: *Using a light touch on the disk mouse often gets the best results.*

Using the Disk Mouse

Press anywhere on the edge of the disk mouse to move the cursor on the screen. For example, if you press the top edge of the disk, the cursor moves up the screen; if you press the bottom edge, the cursor moves down (Figure 28). You can move the cursor at any angle by pressing the corresponding edge of the disk.

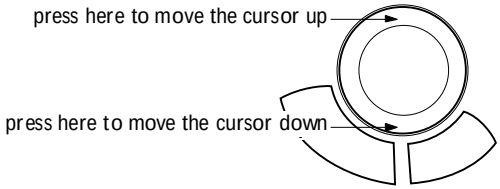

FIGURE 28

Using the disk mouse

Using the On-Screen Menus

The projector has four on-screen menus that allow you to make image adjustments and change a variety of settings. Most of these adjustments aren't available directly from the remote or keypad.

To open the on-screen menus, press the **menu** button on the remote or keypad. Press **menu** again when you want to close the menus.

To select one of the other menus, use the disk mouse on the remote or keypad to move the cursor to the tab for the menu you want, then click either mouse button.

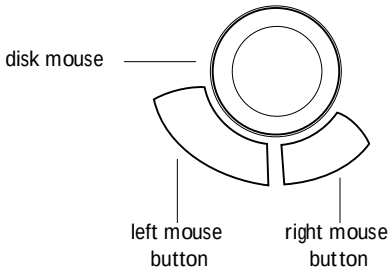

FIGURE 29

Disk mouse and mouse buttons

To change a menu setting, use the disk mouse to move the cursor to the setting you want to change, then use one of the two buttons below the disk mouse to make the changes.

The status bar at the top of each menu indicates the source that is currently active. For example, if you have both a computer and a video player connected, “Source: Computer” or “Source: Video” displays depending on whether you’ve pressed the **computer** or the **video** button.

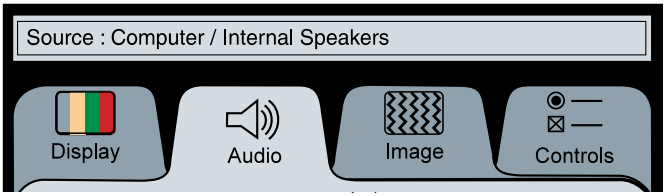

FIGURE 30

On-screen menu status bar

Display Menu Functions

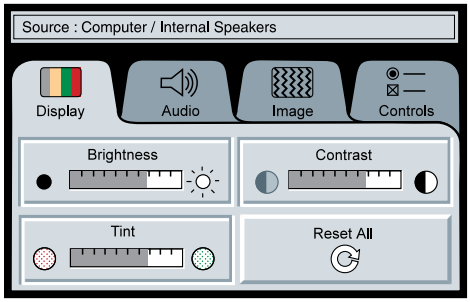

FIGURE 31

Display menu

Brightness

Adjusting the brightness changes the intensity of the image.

- Press the left mouse button to darken the image.
- Press the right mouse button to lighten the image.

NOTE: *Changing the brightness using the menu is the same as changing it using the remote or keypad.*

Contrast

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 left mouse button to decrease the contrast.
- Press the right mouse button to increase the contrast, making the blacks appear blacker and the whites appear whiter.

Tint

Tint adjusts the red-green color balance in the projected image. Changing the Tint setting has no effect on PAL or SECAM video sources.

- Press the left mouse button to increase the amount of green in the image.
- Press the right mouse button to increase the amount of red in the image.

Reset All

Click either mouse button to reset all the options (except Language) in all the menus to their default settings. This also returns Freeze and Mute to their default (off) settings.

Audio Menu Functions

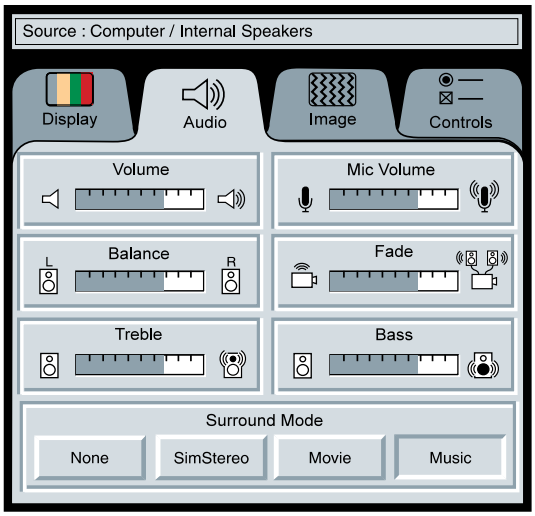

FIGURE 32

Audio menu

Volume

Volume adjustments you make are saved for each source.

- Press the left mouse button to decrease the volume.
- Press the right mouse button to increase the volume.

