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The following projector manual has not been modified or altered in any way.

Kameleon

HDP6000

1080p DLP™ Projector

Users' Manual v1.1

FCC Warning

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Canada

This Class B digital apparatus complies with Canadian ICES-003.
Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

Safety Certifications. REGULATORY MODEL H8300.

UL, cUL, TUV, GOST

Other specific Country Approvals may apply. Please see product certification label.

This product is RoHS compliant.

Declaration of Conformity

Knoll Systems, 12140 Horseshoe Way, Richmond, BC V7A 4V5, Canada

We declare under our sole responsibility that this projector conforms to the following directives and norms:

EMC Directive 2004/108/EC
EuP Directive 2005/32/EC
EMC: EN 55022
EN 55024
EN 61000-3-2
EN 61000-3-3
Low Voltage Directive 2006/95/EC
Safety: IEC 60950-1:2005, MOD

February 2010.

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WARNING: This product has a lamp, which contains a very small amount of mercury. Dispose of it as required by local, state, or federal ordinances and regulations. For more information, see **www.eiae.org.**

Knoll Systems
12140 Horseshoe Way, Richmond, BC V7A 4V5 Canada
145 Tyee Drive, Point Roberts, WA 98281 USA

www.knollsystems.com

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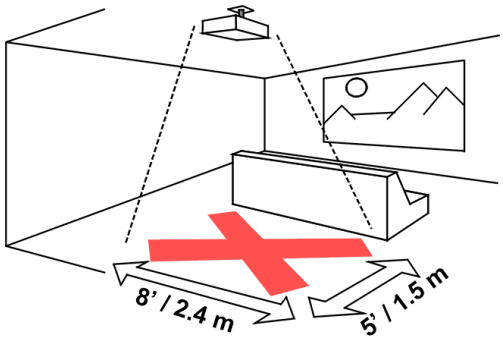
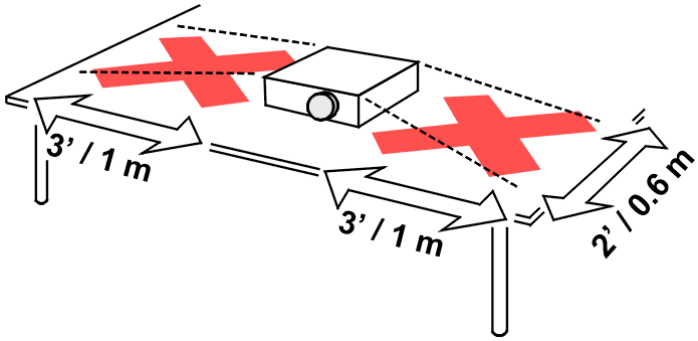
Important Operating Considerations for Safety

Refer to this guide for proper startup and shutdown procedures.
• Follow all warnings and cautions in this manual and on the projector.
• Place the projector in a horizontal position no greater than 8 degrees off axis.
• Locate the projector at least 4' (1.2m) away from any heating or cooling vents.
• Do not block ventilation openings. Locate the projector in a well ventilated area without obstructions to intake or exhaust vents. Do not place the projector on a tablecloth or other soft covering that may block the vents.
• Do not place the projector in direct sunlight, humid, greasy or dusty places or in places where the projector may come into contact with smoke or steam.
• Do not touch the exhaust vents. This area will become hot while the projector is being used. Be sure children are kept away from this area.
• Do not look directly into the lens while the projector is being used. Be especially careful that children do not stare directly into the lens.
• Do not push objects of any kind into this projector through its venting as object may touch dangerous voltage that could result in a fire or electrical shock.
• Do not drop the projector.
• Do not spill liquid on the projector. Spilled liquid may damage the projector.
• Do not place any object on the projector.
• Do not stand or step on the projector.
• Use the power cord provided. Connect the power cord to a receptacle with a protective safety (earth) ground terminal. The AC power cord has a three-pin grounding-type power plug. This plug will only fit a grounding-type power outlet. This is a safety feature. Do not remove the grounding pin on the power plug. A surge-protected power strip is recommended. Do not overload wall outlets.
• When disconnecting the power cord, hold the plug, not the cord. Unplug the projector from the wall outlet, if the projector is unused for an extended time.
• Wash hands after handling the cables supplied with this product.
• The projector remote control uses batteries. Make sure the batteries polarity (+/-) is aligned correctly. Dispose of used batteries in accordance with local disposal laws.
• Use a Knoll approved ceiling mount kit for proper fitting, ventilation and installation. The projector warranty does not cover any damage caused by use of non-approved ceiling mount kits or by installing in an improper location.
• When the projector is ceiling mounted, wear protective eyewear to prevent eye injury before opening lamp door.
• The projector must be installed by a qualified professional in order to ensure proper operation and reduce the risk of hazards or injury. It is not recommended you install the projector yourself.
• Refer all service to qualified service personnel. Servicing your own projector can be dangerous to you and will void the warranty.
• Only use replacement parts specified by Knoll. Unauthorized substitutions may result in fire, electrical shock, or injury, and may void the warranty
• Only genuine Knoll lamps are tested for use in this projector. Use of non Knoll lamps may cause electrical shock and fire, and may void the projector warranty.
• Hg – Lamp contains mercury. Manage in accordance with local disposal laws. See www.lamprecycle.org.
• The projector uses a high-pressure mercury glass lamp. The lamp may fail prematurely, or it may rupture with a popping sound if jolted, scratched, or handled while hot. The risk of lamp failure or rupture also increases as the lamp age increases; please replace the lamp when you see the “Replace Lamp” message.

In the unlikely event of a lamp rupture, particles may exit through the projector vents. Keep people, food, and drinks out of the "keep out" area under and around the projector, as indicated by the "X" areas below.

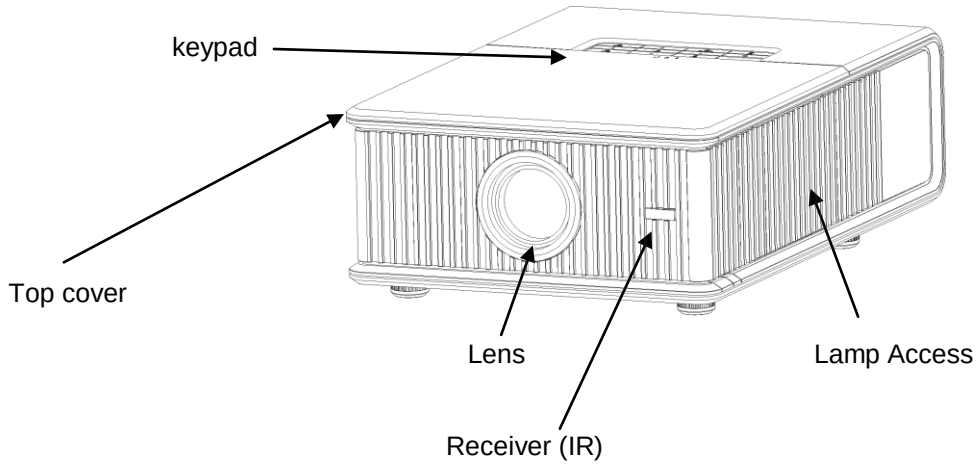




Unplug this projector from the wall outlet and refer servicing to qualified service personnel under the following conditions:
• When the power cord or plug is damaged or frayed
• If liquid has been spilled into the projector
• If the projector has been exposed to rain or water
• If the projector does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as improper adjustment of other controls may result in damage and may required extensive work to restore the projector to normal operation
• If the projector has been dropped
• When the projector exhibits a distinct change in performance, this indicates a need for service.
Follow these instructions to help ensure image quality and lamp life over the life of the projector. Failure to follow these instructions may affect the warranty.