Mic Volume

- Press the left mouse button to decrease the microphone volume.
- Press the right mouse button to increase the microphone volume.

Balance

Balance controls the balance between the left and right internal and external speakers. The balance setting applies to all sources you have connected.

- Press the left mouse button to increase the amount of sound coming from the left speakers.

NOTE: *Changing the volume using the menu is the same as changing it using the remote or keypad.*

- Press the right mouse button to increase the amount of sound coming from the right speakers.

Fade

Fade controls the balance between the internal and external speakers. The setting appears gray and won't highlight if external speakers aren't connected.

- Press the left mouse button to increase the amount of sound coming from the internal speakers.
- Press the right mouse button to increase the amount of sound coming from the external speakers.

Treble

Treble controls the higher frequencies of your audio source.

- Press the left mouse button to decrease the treble.
- Press the right mouse button to increase the treble.

Bass

Bass controls the lower frequencies of your audio source.

- Press the left mouse button to decrease the bass.
- Press the right mouse button to increase the bass.

Surround Mode

Surround Mode controls the spaciousness of the sound quality from the projector's four internal speakers. Select among the four options:

- Movie—simulates a center channel speaker for the dialog in movies.
- Music—emphasizes the spaciousness of musical tracks.
- Simulated Stereo—simulates stereo from a monaural source.
- None—normal stereo mode with no additional audio processing.

NOTE: *The* ***Treble*** *and* ***Bass*** *settings apply only to the projector's internal speakers. Most external speakers have their own tone controls.*

Image Menu Functions

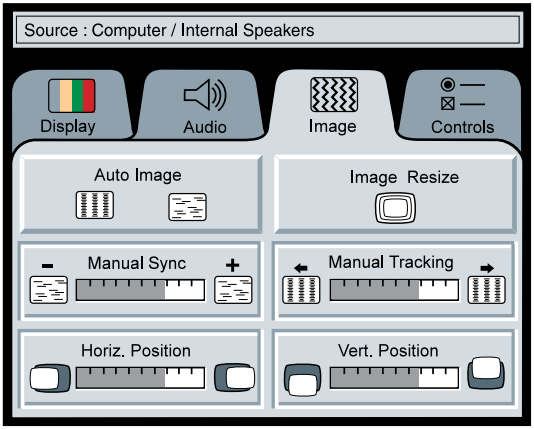

FIGURE 33

Image menu

Auto Image

Auto Image adjusts tracking, signal synchronization and vertical and horizontal position automatically for most computers. If you want to adjust these features manually, you must turn off Auto Image first by clicking it.

Auto Resize

Auto Resize automatically resizes the image by scaling it up or down. It is available only for computer sources.

When Auto Resize is on, the projector makes the best fit of the image to the screen. If you turn Auto Resize off (by clicking it), the image may be either cropped or too small for the screen.

Manual Sync

The projector adjusts signal synchronization automatically for most computers. But if the projected computer image looks fuzzy or streaked, try turning Auto Image off then back on again. If the image still looks bad, try adjusting the signal synchronization manually.

NOTE: *Some screen savers interfere with Auto Image. If you're experiencing problems, try turning your screen saver off, then turning Auto Image off and on.*

1 Click the Auto Image button to turn Auto Image off.

2 Move the cursor to Manual Sync, then press the left or right mouse buttons repeatedly until the image is sharp and free of streaks.

NOTE: The Manual Sync, Manual Tracking, Horiz. Position and Vert. Position buttons are available only for computer sources. These settings are adjusted automatically for a video source so they appear gray.

Manual Tracking

The tracking function adjusts the projector to match the signal from your computer. The projector usually adjusts the tracking automatically when you connect your computer. However, if the display shows evenly spaced, fuzzy, vertical lines or if the projected image is too wide or too narrow for the screen, try turning Auto Image off then back on again. If the image is still bad, try adjusting the tracking manually.

1 Click the Auto Image button to turn Auto Image off.

2 Move the cursor to Manual Tracking, then press the left or right mouse buttons repeatedly until the fuzzy vertical bars are gone.

Horiz. Position

Follow these steps to manually adjust the horizontal position.

1 Click the Auto Image button to turn Auto Image off.

2 Move the cursor to Horiz. Position, then press the left mouse button to move the image right or press the right mouse button to move the image left.

Positioning adjustments are saved when you power off the projector.

Vert. Position

Follow these steps to manually adjust the vertical position.

1 Click the Auto Image button to turn Auto Image off.

2 Move the cursor to Vert. Position, then press the left mouse button to move the image down or press the right mouse button to move the image up.

Positioning adjustments are saved when you power off the projector.