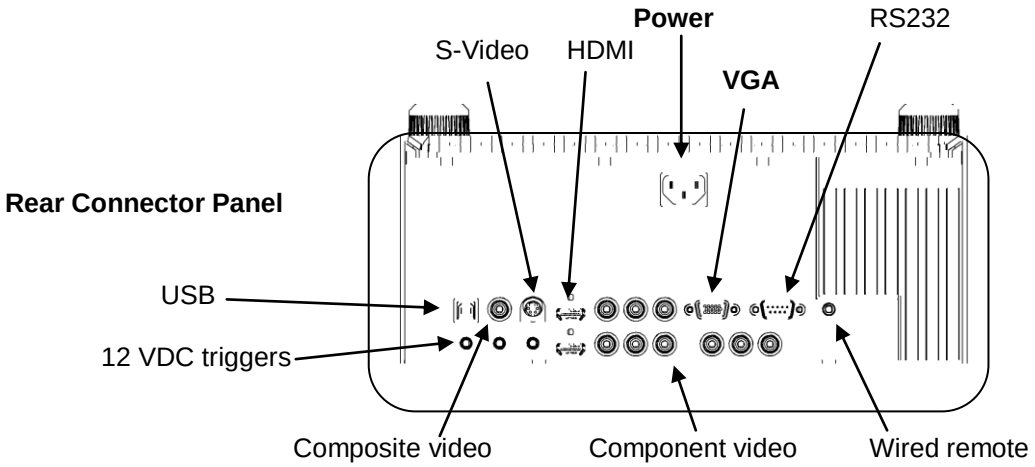
Introduction

Congratulations and thank you for your choice of a superior digital image projection device. Your new Knoll projector is specifically designed for home cinema applications. The projector sets a high standard using the latest DLP™ technology and new DNX video processing from Pixelworks™. This projector has 1920 x 1080 resolution (1080p). Whether you are watching movies or High Definition broadcasts or playing the latest video game, you will enjoy amazing image quality. The unique design and color of the projector make it a welcome addition to your home.



Product specifications
To read the latest specifications, be sure to visit our website at www.knollsystems.com as specifications are subject to change.

Optional accessories can be found on our website at www.knollsystems.com or at your retailer or dealer.

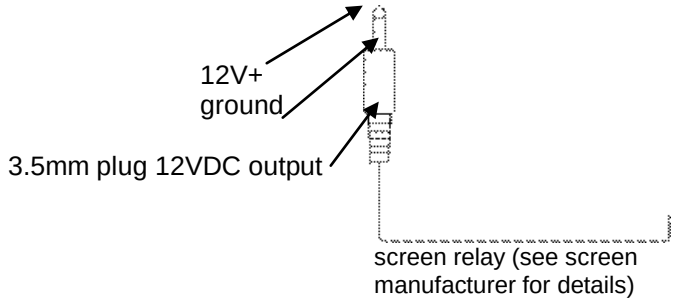


The projector provides the following connection options:
• VGA computer.
• Two HDMI™ (High Definition Multimedia Interface)
• Three Component Video (RCA)
• S-video
• Composite video (RCA)
• USB port

The projector also provides the following connectors:
• RS-232 for serial control
• 12-volt DC output (see below)

Three 12-volt DC outputs

The 3.5mm mini-jack trigger provides a 12-volt, 0.25 amp DC output. It provides a constant output while the projector is on. It has numerous uses. For example, if you connect your projection screen to the 12-volt DC output with the cable that came with your screen, when you turn on the projector the screen will move down; when you turn the projector off, the screen will return to the storage position.



The “Lamp” trigger turns on when the lamp is lighted. If you connect your projection screen to this output using the cable that came with your screen, the screen will move down when the lamp is turned on and the screen will return to its storage position, when the lamp is turned off.

The Letterbox “1” and “2” triggers are active when the projector is placed in letterbox mode and are utilized for variable masking and anamorphic lens control. (These triggers are off when SplitScreen is active.)

Setting up the Projector

There are a number of factors to consider when determining where to set up the projector, including the size and shape of your screen, the location of your power outlets, and the distance between the projector and the rest of your equipment. But here are some general guidelines.

NOTE: To ensure adequate cable access, do not place the projector within 6 inches (0.15 m) of a wall or other object.

Position the projector on a flat surface (either on a table or ceiling mounted) at a right angle to the screen at least 1.5m (4.9') from the projection screen.

The projector should be within 10 feet (3 m) of your power source and within 6 feet (1.8 m) of your video source(s), unless good quality extension cables or baluns are to be used.

When installing the projector on the ceiling, refer to the installation guide that comes with the Ceiling Mount Kit for more information. Knoll recommends use of the CM33 mount shipped with the projector or the deluxe swivel ceiling mount. The addition of a CM20+6 extension bar lowers the projector 6" per bar as required. The CM25EX is an adjustable extender that can lower the projector 6.75" to 11" (17-28 cm). The ceiling mount kit may be sold separately.

Position the projector the desired distance from the screen. The distance from the lens of the projector to the screen, the zoom setting, and the video format determine the size of the projected image.

If the image is square but not centered on the screen or viewing area, adjust it by using the lens shift dials. Use the Horizontal dial to shift the lens left or right. Use the Vertical dial to shift the lens up or down.

NOTE: As the lens is shifted away from the lens centerline, the horizontal shift range is reduced. To adjust lens shift efficiently we suggest you follow these steps:

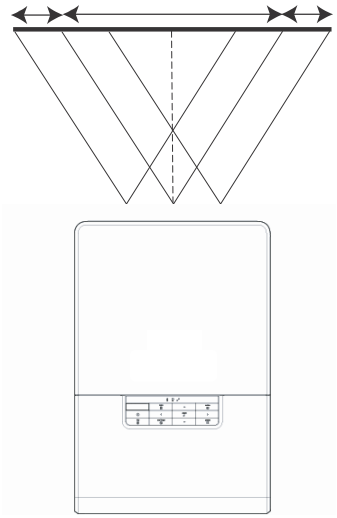
1 Use vertical lens shift to move the image closer to the lens centerline than the final vertical position.

2 Use horizontal lens shift to determine the center horizontal position, then move image to the center horizontal position. Maximum horizontal offset +/-15%.

3 Use vertical lens shift to move the image away from the lens centerline to the final vertical position.

4 Use horizontal lens shift to move the image to the final horizontal position.

5 If lens shift is unable to move the image far enough, move the projector (preferable) or tilt the projector and then use vertical and horizontal keystone to re-position the image.

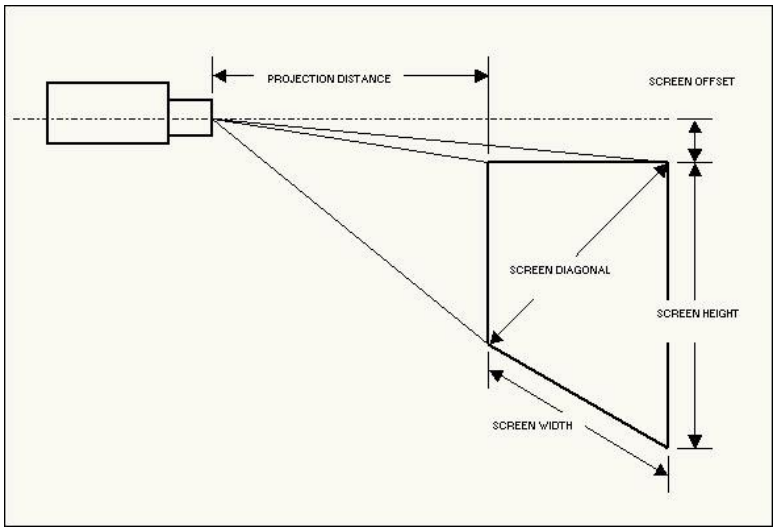


- The vertical image offset range is 105%~130% for the HDP6000 (default for is 105%). The default horizontal image offset is +/-15%, however at maximum vertical image offset, there is no horizontal lens shift.

Projector Positioning

The projected image becomes larger as the distance between the unit and screen increases.

The manual zoom allows the distance from the screen to be within a minimum and maximum range. See the chart on the next page for details. The example below defines the screen height, width, diagonal, etc.