Controls Menu Functions

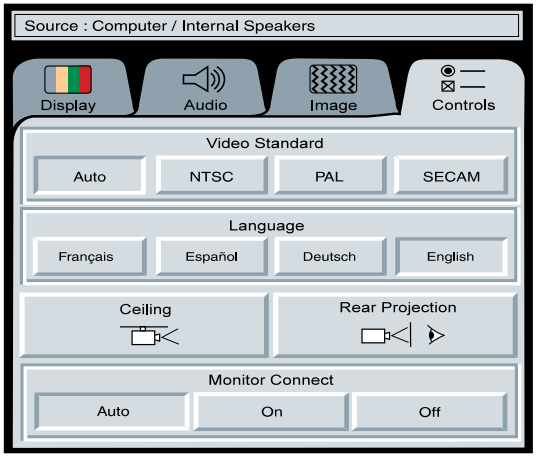

FIGURE 34

Controls menu

Video Standard

When Auto is selected, the projector attempts to pick the correct video standard (NTSC, PAL or SECAM) based on the input signal it receives. If the projector is unable to detect the standard, the colors might not look right or the image might appear "torn." If this happens, manually select a standard by selecting one of the other buttons.

NOTE: *If you already know the standard used in your geographical area, it's often best to manually select it.*

Language

You can display the on-screen menus in English, French, Spanish and German. The default is English.

- Click the button for the language you want. The menus redraw immediately.

Ceiling

- Click either mouse button to turn the image upside down for ceiling-mounted projection.

NOTE: *To order the ceiling mount kit, refer to "Accessories" on page 53.*

Rear Projection

When you select Rear Projection, the projector reverses the image so you can project from behind a translucent screen.

- Click either mouse button to reverse the image for rear projection.

Monitor Connect

When Auto is selected, the projector attempts to pick the correct monitor connection based on the input signal it receives. This setting produces the best results in most situations. Select “On” or “Off” only if the image is very dim or not projected.

- Select “On” if your monitor is connected directly to the CableWizard and the images are excessively dim.
- Select “Off” if your monitor is not connected directly to the CableWizard and the image is not projected. (Some IBM ThinkPad computers exhibit this problem, especially the ThinkPad 760.)

NOTE: *Do not select “Off” if your monitor is connected directly to the CableWizard.*

MAINTENANCE & TROUBLESHOOTING

This chapter describes how to:

- clean the lens
- replace the projection lamp and reset the lamp monitor light
- replace the batteries in the remote control
- use the Kensington lock feature
- troubleshoot the projector

Cleaning the Lens

Follow these steps to clean the projection lens:

1. Apply a non-abrasive camera lens cleaner to a soft, dry cleaning cloth.
   - Avoid using an excessive amount of cleaner.
   - Abrasive cleaners, solvents or other harsh chemicals might scratch the lens.
2. Lightly wipe the cleaning cloth over the lens.

Replacing the Projection Lamp

Replace the lamp module when (lamp monitor indicator LED) lights up (see Figure 23). If you don't replace the lamp soon after the monitor light comes on, the lamp switches off completely. You can order new lamp modules from your In Focus dealer. See "Accessories" on page 53 for information.

Follow these steps to replace the projection lamp:

1. Turn off the projector and unplug the power cord.
2. Wait 45 minutes to allow it to cool thoroughly.
3. Remove the lamp module door on the front of the projector (Figure 35).

WARNING: *To avoid burns and lamp explosion, be sure to allow the projector to cool for 45 minutes before you open the lamp module door. Never try to extract the lamp module while the lamp is operating.*

- Using a small, flat-blade screw driver, remove the two screws on the bottom of the projector on the outside of the lamp module cover.
- Pull the lamp cover up and remove it.

CAUTION: *Never operate the projector with the lamp cover open or removed. This disrupts the air flow and causes the projector to overheat.*

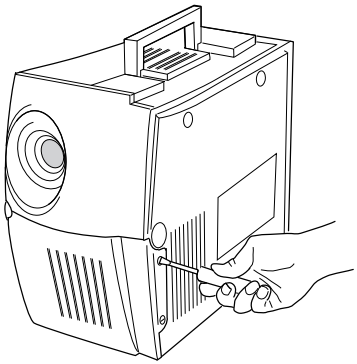

FIGURE 35

Removing the lamp module cover

4 Remove the lamp module.

- Lift the ring of the screw fastener up and turn it 1/4 turn counterclockwise (the screw remains attached to the lamp module).

CAUTION: *Be sure to replace the projection bulb as soon as possible after the lamp monitor light comes on. If the lamp remains in use too long, there is a danger of lamp explosion. If this happens, your LitePro will be severely damaged.*

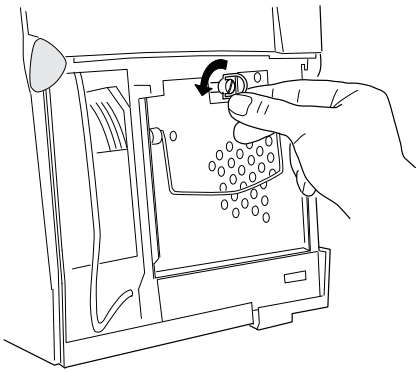

FIGURE 36

Turning the ring of the screw fastener

- Pull the handle out to remove the module.

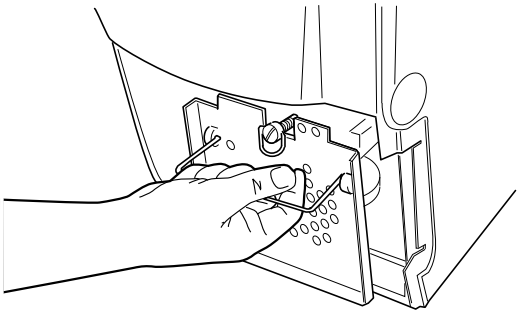

FIGURE 37

Removing the lamp module

5 Fit the new lamp module in place (Figure 38).

- Align the module in the correct direction (with the screw fastener at the top).
- Gently push the module in as far as it goes.
- Tighten the screw fastener.

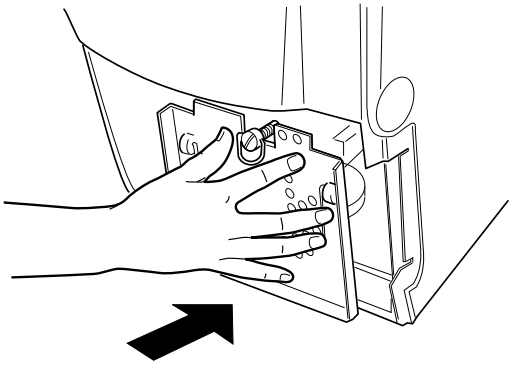

FIGURE 38

Installing a new lamp module

WARNING: *Do not drop the lamp module or touch the glass bulb! The glass can shatter and cause injury.*

NOTE: You must reset the lamp monitor light so the projector can keep track of the usable life of the new lamp.

6 Replace the lamp cover.
   - Reposition the cover.
   - Replace the screws and tighten them.
7 Turn the projector back on.

Resetting the Lamp Monitor Light

After replacing the lamp, you must reset the lamp monitor light.

1 Press and hold the two **brightness** buttons on the keypad for at least 5 seconds with the projector on.
2 Release the buttons.

Replacing the Batteries in the Remote Control

The life of the batteries depends on how often and how long you use the remote. Symptoms of low battery charge include erratic responses when using the remote and a reduced range of operation.

Follow these steps to replace the batteries:

1 Turn the remote face down in your hand.
2 Slide the battery cover off the end of the remote.
3 Remove the old batteries.
4 Install two new AA alkaline batteries. Make sure you install each in the correct direction.
5 Slide the battery cover back on the remote.

Using the Kensington Lock

The projector has a Kensington Security Standard connector for use with a Kensington MicroSaver Security System (Figure 39). Refer to the information that came with the system for instructions on how to use it to secure the projector.

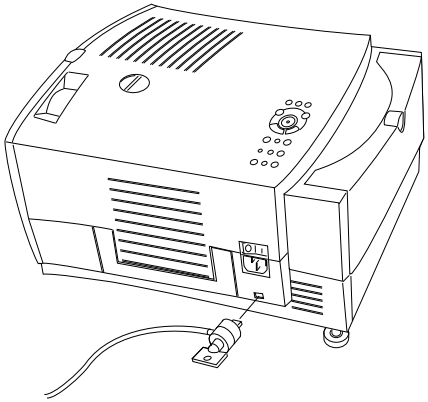

FIGURE 39

Installing the Kensington lock

Troubleshooting

If you're experiencing trouble with the projector, follow these steps to make sure everything is properly connected before you call Customer Service for assistance.

1. Check cable connections. Verify that all computer, CableWizard and power cables are properly connected.
2. Verify that all power is switched on.
3. Verify that the projector has not been switched off with the **standby** button on the remote or keypad.
4. If the projector still doesn't display an image, restart the computer.
5. If the problem still exists, unplug the projector from the computer and check the computer monitor's display. The maximum resolution the 610 can display is 800x600 pixels, preferably 640x480; the maximum resolution the 620 can display is 1024x768 pixels, preferably 800x600. The problem might be with the graphics controller in your computer rather than with the projector. When you reconnect the projector, remember to turn the computer and monitor off before you power up the projector. Power the equipment back up in this order: projector, monitor, computer.