HDP6000 Projection Throw Distance 16:9 Video Screen:

Screen Diagonal	92"	103"	106"	110"	122.5"	146.75"
Minimum Distance	121"	135"	139"	145"	161"	193"
Maximum Distance	183"	204"	209"	217"	242"	290"
Viewing Area	45"x80"	50.5"x89.75"	52"x92"	54"x96"	60"x107"	72"x128"

MAXIMUM DISTANCE TO SCREEN (16:9) = 1.98 x SCREEN DIAGONAL SIZE
MINIMUM DISTANCE TO SCREEN (16:9) = 1.31 x SCREEN DIAGONAL SIZE

An interactive screen calculator (in Microsoft Excel format) is available at:

www.knollsystems.com/prod-hdp6000-throw.html

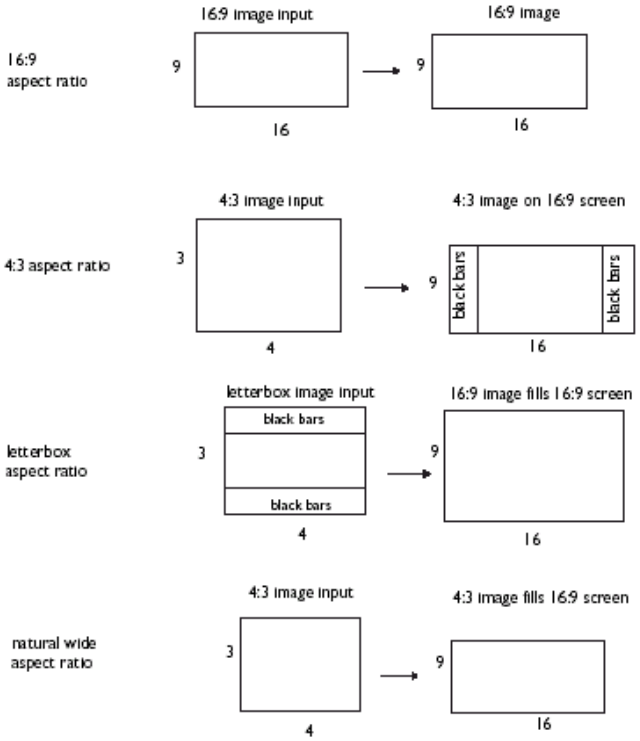
Anamorphic Lens

Please note the HDP6000 is designed for use with 16:9 screens. They also have a built in scaler for use with 2.35:1 screens. To display images at the highest definition possible in 2.35:1 or cinemascope (most major movies are filmed in 2.35:1) an anamorphic lens is required. We recommend the Panamorph brand, which has fixed, movable and motorized anamorphic lens for use with the HDP6000.

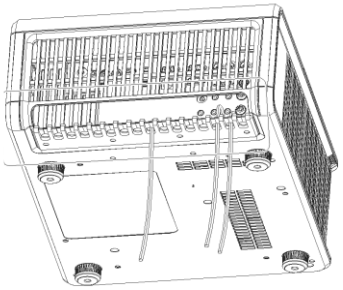
Choosing the aspect ratio

Aspect ratio is the ratio of the image width to image height. HDTV and most DVDs are 16:9, which is the default for this projector. When in 4:3 mode the projector places black bars on both sides of the image. Native mode centers the image and turns off the internal scaler so that any resolution larger than the native projector resolution is cropped on the edges. Letterbox expands the image to fill the screen.

What you plan to project will also help you choose between 4:3 and 16:9. For example, most low definition TV shows are 4:3, while most movies are 16:9. If you have a 16:9 screen, then you should select an aspect ratio of 16:9 for anamorphic movies and HDTV, and Native for 4:3 content. If you have a 4:3 screen you should still use 16:9 for anamorphic movies or HDTV, but you also have the option of using 4:3, Native, or Natural Wide for 4:3 content. Keep in mind that anamorphic movies only appear correctly if the DVD player is set to output to a 16:9 television. Natural Wide stretches a 4:3 image to fill the entire 16:9 screen. The center two-thirds of the image is unchanged; the edges of the image are stretched.



Cable Management
The HDP6000 features an integrated cable management system that allows you to keep the cables organized. To use the cable management system, thread the cables into the slots as shown in the illustration.



Video Quality

The first step for connecting video is determining what type of output connectors your source video device has. If there is more than one output, select the one with the highest quality. The best quality ranking, with **1** being the highest, is:

1. HDMI.
2. Component (RCAs)
3. S-video
4. Composite Video (RCA)

If your device has a VGA connector, you can use the VGA connector for a high-quality image. Many PC game systems have VGA connectors.

Connecting a video device
You can connect video devices such as VCRs, DVD players, camcorders, digital cameras, video game consoles, HDTV receivers, and TV tuners to the projector. Connect the audio from your video device to your stereo system to get sound. You can connect the projector to most video devices that can output video.

You **cannot directly connect the coaxial cable that enters your house from a cable or satellite company**; the signal must pass through a tuner first. Examples of tuners are digital cable boxes, VCRs, digital video recorders, and satellite TV boxes. Basically, any device that can change channels is considered a tuner.

An HDMI cable is provided with your projector so you can quickly and easily connect a video source to the projector and see the amazing image that is displayed. Once you have determined a more permanent location for your projector, we recommend purchasing higher quality cables in the proper length to get the best image from your particular video equipment.

Composite (RCA) video connection
Plug the composite video cable's yellow connector into the video-out connector on the video device. Plug the other yellow connector into the yellow **Composite** connector on the projector.

S-video connection
If your video device uses a round, four-prong S-video connector, plug the S-video cable into the S-video connector on your video device and into the **S-video** connector on the projector.

Component (RCA) connection
If your device uses component connectors, plug a component video cable with red, green, and blue RCA connectors into the source device's component connectors and the **Component c**onnectors on the projector. **The HDP6000 has three component video inputs**. Be sure to use the remote control to select the correct component input.

Digital connections

The two HDMI (High-Definition Multimedia Interface) connectors are digital and yield the highest quality image. It is common for these signals to be encrypted with HDCP (high-band width digital-content protection). Your new projector ships standard with decryption codes so you can enjoy these high quality, all digital images.

HDMI connection
HDMI is a standard, uncompressed, all-digital audio/video interface. HDMI provides an interface between sources, such as set-top boxes, DVD players, and receivers and your projector. Plug an HDMI cable into the video-out connector on the video device and into the **HDMI** connector on the projector. To display HDMI with its deep color and 30-bit detail, a HDMI source is needed. Please note the HDP6000 has no audio capabilities at all. **The HDP6000 has two HDMI video inputs**. Be sure to use the remote control to select the correct HDMI input.

Please note that the **projector has no audio capabilities**, so audio signals transferred through HDMI will not be audible.

Computer connections

You can connect a computer's VGA connector to the VGA input on the projector using a VGA cable.

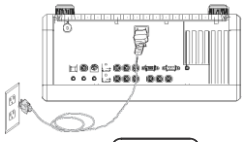
RS-232 connections

You can control the projector from an LCD control panel or computer by connecting an RS-232 cable to the projector's **Serial control** connector.

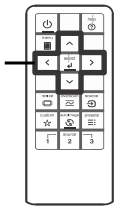
Displaying an image

Connect the power cord to the **Power** connector cord on the back of the projector and to your electrical outlet.

plug in power



NOTE: Always use the power cord that shipped with the projector.
Press the **Power** button on the remote control.



The LED blinks green and the fans start to run.

press power button

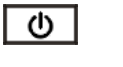
When the lamp comes on, the start-up screen is displayed and the LED is steady green. It can take a minute for the image to achieve full brightness.

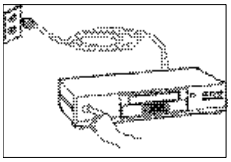
? No start up screen? Get help on page 13

Plug in, connect, and turn on your video device.

The video device's image should appear on the projection screen. If it doesn't, press the **Source** button on the remote until the image appears.
If you are using a laptop the VGA output may have to Be enabled to view an image.

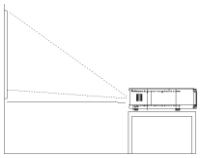
turn on video device





Adjusting the image
Adjust the image by tilting the projector up or down

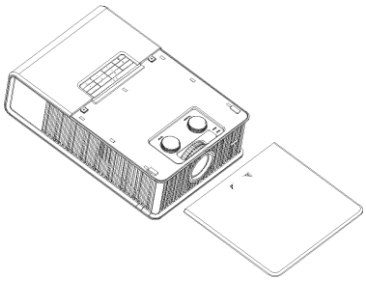
adjust height



Position the projector the desired distance from the screen at a 90-degree angle to the screen.

See page 8 for a table listing screen sizes and distances to the screen.

Remove the top front lid.