NOTE: *Macintosh computers require a specific power-up sequence: the projector must be turned on before you turn on the computer.*

6. If you're using a laptop computer and its monitor is not displaying your presentation, make sure you have re-activated the computer's monitor. Most laptop computers de-activate their own monitor when a second display device, such as a projector, is connected. Refer to page 55 for more information.
7. If the problem still exists, read through the problems and solutions in this chapter.

If you call Customer Service for assistance:

- Find out what kind of graphics controller card is installed in your computer. The projector is connected to this circuit board in the computer. Most PCs use a VGA or SVGA graphics controller.

Solutions to Common Problems

Problem: Nothing on projection screen

- Make sure that the power cord is properly connected to a functional AC electrical outlet. Make sure that the power cord is properly connected to the projector.
- If the projector is plugged into a power strip, make sure the power strip is turned on.
- Make sure the projector is switched on.
- Make sure the projector's lamp is securely connected. See "Replacing the Projection Lamp" on page 41.
- Make sure that the CableWizard and the cables do not have any bent pins. Check the power cord for bent pins also.
- Make sure the projector is adjusted properly. See "Basic Image Adjustment" on page 25.

Problem: Color or VGA text not being projected

- You might need to adjust the brightness up or down until the text is visible. Refer to "Brightness" on page 29 for more information.
- Verify that the appropriate input source is selected. See "Computer" on page 29 or "Video" on page 31.

Problem: The screen resolution is not right

- Make sure the computer's graphics card is set for a resolution of no greater than 800x600 for the 610, 1024x768 for the 620.

Problem: Image isn't centered on the screen

- Reposition the image. Refer to "Horiz. Position" on page 38 and "Vert. Position" on page 38.
- If you're using an extension cable between the CableWizard and the projector, make sure it's In Focus-approved.

Problem: Only the start-up screen displays

- Verify that the cables are connected correctly. Check to see that the CableWizard cable is correctly connected to the monitor connector on the computer (this is the connector where your monitor cable usually goes.) See page 6 through page 15 for connection procedures.
- Verify that the proper input source is connected. See "Computer" on page 29 or "Video" on page 31.
- You might need to turn everything off and power up the equipment again. Make sure you power up in this order: projector, monitor, computer. It is especially important that you follow this sequence for Macintosh computers.
- Make sure your computer's graphics board is installed and configured correctly.

  If you're using Windows 3.x:

  1. In the Windows Program Manager, double-click the Windows Setup icon in the Main program group.
  2. Verify that the Display setting is 800x600 or less, preferably 640x480.

  If you're using Windows 95:

  1. Open "My Computer" icon, the Control Panel folder and then the Display icon.
  2. Click the Settings tab.

3 Verify that the Desktop area is set to 800x600 or less, preferably 640x480.

Also check the following:

- Does your computer have a compatible graphics board? The projectors aren't CGA or EGA compatible.
- Is your computer's graphics board turned on? This is especially true for laptop computers. See "Portable and Laptop Activation Chart" on page 55.

Problem: Image is too wide or narrow for screen

- You might need to manually adjust the tracking to reduce or enlarge the projected image. Refer to "Manual Tracking" on page 38.
- Adjust the resolution of your monitor if it's greater than 800x600 for the 610 or 1024x768 for the 620. Only these resolutions at 60 Hz or less display on the projector.
- Make sure that your computer has a compatible graphics board. The projector is not compatible with CGA, EGA, or 1280x1024 graphics modes.

Problem: Image is out of focus

- Turn the projection lens to focus the image.
- Make sure the projection screen is at least 5 feet from the projector.
- Check the projection lens to see if it needs cleaning.

Problem: Image and menus are reversed left to right

- The rear projection mode is probably set. Switch back to forward projection from the Controls menu. The image should immediately return to forward projection. See "Rear Projection" on page 40.

Problem: Image and menus are upside down

- Ceiling mode is probably set. Turn off the mode from the Controls menu. The image should immediately return to forward projection. See "Ceiling" on page 39.

Problem: the projector displays vertical lines, "bleeding" or spots

- Adjust the brightness. See "Brightness" on page 29.
- Check the projection lens to see if it needs cleaning.

Problem: Image is "noisy" or streaked

1. Deactivate your computer's screen saver.
2. Turn **Auto Image** off and then back on. See "Auto Image" on page 37.
3. Adjust the synchronization manually to find an optimal setting. See "Manual Sync" on page 37.
4. Adjust the tracking manually to find an optimal setting. See "Manual Tracking" on page 38.

- If you're using an extension cable between the CableWizard and the projector, make sure it's In Focus-approved.
- Connect another computer with a different video card to find out if the problem is with the computer rather than with the projector.

Problem: Projected colors don't match the computer or video player's colors

- Adjust the brightness, tint and / or contrast from the Display menu. Just as there are differences in the displays of different monitors, there are often differences between the computer image and the projected image. See "Brightness" on page 29, "Tint" on page 34 and "Contrast" on page 34.

Problem: Lamp seems to be getting dimmer

- The lamp begins to lose brightness when it has been in use for a long time. Replace the lamp as described in "Replacing the Projection Lamp" on page 41.

Problem: Lamp shuts off

- A minor power surge may cause the lamp to shut off. Turn the projector off, wait at least three minutes, then turn it back on to return to normal operations.

Problem: Remote not operating correctly

- You might need to replace the batteries. See page 44.
- Make sure you're pointing the remote either at the back or front of the projector, or at the projection screen.
- Make sure the remote is within its operating range of 40 feet.

APPENDIX

Specifications

The LitePro 610 and 620 must be operated and stored within the temperature and humidity ranges specified.

Temperature	
Operating	10 C to 40° C
Non-operating	-20 to 60° C

Humidity	
Operating and non-oper.	10% to 95% relative humidity, non-condensing

Dimensions
8.3 x 13 x 15.6 inches (21.3 x 33.3 x 40 cm)

Weight
24 lbs. (10.8 kg) unpacked

Altitude	
Operating	0 to 10,000 feet (3048 meters)
Non-operating	20,000 feet (6096 meters)

Left and Right Audio Outputs	
Frequency Response	10 Hz - 20 KHz
Output Impedance	1.2 K ohm nominal
Output Voltage	2 Vrms maximum (open circuit)
Connector Type	red and white RCA jacks

Subwoofer Outputs	
Frequency Response	10 Hz - 10 KHz
Output Impedance	200 ohms nominal
Output Voltage	2 Vrms maximum (open circuit)
Connector Type	black RCA jack

Optics	
Focus Range	5 feet to infinity

Microphone Input

Input Impedance	3.5 K ohm nominal
Maximum Input Voltage	60 mVrms for THD ≤ 0.3%, main inputs off
Sensitivity	800 Vrms at 1 KHz for 88 dB SPL at 1 meter
Microphone Impedance	< 8K ohms
Connector Type	6.3 mm (1/4 inch) monaural phone jack (unbalanced)

Lamp

Type	270-watt metal halide

Remote Control

Battery	Two (2) AA alkaline cells

Input Power Requirements

100 to 240VAC, 8.0A to 4.0 A, 50 to 60 Hz.

Video Module Input

Input Impedance	5K ohm DC coupled
Maximum Input Voltage	$(L_{IN} + R_{IN})_{PEAK}$ < 4.5 V for THD ≤ 0.3% L_{IN} or R_{IN} < 2.0 Vrms for THD ≤ 0.3%
Sensitivity	100 mV at 1 KHz for 88 dB SPL at 1 meter
Connector Type	RCA jack

CableWizard Audio Input

Input Impedance	10K ohm nominal, AC coupled
Maximum Input Voltage	$(L_{IN} + R_{IN})_{PEAK}$ < 4.5 V for THD ≤ 0.3% L_{IN} or R_{IN} < 2.0 Vrms for THD ≤ 0.3%
Sensitivity	100 mV at 1 KHz for 88 dB SPL at 1 meter
Connector Type	3.5 mm (1/8 inch) stereo phone jack

Accessories

Standard Accessories (ship with the projector)	Part Number
LitePro 610/620 Quick Start card	009-0279-xx
LitePro 610/620 User's Guide	010-0115-xx
Shipping Box	110-0143-xx
CableWizard and Cables	591-0182-xx
CableWizard Audio Cable	210-0079-xx
CableWizard Computer Cable	210-0076-xx
CableWizard Mouse Cable	210-0078-xx
Projection Lamp Module	232-0086-xx
Audio/Video Cable	210-0062-xx
Remote Control with Cable and 2 Batteries	590-0198-xx
Remote Cable (50 ft)	210-0088-xx

Power Cords (one ships with projector, type depends on country)	
North American Power Cord	210-0023-xx
Australian Power Cord	210-0027-xx
UK Power Cord	210-0028-xx
European Power Cord	210-0029-xx
Danish Power Cord	210-0030-xx
Swiss Power Cord	210-0031-xx

Optional Accessories	
Soft Carry Case	CA-C78
ATA Shipping Case	CA-C121
CableWizard Lite	210-0075-xx
Mac Adapter for CableWizard Lite	515-0037-xx
CableWizard Extension Cable, 50 ft	210-0077-xx
Kensington Lock	591-0202-xx

JBL Satellite Speakers	591-0203-xx
JBL Subwoofer	591-0204-xx
S-Video Cable	515-0027-xx
Microphone	591-0201-xx
LitePro Ceiling Mount Kit	SP-CEIL-LP6.
1 Year Extended Warranty for:	
LitePro 610	EW-LP610
LitePro 620	EW-LP620
2 Year Extended Warranty for:	
LitePro 610	EW-LP610-2
LitePro 620	EW-LP620-2