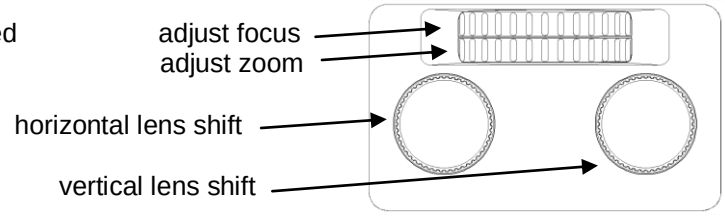
a. Slide the tabs on the side toward the rear of the projector to unlock the projector top cover.

b. Slide the top toward the front of the projector to unhook it from the projector body.

c. Lift off.

Adjust the focus and zoom.

If the image is square but not centered adjust it using the lens shift dials.



Rotate the elevator feet if needed for granular adjustment of the projector's height. Avoid placing your hands near the hot exhaust vent at the side of the projector.

Adjust the Contrast or Brightness in the Basic Picture menu.

Adjust the volume on your stereo receiver. adjust volume

Your projector has been factory optimized for excellent performance no matter what the source. However, if you wish to make further changes you can optimize the image using on screen menus.

adjust Picture menu options including Aspect Ratio

Adjust the Contrast, Brightness, Color, Tint, or Aspect Ratio in the Picture menu. See page17 for help with the menus and these adjustments.

For Aspect Ratio, keep in mind that DVD players must be configured for 16:9 in order to view the highest quality image. For more information regarding Aspect Ratio, see page 9.

Shutting down the projector

Screen Save Time
You can make the black screen appear after a preset number of minutes by turning on the Screen Save Time feature in the Setup menu...

Auto Off Time
The projector has an Auto Off Time feature that automatically turns the projector off if no active sources are detected and no user interaction with the projector is performed for 30 minutes. By default, this feature is off. You can change the length of time.

Turning off the projector
To turn the projector off, press the Power button on the remote or keypad. The lamp turns off and the LED blinks amber for 10 seconds while the fans continue to run to cool the lamp. When the lamp has cooled, the LED lights amber and the fans stop. Unplug the power cable to completely power off the projector.

NOTE: Once the projector has been turned off, you must wait for one minute before turning the projector on again. This allows the lamp to properly cool and extend the lamp life up to 3000 hours). The LED light is solid green when the cooling process is complete.

NOTE: The biggest cause of early lamp failure is not allowing the lamp to cool properly, either from power failures or disconnecting power to the projector before the fan can cool the lamp properly.

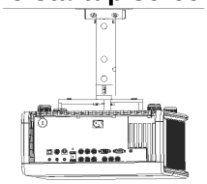
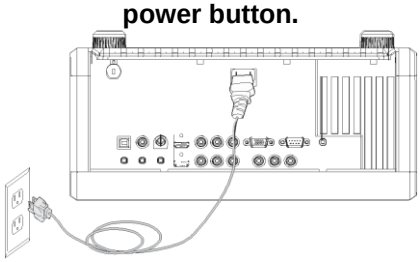
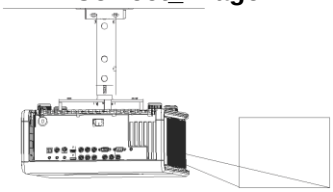
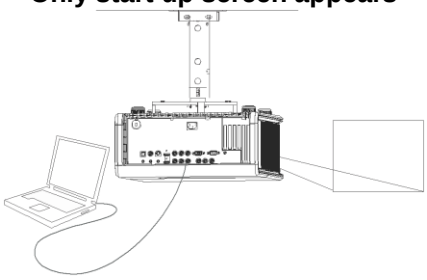
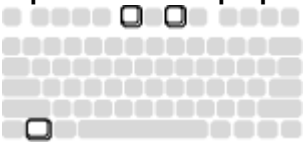
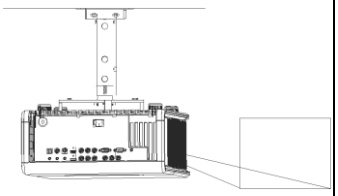
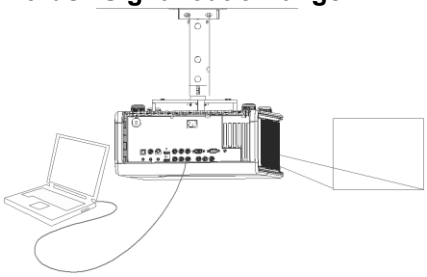
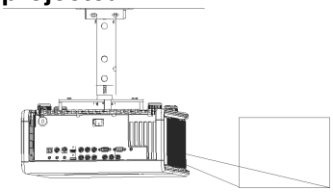
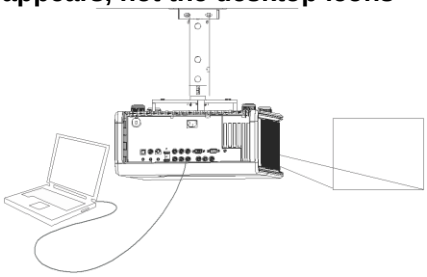
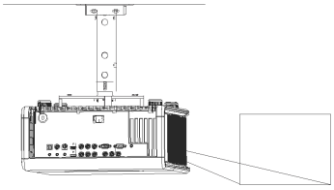
Troubleshooting your setup

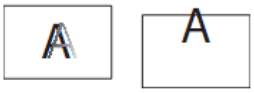
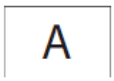
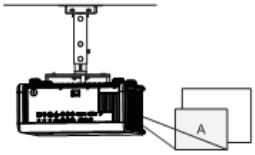
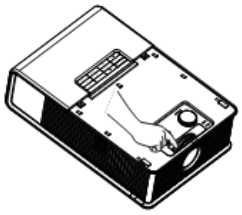
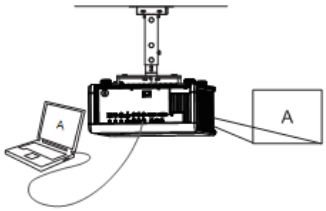
If your image appears correctly on the screen, skip to the next section. If it does not, troubleshoot the setup. The LED on top of the projector indicates the state of the projector and can help you troubleshoot.

The status indicator on the top of the projector can help you diagnose any problems the projector is experiencing.

Status Indicator	Meaning
Power, green	Powering up or powered up Solid: the lamp is on and an image is displayed. Blinking: the projector is powering up.
Power, amber	Powering down or powered down Solid: the lamp is off and the projector is in standby. Blinking: the projector is powering down and the fans are running to cool the lamp.
Temperature	The projector is too hot. Make sure the vents aren't blocked. Turn off the projector and wait one minute, then turn the projector on again. Contact Technical Support if the problem persists.
Lamp	Turn off the projector and wait one minute, then turn the projector on again. If the lamp light turns on again, replace the lamp and reset the lamp timer.
Service	Turn off the projector and wait one minute, then turn the projector on again. If the service lamp turns on again, service is required.

The following tables show common problems. In some cases, more than one possible solution is provided. Try the solutions in the order they are presented. When the problem is solved, you can skip the additional solutions.

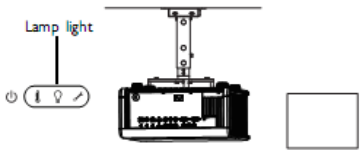
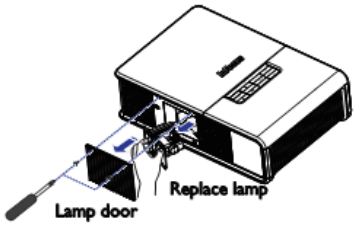
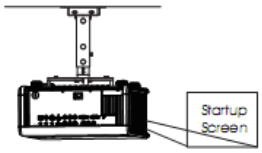
Problem	Solution	Result
No startup screen 	**Plug in power and press the power button.** 	**Correct_image** 
Only start up screen appears 	**Press the start button and activate the laptops external port. Restart laptop** 	**Computer image projected** 
No computer image, just the words "Signal out of range" 	**Press the Auto Image button on the remote. Adjust computer resolution and refresh rate. Control Panel>Display>Settings >Advanced>Adapter**	**Computer image projected** 
Only my laptop's background appears, not the desktop icons 	**Windows-Disable "Extend my Windows Desktop" in Control Panel>Display >Settings> Display 2**	**Background and Desktop projected** 

Problem	Solution	Result
Image fuzzy or cropped 	Set your computer's display resolution to the native resolution of the projector (Start > Settings > Control Panel > Display > Settings tab) For a laptop, disable laptop monitor or turn-on dual-display mode	Image clear and not cropped 
Image not centered on screen 	Move projector, adjust zoom and lens shift 	Correct image 

Problem	Solution	Result
Image not square	Adjust Keystone in the Basic Picture menu	Square image
Image not sharp	Adjust Sharpness in the Basic Picture menu	Correct image
Image does not fit 4:3 or 16:9 screen	Change aspect ratio to 4:3 or 16:9 in Basic Picture>Aspect Ratio menu	Correct image

Problem	Solution	Result
Image upside down	Turn off Ceiling Mount in Setup menu	Correct image
Image reversed left to right	Turn off Rear Project in Setup menu	Correct image
Projected colors don't match source	Adjust color, tint, brightness, contrast in the Basic Picture menu and/or color space in the Advanced Picture menu	Correct image

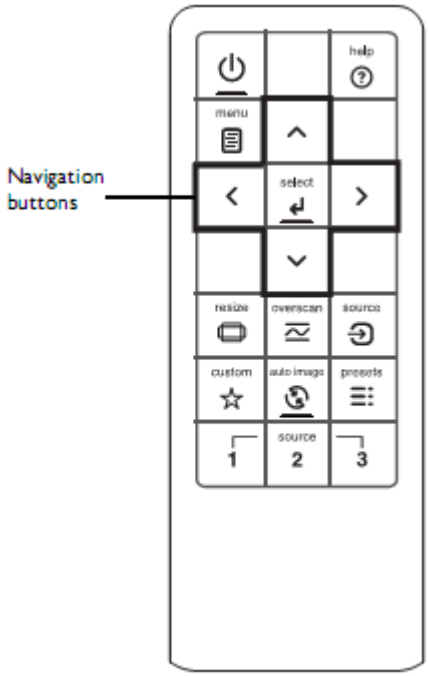
Problem	Solution	Result
The video embedded in my PowerPoint presentation does not play on the screen	Turn off the internal LCD display on your laptop	Embedded video plays correctly
Lamp won't turn on, Temperature light is on	Make sure vents aren't blocked, turn the projector off and allow it to cool for one minute.	Lamp turns on

Problem	Solution	Result
"Replace lamp" message appears at startup, lamp won't turn on, Lamp light is turned on 	Lamp must be replaced (see page 33) 	Lamp turns on 

Still need assistance?
If you need assistance, visit our website at www.knollsystems.com, or call us at 1 800 566 5579. during Pacific west coast time. This product is backed by a limited warranty**.** An extended warranty plan may be purchased from your retailer or dealer.

When sending the projector in for repair, we recommend shipping the unit in its original packing material, or having a professional packaging company pack the unit. Please insure your shipment for its full value.

Using the remote control
The remote uses two provided AA batteries. They are easily installed by sliding the cover off the remote's back, aligning the + and - ends of the batteries, sliding them into place, and then replacing the cover.



To operate, point the remote at the projection screen or at the front of the projector (not at the video device or computer). The range of optimum operation is up to 30 feet (9.14m).

Press the remote's **Menu** button to open the projector's menu system. Use the arrow buttons to navigate, and the **Select** button to select features and adjust values in the menus

The remote also has:
• **Power** button to turn the projector on and off (page 12 for shutdown info)
• **Help** button to access the projectors help feature
• **Source** buttons to switch among sources
• **Resize** button to change the Aspect Ratio
• **Auto Image** button to resynchronize the projector to the source
• **Preset** button to select stored settings (see page 18)
• **Overscan** button to remove noise at the edge of a video image
• **Custom** button that can be assigned to a special function, like Blank Screen or Freeze
• **Source 1, 2, 3** switches between user assigned sources.

Troubleshooting the remote
• Make sure the batteries are installed properly and are not dead.
• Make sure you're pointing the remote at the front of the projector or at the screen, not at the video device or the computer, and are within the remote range of 30 feet (9.14m).

Using the keypad buttons
Most buttons are described in detail in other sections, but here is an overview of their functions:

Power–turns the projector on and off (page 12).

Auto Image–resynchronize the projector to the source.

Presets–cycles through the available preset settings.

Menu–opens the onscreen menus.

Select–confirms choices made in the menus.

Up/Down/Left/Right arrows–navigates to and adjusts settings in the menus.

Source–changes the active source.

Help–button to access the projector's help feature

Optimizing computer images

After the projector is running and the image is on the screen, you can optimize the image using the onscreen menus.

- Adjust the Keystone, Contrast, or Brightness in the Basic Picture menu
- Change the Aspect Ratio. Choose the option that best fits your input source.
- Adjust the Color Temperature in the Advanced Picture menu.
- Adjust the Phase, Tracking, or Horizontal or Vertical position in the Advanced Picture menu.
- Once you have optimized the image for a particular source, you can save the settings using Presets. This allows you to quickly recall these settings later.

Presentation features

Several features are provided to make giving presentations easier. Here is an overview, details are found in the menu section.

- The Custom key allows you to assign various features to the button. The default effect is Source Info, which displays information about the projector and current source.
- The Search Screen option lets you change the appearance of the blank screen and start up screen.
- Two options, Auto Off and Screen Save Time, are provided to automatically shut down the projector after several minutes of inactivity or display a black screen. This helps preserve lamp life.

Optimizing video images

Your projector has been factory optimized for very good performance no matter what the source. However, if you wish to make further changes you can optimize the image using onscreen menus.

• Adjust the Keystone, Contrast, Brightness, Color, or Tint in the Picture menu.
• Select a Sharpness setting.
• Use the Color Control to adjust the color gain and offset.
• Adjust the Color Temperature. Select a listed value.
• Turn on Overscan to remove noise on the edges of the video image.
• Change the Aspect ratio. Aspect ratio is the ratio of the image width to image height. Low resolution TV screens are usually 1.33:1, also known as 4:3. HDTV and most DVDs are 1.78:1, or 16:9 (the projector's default). Choose the option that best fits your input source in the menus, or press the **Resize** button on the remote to cycle through the options.
• Select a specific Color Space.
• Select a different Video Standard. Auto tries to determine the standard of the incoming video. Select a different standard if necessary.
• Make sure your DVD player is set for a 16:9 television. See your DVD player's user's guide for instructions.

Customizing the projector

You can customize the projector for your specific setup and needs. See page 18 to page 21 for details on these features.
• For rear projection, turn rear mode on in the **Settings>System** menu.
• For ceiling mounted projection, turn ceiling mode on in the **Settings> System** menu.
• Turn the projector's display messages on and off.
• Turn on power saving features.
• Specify blank screen colors and start up logos.
• Specify the language viewed on the menus.
• Save the settings for the active source as a preset.

Using the menus

To open the menus, press the **Menu** button on the keypad or remote. The menus automatically close after 60 seconds if no buttons are pressed.
The Main menu appears. Use the arrow buttons to move up and down to highlight the desired submenu, then press the **Select** button.

To change a menu setting, highlight it, press Select, then use the arrow buttons to adjust the value or select an option or turn the feature on or off. Press Select to confirm your changes.

Menu navigation buttons

Use the arrow buttons to navigate to another setting. When your adjustments are complete, press Menu to access a different menu; press the Menu button at any time to navigate to the higher-level menu and ultimately close the menus.

Basic Picture menu

Advanced Picture menu

Setup menu

Status and Service menu

The menus are grouped by usage:

- The Basic Picture menu provides common image adjustments.
- The Advanced Picture menu provides more complex image adjustments.
- The Setup menu provides set-up type adjustments that are not changed often.
- The Status and Service menu provides information about the projector and source.

Basic Picture menu

To adjust the following settings, highlight the setting, press select, use the arrow buttons to adjust the values, then press Select to confirm the changes.

Brightness: Changes the intensity of the image.

Contrast: Controls the degree of difference between the lightest and darkest parts of the picture and changes the amount of black and white in the image.

Sharpness: Changes the clarity of the edges of a video image. Select a sharpness setting.