Portable and Laptop Activation Chart

Computer	Key command to activate port	Key command to de-activate port
Acer	Ctrl-Alt-Esc (for setup)	Ctrl-Alt-Esc (for setup)
AST* **	FN-D or Ctrl-D Ctrl-FN-D FN-F5 type from A:/IVGA/CRT FN-F12	FN-D or Ctrl-D Ctrl-FN-D FN-F5 type from A:/IVGA/CRT FN-F12
Advanced Logic Research	Ctrl-Alt-V	Ctrl-Alt-V
Altima	Shift-Ctrl-Alt-C setup VGA/ Conf.Simulscan	Shift-Ctrl-Alt-L setup VGA/ Conf.Simulscan
Ambra**	FN-F12 FN-F5 F2/Choose Option/F5	FN-F12 FN-F5 F2/Choose Option/F5
Amrel* **	setup menu Shift-Ctrl-D	setup menu Shift-Ctrl-D
Apple	see Mac Portable and Mac PowerBook	
Aspen	automatic	automatic
BCC*	automatic	reboot computer
Bondwell	LCD or CRT options after bootup	reboot for LCD or CRT options to appear
Chaplet**	setup screen FN-F6 FN-F4	setup screen FN-F6 FN-F4
Commax	Ctrl-Alt-#6	Ctrl-Alt-#5

NOTE: *Most laptop computers de-activate their built-in monitors when a second display device is connected. The following chart lists the commands that re-activate the laptop's monitor. If your computer is not listed, refer to the computer's documentation.*

Computer	Key command to activate port	Key command to de-activate port
Compaq* **	Ctrl-Alt-<	Ctrl-Alt->
	FN-F4	FN-F4
	automatic	automatic
	mode/? (for setup option)	mode/? (for setup option)
Compuadd* **	automatic	automatic
	Alt-F for screen setup option	Alt-F for screen setup option
Data General	Ctrl-Alt-Command	Ctrl-Alt-Command
Data General Walkabout	2 CRT/X at DOS prompt	reboot
Datavue	Ctrl-Shift-M	Ctrl-Shift-M
Dell**	Ctrl-Alt-<	Ctrl-Alt->
	Ctrl-Alt-F10	Ctrl-Alt-F10
	FN-F8 (CRT/LCD)	FN-F8
	FN-D	FN-D
	FN-F12	FN-F12
Digital*	automatic	reboot
	FN-F2	FN-F2
Dolch	dip switch to CRT	dip switch to LCD
Epson	dip switch to CRT	dip switch to LCD
Everex*	setup screen option	setup screen option
For-A	Ctrl-Alt-Shift-C	Ctrl-Shift-Alt-L
Gateway	FN-F1/FN-F1 again simultaneous	FN-F1
Grid* **	FN-F2, choose auto or simultaneous	FN-F2
	Ctrl-Alt-Tab	Ctrl-Alt-Tab
Hyundai	setup screen option	setup screen option
IBM 970*	automatic	warm reboot

Computer	Key command to activate port	Key command to de-activate port
IBM ThinkPad**	reboot, enter setup menu	FN-F2
	FN-F7, select choice from setup menu	
	FN-F1, select choice	
	FN-F5, select choice	
	PS/2 SC select choice (CRT, LCD, etc.)	
Kaypro	boot up, monitor plugged in	unplug monitor
Kris Tech	FN-F8	FN-F8
Mac Portable 100	no video port: not compatible	
Mac PowerBook		
140, 145, 150, 170	no video port: requires a 3rd-party interface	
160, 165, 180, 520, 540, 5300	Control Panel folder, PowerBook Display folder; Activate Video Mirroring	warm reboot
210, 230, 250, 270, 280, 2300	requires Apple Docking Station or Mini Dock	
Magitronic	FN-F4	FN-F4
Mastersport	FN-F2	FN-F1
Micro Express*	automatic	warm reboot
Microslate*	automatic	warm reboot
Mitsubishi	SW2 On-Off-Off-Off	SW2 Off-On-On-On
NCR	setup screen option	setup screen option
NEC* **	setup screen option	setup screen option
	CRT at the DOS prompt	LCD at the DOS prompt
	FN-F31	FN-F3
Olivetti*	automatic	automatic
	FN-O/*	FN-O/*
	FN- | |	FN- | |