Color: Adjusts a video image from black and white to fully saturated color. The color setting applies to video sources only.

Tint: Adjusts the red-green color balance in the image of NTSC video images. The tint setting applies to NTSC video sources only.

SplitScreen: Allows two distinct sources to be displayed simultaneously. Switch primary sources, make picture adjustments and choose one of multiple display options: either two side by side horizontal or vertical source regions or a small secondary source image displayed on top of the primary source in one of four placement options.

Auto Image: Forces the projector to reacquire and lock to the input signal. This is useful when signal quality is marginal.

Aspect ratio

Aspect Ratio: Aspect ratio is the ratio of the image width to image height. Low resolution TV screens are usually 4:3. HDTV and most DVDs are 16:9.

Select Auto to have the projector choose the ratio.

Choose Native to see the unmodified input with no resizing by the projector. Select 16:9 to watch enhanced widescreen DVDs.

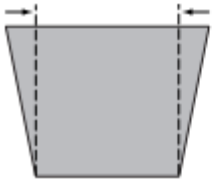
Apply Preset: Presets are provided that optimize the projector for displaying computer presentations and video images under certain conditions.

There is also a user-definable preset. To set this preset, adjust the image and select Save User in the Presets menu. You can recall these settings in the future by selecting the User preset.

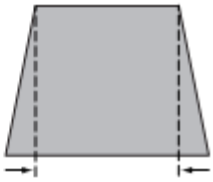
Horz/Vert Keystone: Adjusts the image horizontally and vertically and makes a squarer image.

Digital Zoom: Changes the size of projector's display area. If the display area has been resized by this setting, it can be moved by changing the Horz Shift and Vert Shift settings.

Horz Shift/Vert Shift: Moves the display area horizontally or vertically if its size has been changed by the Digital Zoom setting.



Increasing keystone



Decreasing keystone

Advanced Picture menu

Advanced Picture menu

BrilliantColor™: Produces an expanded onscreen color spectrum that delivers enhanced color saturation for bright, true-to-life images. Choose Normal Look for most video sources and Bright Look for most computer sources.

Iris/DynamicBlack: Select Auto to constantly adjust the aperture based on the amount of black in the current scene, or select a percentage for a fixed aperture size (100% is maximum size).

Color Temperature: Changes the intensity of the colors. Select a listed relative warmth value.

Force Wide: When this is off, the analog locking algorithms choose the standard mode resolution (4:3) as the preferred default resolution. When this is on, the analog locking algorithms choose wide mode resolution (16:10) as the preferred default resolution.

Overscan: Removes noise around the video image.

Phase: Adjusts the horizontal phase of a computer source.

Sync Threshold: (progressive signals only) If a hardware device, such as a DVD player, is not syncing properly with the projector, select this option to help it to sync when connected to the projector.

Tracking: Adjusts the vertical scan of a computer source.

Color Space: This option applies to computer and component video sources. It allows you to select a color space that has been specifically tuned for the input signal. When Auto is selected, the projector automatically determines the standard. To choose a different setting, turn off Auto, then choose RGB for computer sources or choose either REC709 or REC601 for component video sources.

Noise Reduction: Reduces temporal and/or spatial noise in the image.

Flesh Tone Correction: Controls the amount of flesh tone correction applied to the image.

Black Level: Analyzes the current input image and calculates an offset value which is then added to the analog to digital converter black level value. This ensures optimum black level for each analog source.

Detect Film: Controls film mode detection, and determines whether the original source of the input video was film or video.

Gamma: Select the appropriate gamma from among Video, Film, Bright, and CRT.

Color Gamut: Sets the color gamut of the input signal.

Color Gain: Adjusts the gain of the red, green, or blue channel of the image.

Color Offset: Adjusts the offset of the red, green, or blue channel of the image.

Horizontal/Vertical Position: Adjusts the position of a computer source.

Horizontal/Vertical Pincushion: Correct optical pincushion distortion.

Setup menu

Language: Allows you to select a language for the onscreen display.

Key Click: Turns the key click sound on or off. When this setting is on, pressing keys on the keypad causes the projector's speaker to play a "click" sound.

Custom Key: Allows you to assign a different function to the Custom button, allowing you to quickly and easily use the effect. Highlight an effect and press Select to choose a different one.

- Source Info: The default action. Shows the Source Info menu.
- Projector Info: Shows the Projector Info menu.
- Aspect Ratio: Sets the ratio of image width to image height.
- Auto Image: Resynchronizes the projector to the source.
- Overscan: Removes noise around the image.
- Blank Screen: Displays an empty screen.
- Freeze Screen: Pauses the projected image.
- Source: Cycles through available sources.
- Closed Caption: Enables or disables Closed Captioning.
- SplitScreen: Enables or disables SplitScreen. Before using this for the first time, configure SplitScreen sources and layouts using the SplitScreen menu

Source Key Enable: Enables or disables Source Keys on the optional Commander-2 remote.

AC Power On: When this feature is on, the projector automatically turns on when electrical power is connected. This allows control of ceiling mounted projectors with a wall power switch.

Auto Off Time: Automatically turns the projector off after no signals are detected for a preset number of minutes. If an active signal is received before the projector powers down, the image will be displayed.

Setup menu

Screen Save Time: Automatically blanks the screen with a black color after no signals are detected for a preset number of minutes. The image returns when an active source is detected or a remote or keypad button is pressed.

Sleep Timer: Allows the projector to automatically power off after it has been on for a specified amount of time.

Always-On Functions: Allows you to control which projector functions will work even when the projector is in standby (powered off but connected to AC Power). Press Up or Down to highlight the function you want to change, then press select or left and right to change the function to either Yes or No. Press menu when done. Note that some functions must always have the same value; in this case when you change one value, other values in the submenu may also change automatically.

Lamp High Power: Toggles between on and off. Turn it on to raise the light output of the lamp. This also raises the fan speed, making the projector louder. Default is off.

Power Sounds: Controls whether the projector makes a sound when powered on & off.

Auto Source: When this feature is on, the projector automatically finds the active source, checking the selected Power-up Source first. When this feature is off, the projector defaults to the source selected in Power-up Source. To display another source, you must manually select one by pressing the Source button on the remote or keypad.

Power-up Source: Determines which source the projector checks first for active video during power-up.

HDMI DDC: When this feature is set to on, the projector will support and older DVD player for HDMI port.

Fast Color Refresh: Changes the color wheel speed from 4x to 6x.

Video Standard: When this feature is set to Auto, the projector attempts to automatically pick the video standard based on the input signal it receives. (The video standard options may vary depending on your region of the world.) If the projector is unable to detect the correct standard, the colors may not look right or the image may appear “torn.” If this happens, manually select a video standard by selecting NTSC, PAL, or SECAM from the Video Standard menu.

Closed Captions: Controls closed caption display while audio is not muted. If this setting is not off, and audio is not muted, and the source is NTSC and contains captions on the selected channel, then the projector must display caption text overlaid on the image.

Ceiling Mount: Turns the image upside down for ceiling-mounted projection.

Rear Project: Reverses the image so you can project from behind a translucent screen.

Prevent PC Screen Saver: Prevents your computer from going into Screen Save mode. The projector must be connected to the PC via a USB cable for this feature to work.

Search Screen: Allows you to display one of the following options instead of the default screen at startup, and when no source is detected. Options include the factory logo screen, a custom Snapshot, or a blue, black or white screen.

Take Snapshot: Captures the current image and allows it to be used as the search screen image.

Disable Snapshot: Allows the user to disable the snapshot capability.

Show Messages: Displays status messages (such as “Searching”) in the lower- left corner of the screen.

Menu Offset: Allows you to change the position of the On Screen Display items.

Menu Transparency: Allows you to change how much of the projected image behind the menu you can see. As the value increases, more of the image behind the menu is visible.

Magnify Controls: Allows you to change the function of the arrow buttons when the menu is not shown. By default, the arrow buttons allow you to advance slides while in PowerPoint’s SlideShow mode. To make the arrow buttons also adjust magnify settings, choose Magnify Controls to turn magnify controls on. Now when the menu is not shown, you can press the Select button to switch between the magnification settings (Magnify Level, Magnify Horizontal Position and Magnify Vertical Position), then press Select again to turn off magnify controls and use the arrow buttons to advance slides.

Keypad Enable: Enables or disables keypad.

Glow Ring: Controls the brightness level of the glow ring status indicator.

Serial Port, Baud Rate: Selects the serial port and baud rate.

Serial Port Echo: Controls whether the serial port echoes characters.

Status and Service menu

Source Info: Displays current source settings (read-only).

Projector Info: Displays current projector settings (read-only).

Reset Lamp Hours: Resets the lamp hours used counter in the Projector Info menu to zero. Do this only after changing the lamp.

Factory Reset: Restores all settings to their default.

Service Code: Only used by authorized service personnel.

Status and Service menu

Help

Press Help (on the keypad or remote) at any time to get interactive help for solving common, picture, sound, and cabling problems.

NOTE: The projector can be re-programmed to display a custom (non- interactive) screen when Help is pressed. To do this: Create your custom screen on a computer and display it on the projector, then use the Take Snapshot command in the Setup menu. When you see the Snapshot Successful message, hold down the Help button until the message is removed.

Maintenance

Cleaning the lens

1 Turn the projector off and unplug the power cord.

2 Apply a non-abrasive camera lens cleaner to a soft, dry cloth.

- Avoid using an excessive amount of cleaner, and don't apply the cleaner directly to the lens. Abrasive cleaners, solvents or other harsh chemicals might scratch the lens.

3 Lightly wipe the cleaning cloth over the lens in a circular motion.

WARNINGS:

- Turn the projector off and unplug power cord before cleaning any part of the projector.
- Do not open any cover on the projector, except the lamp cover or projector top cover.
- Do not attempt to service this product yourself as opening and removing covers may expose you to dangerous voltage and other hazards. Refer all servicing to qualified service personnel.

Replacing the projection lamp

The lamp hour's timer in the Service Infomenu counts the number of hours the lamp has been in use. Twenty hours before the lamp life expires a message appears on the screen at startup indicating that you should change the lamp. The LED on the top of the projector also blinks red twice to indicate that the lamp should be changed. Use only a replacement lamp with the same type and rating as the original lamp. Lamps can be purchased direct from Knoll or the dealer that sold the projector.

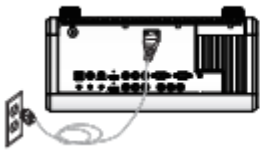
Low cost on-line sales of lamps can be very costly as they sometimes cause a lot of projector damage when used.

WARNINGS

- The projector uses a high-pressure mercury glass lamp. The lamp may fail prematurely, or it may rupture with a popping sound if jolted, scratched, or handled while hot. The risk of lamp failure or rupture also increases as the lamp age increases; please replace the lamp when you see the “Replace Lamp” message.
- To avoid burns, allow the projector to cool for at least 60 minutes before you replace the lamp.
- Unplug the power cord before replacing the lamp.
- Do not drop the lamp module. The glass may shatter and cause injury.
- Do not touch the glass surface of the lamp module. Fingerprints can obscure projection sharpness and may cause the glass to shatter.
- Be extremely careful when removing the lamp housing. In the unlikely event that the lamp ruptures, small glass fragments may be generated. The lamp module is designed to contain most of these fragments, but use caution when removing it.
- Before replacing a ruptured lamp, clean the lamp compartment and dispose of cleaning materials. Wash hands after lamp replacement.
- When replacing the lamp while the projector is ceiling-mounted, wear protective eyewear to prevent eye injury.
- Hg – Lamp contains mercury. Manage in accordance with local disposal laws. See www.lamprecycle.org.

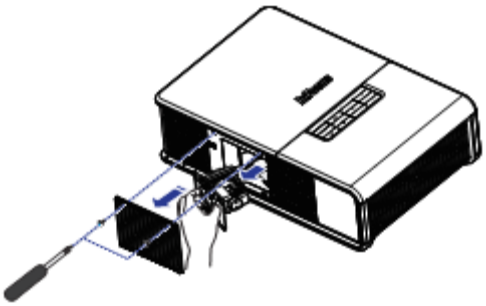
Lamp replacement procedure

1 Turn off the projector and unplug the power cord. If ceiling mounted, disconnect all cables and detach the projector from the ceiling mount.



2 Wait 60 minutes to allow the projector to cool thoroughly.

3. Remove the lamp door by removing the screws on the side of the lamp door and lifting the door off.



4. Loosen the captive screws that attach the lamp housing to the projector.

5. Using the handle, carefully remove the lamp housing. Dispose of the lamp in an environmentally proper way.

6. Install the new lamp housing pressing the lamp into place.

7. Tighten the captive screws.

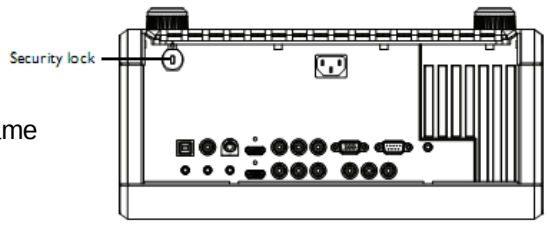
8. Replace the lamp door and tighten both screws

9. Plug in the power cord and press the **Power** button to turn the projector back on.

11. To reset the lamp hour timer, navigate to the Status and **Service** menu and select **Reset Lamp Hours**.

Using the Security Lock

The projector has a security lock for use with a Cable Lock System. Refer to the information that came with the lock for instructions on how to use it.



RS-232 terminal specifications

Communication configuration
To control the projector from and LCD control panel, connect RS-232 cable to the serial control connector on the projector and set your computer's serial port settings to match this communication configuration.

Setting	Value
Bits per second	115,200
Data bits	8
Parity	None
Stop bits	1
Flow control	None
Emulation	VT100

RS232 COMMAND FORMAT

All commands consist of 3 alpha characters followed by a request, all enclosed in parentheses. The request can be a read request (indicated by a "?") or a write request (indicated by 1 to 4 ASCII digits).

A read request format (AAA?) where

(	starts the command
AAA	denotes the command
?	denotes the read request
)	ends the command

A read command returns the range and the current setting, for example:

Function	Command	Response
Brightness	(BRT?)	(96-160, 128)
Lamp hours	(LMP?)	(0-32766, 42)

A write request example: (AAA####) where

(	starts the command
AAA	denotes the command
####	denotes the value to be written (leading in zeros not necessary)
)	ends the command

Some commands have ranges, while others are absolute. If a number greater than the maximum range is received, it is automatically set to the maximum number for that function. If a command is received that is not understood, a "?" is returned. With absolute settings, "0" is off, 1-9999 is on.

The one exception is the Power command, where 0 is off and 1 is on.

Function	Command	Response
Brightness	(BRT10)	Sets brightness to 10
Power	(PWR0)	Turns power off
Power	(PWR1)	Turns power on

Error Conditions

Not all commands are supported for all projectors. If an unsupported command is issued, the command will be ignored. If a command is received that is not understood, a '?' character will be returned indicating the command was not understood.

Limitations

The projector cannot respond to commands coming in at a high-rate. Therefore, a delay must occur between commands to ensure that the command gets properly executed. To assure the projector can process a command, wait 3 seconds before entering the next command.

The Step column refers to increasing or decreasing the menu bar position since the On-screen Display is not an exact match of values. For example, Step 2 changes the data by 2 through the CLI (Command Line Interface). The menu bar is up (or down) by 1.