Computer	Key command to activate port	Key command to de-activate port
Packard Bell**	FN-F2 Ctrl-Alt-<	FN-F2 Ctrl-Alt->
Panasonic	FN-F2	FN-F2
Samsung*	setup screen option	setup screen option
Sanyo	setup screen option	setup screen option
Sharp	dip switch to CRT	dip switch to LCD
Sun SPARC-Dataview	Ctrl-Shift-M	Ctrl-Shift-M
Tandy**	Ctrl-Alt-Insert setup screen option	Ctrl-Alt-Insert setup screen option
Texas Instruments*	setup screen option	setup screen option
Top-Link* **	setup screen option FN-F6	setup screen option FN-F6
Toshiba* **	Ctrl-Alt-End FN-End FN-F5 setup screen option	Ctrl-Alt-Home FN-Home FN-F5 setup screen option
Twinhead*	FN-F7 FN-F5 Automatic	FN-F7 FN-F5 Automatic
WinBook	Ctrl-Alt-F10	Ctrl-Alt-F10
Wyse	software driven	software driven
Zenith**	FN-F10 FN-F2 FN-F1	FN-F10 FN-F2 FN-F1

* These manufacturers have models that automatically send video to the external CRT port when some type of display device is attached.

** These manufacturers offer more than one key command depending on the computer model.

Using Video Mirroring with a PowerBook Computer

When you turn video mirroring on, the projector displays the same information that appears on your PowerBook's built-in screen. When video mirroring is off, the projector acts like a separate display.

To turn on video mirroring for the first time:

1. Open the Monitors control panel, then click Monitor 2.
2. Set the number of colors you want.
3. Open the Control Strip, then click the monitor icon.
4. Select "Turn Video Mirroring On."

Now you can turn video mirroring on and off from the Control Strip without having to open the Monitors control panel again.

When using video mirroring and high color graphics such as slide shows, the projected image occasionally might turn black and white. If this happens, perform the following steps:

1. Turn off video mirroring.
2. Open the Monitors control panel.
3. Move the white menu bar to Monitor 2 to set the projector as the primary monitor.
4. Restart the PowerBook.

Projected Image Size

Use the chart and the table to help you determine projected image sizes.

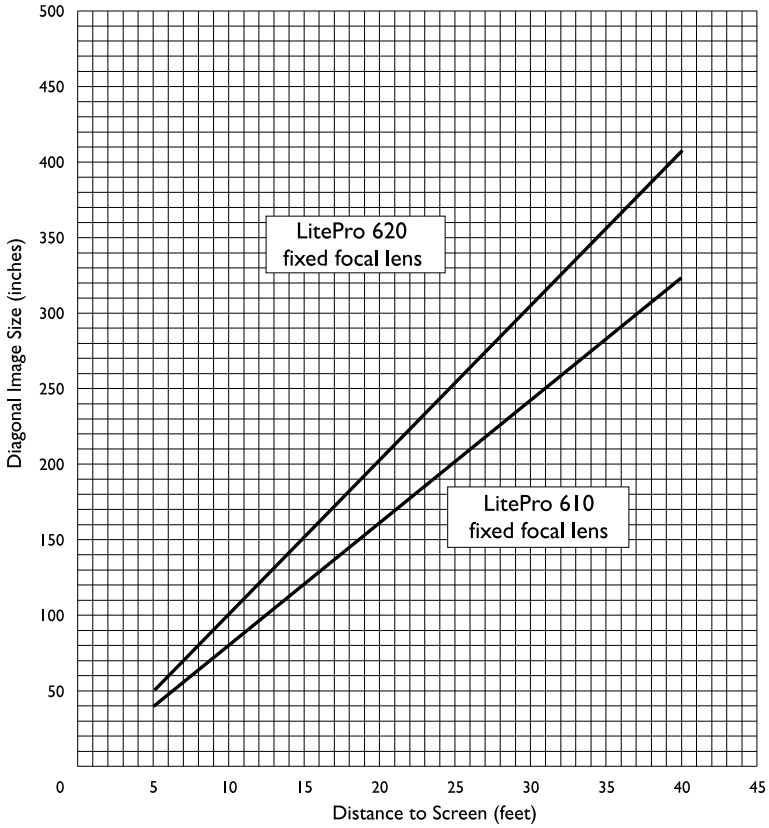

FIGURE 40

Projected image size

Table 1:
Image Size, Width and Height for LitePro 610

Distance to Screen (feet)	Diagonal (inches)	Width (inches)	Height (inches)
5	40.8	32.6	24.5
10	81.6	65.3	49.0
15	122.4	97.9	73.4
20	163.2	130.6	97.9
25	204.0	163.2	122.4
30	244.8	195.8	146.9
35	285.6	228.5	171.4
40	326.4	261.1	195.8

Table 2:
Image Size, Width and Height for LitePro 620

Distance to Screen (feet)	Diagonal (inches)	Width (inches)	Height (inches)
5	51.0	40.8	30.6
10	102.0	81.6	61.2
15	153.0	122.4	91.8
20	204.0	163.2	122.4
25	255.3	204.0	153.0
30	306.0	244.8	183.6
35	357.0	285.6	214.2
40	408.0	326.4	244.8