Function	Command	Min	Max	Default	Step
About (Source Info) 0: n/a 1: enable	ABT at W	0	1	n/a	
Advance to next Computer Source	CAD+ at RW	0	2	0: DVI D.1: VGA1 D.2: VGA2	
Aspect Ratio 0: Native 1: 16:9 2: 4:3	ARZ at RW	0	2	2	
Aspect Ratio Advance Command	ARZ+ at RW	0	6	2	
Aspect Ratio of Current Source	QAR at R				
Auto Image 0: n/a 1: enable	AIM at W 0	0	1	n/a	
Auto Power 0: disable 1: enable	APO at RW	0	1	0	
Auto Source 0: disable 1: enable	ASC at RW	0	1	1	
Auto Off Time Setting	AOT at RW	0	6	0	
Blank 0: off 1: on	BLK at RW	0	1	0	
Blank Screen 0: black 1: blue 2: white	BSC at RW	0	2	0	
Blank Screen Style Setting	BSS at RW	0	6	0	
Blue Gain	BCG at RW	0	100	50	1
Brightness	BRT at RW	0	100	0	1
BrilliantColor™ Setting	BCL at RW	0	1	0	
Ceiling 0: disable 1: enable	CEL at RW	0	2	2	1
CLI Version Setting	CLV at R	string: "2.0"			
Closed Captions (Non-Muted) Setting	CLC	0	3	0	
Closed Captions (Non-Muted) Advanced	CLC+ at RW	0	3	0	
Color	CLR at RW	0	100	50	1
Color Gamut Setting	CGA	0	4	0	

Color Space 0: Auto 1: RGB 2: REC709 3: REC601 4: RGB Video	CSM at RW	0	4	0	
Color Temp 0: 9300K 1: 6500K 2: 7200K 3: User	TMP at RW	0	3	2 (computer 2,3) 0 (other)	
Color Wheel Index Setting	CWI at RW	0	719	458	
Color Wheel Ramp Mode Setting	CRM at RW	0	4	0	
Configuration Data	CVS at R	n/a	n/a	n/a	
Contrast	CON at RW	0	100	50	
Clear System EPROM Command	CEE at RW				
Current Color Space	QCS at R				
Current Source Name	QAS at R				
Current Source Resolution	RES at R				
Current Source Signal	QST at R				
Current Source Value	QSF at R				

Current Sub-Source Setting	CRS at R	n/a	n/a	n/a	
Custom Key (Effect) 6: freeze 8: Source Info 10: Projector Info 14: Overscan 17: SplitScreen	EFK at RW	0	16	6	
Detect Film Setting	TTO	0	1	0	
Display Messages 0: disable 1: enable	DMG at RW	0	1	0	
Disable Snapshot Setting	DCP at RW	0	1	0	
DynamicBlack™ Setting	DYB at RW	0	4	0	
Error Condition Setting 1: Lamp wont' strike after 5 attempts, 2: Reserved 3: Lamp went out unexpectedly 4: Fan Failure 5: Over temperature 6: Low voltage	ERR at R	0	6	1	
Factory Reset 0: not reset 1: reset	RST at W	0	1	0	

Fast Color Refresh Setting	FCR	0	1	0	
Flash Update Command	FMR at RW	0	1	0	
Flesh Tone Correction Setting	FTC	0	100	0	
Firmware Version	FVS at R	2			
Freeze 0: disable 1: enable	FRZ at RW	0	1	0	
Gamma Setting	GTB at RW	0	8	2	
Glow Ring Setting	GLO at RW	0	1	1	
Green Gain	GCG at RW	0	100	50	1
HDMI DDC Settings	EE0 at RW	0	1	0	
HDMI DDC Settings	EE1 at RW	0	1	0	
Help Command	HLP at RW	0	1	0	
Horizontal Keystone	DKH at RW	0	100	50	1
Horizontal Position	HPS at RW	0	100	50	1
Horizontal Refresh Frequency	QHR at R				
IRIS Setting	IRS at RW	0	100	50	
Key Click Setting	KCL at RW	0	1	1	

Keypad Enable Setting	KPE at RW	0	1	0	
Keycode Entry Setting	KEY at W				
Keypad Navigation Type Setting	KNT at R	2	4		
Lamp High Power Setting	HPE	0	1	0	
Lamp Low Power Setting	IPM at RW	0	1	0	
Language 0: English 1: French 2: German 3: Italian 5: Korean 6: Norwegian 7: Portuguese 8: Russian 9: Simplified Chinese 10: Spanish 11: Traditional Chinese 12: Swedish 13: Dutch 14: Polish 15: Turkish 16: Danish 17: Finnish	LAN at RW	0	17	0	
Lamp Hours	LMP at R	0	32766	0	1
Lamp Hours in Low Power Mode	LME at R	58			

Lamp Hours in High Power Mode	LMO at R	150			
Lamp Life Setting	LIF at R				
Lamp Hour Reset 0: not reset 1: reset	LRT at W	0	1	0	
Lamp Resets (Total number)	LMR at R	0	32766	0	
Lamp Total On Time (All Bulbs)	LMT at R	0	83646	0	
Language Initial Value Setting	LIV at RW	0	17	0	
Magnify Controls Setting	MGC at RW	0	1	0	
Magnify Horizontal Position Settings	MGH at RW	-80	80	0	
Magnify Level Setting	MGL at RW	0	25	0	
Magnify Vertical Position Settings	MGV at RW	-60	60	0	
Menu 0: disable 1: enable	MNU at RW	0	1	0	
Menu Lockout Setting	MNL at RW	0	15	0	
Menu Navigation 0: up 1: down 4: select	NAV at W	0	4	n/a	

Menu Offset Setting	OFF at RW	0	100	0	
Menu Transparency Setting	TOE at RW	5	15	10	
Motion Smoothing		0	4	0	
Native Resolution	NRS at R				
NND (PC Screen Saver Off) 0: disable 1: enable	NND at RW	0	1	1	
Noise Reduction Setting	NRL	0	100	0	
Overscan 0: disable 1: enable	OVS at W	0	1	0	
Phase	MSS at RW	0	100	0	1
Picture-in-Picture Layout Setting	SSC	0	7	0	
Picture-in-Picture Size Setting	SSZ	0	2	0	
Picture-in-Picture Source Advance Commands	SSL+	0	7	0	
Picture-in-Picture Source Setting	SSL	0	7	0	
Picture-in-Picture Swap Command	SSS				
Picture Player Control Settings	LAS	0	1	0	

Pixel Clock Frequency	QPC at R				
Power 0: disable 1: enable	PWR at RW	0	1	0	
Power-up Source 0: VGA 1: HDMI1 2: HDMI 2 3: Component 1 4: Component 2 5: Component 3 6: S-video 7: Composite	DSC at RW	0	5	0	
Power Setting	PWR at RW	0	1	0	
Power Sounds Setting	ACE at RW				
Presets 0: user 1 1: user 2 2: user 3 3: Presets Off 5: presentation 7: video 10: bright 11: whiteboard	PST at RW	0	13	0	
Print Text Command	PRN				
Rear 0: disable 1: enable	REA at Rw	0	1	0	
Red Gain	RCG at RW	0	100	50	1

Save User Presets 1 0: not saved 1: saved	US1 at W	0	1	n/a	
Save User Presets 2 0: not saved 1: saved	US2 at W	0	1	n/a	
Save User Presets 3 0: not saved 1: saved	US3 at W	0	1	n/a	
SCART Type Setting	SCA	0	1	0	
Screen Save 0: 5 minutes 1: 10 minutes 2: 15 minutes 3: 20 minutes 4: 25 minutes 5: 30 minutes	SSV at RW	0	6	0	
Search Screen	DSU at RW	0	4	0	
Serial Port Baud Rate Setting	BR! at RW	0	8	7	
Serial Port Echo Setting	EC1 at RW	0	1	0	
Set Black Level Command	BLC				
Sharpness 5: Sharpest 6: Sharper 7: Standard 8: Softer 9: Softest	SHP at RW	0	2	1	

Sleep Time Setting	SLT	0	3	0	
Source 0: VGA 1: HDMI1 2: HDMI 2 3: Component 1 4: Component 2 5: Component 3 6: S-video 7: Composite	SRC at RW	0	5	0	
Source Name Setting	SN0 SN1 SN2 SN3 SN4 SN5				
Source Advance	CAD at RW	0	2	0: DVI D.1: VGA1 D.2: VGA2	
Source Advance - All Command	SRC at RW	0	5	0	
Source Advance - Video Command	VAD at RW	3	5	3:HDMI 4: S-video 5: composite	
Source Advance to Next Source	VAD+ at RW	3	5	3:HDMI 4: S-video 5: composite	
Source 1-4 Commands	SRn at RW				
SplitScreen Enable 0: off 1: on	SSC at RW	0	1	0	

Sync Threshold Setting	STH at RW	0	100	0	
System State Setting	SYS at R				
Take Snapshot Command	CAP at RW	0	1	0	
Test Pattern Select Setting	TPS at RW	0	14	0	
Tint	TNT at RW	0	100	50	1
Tracking	MTS at RW	-20	+20	0	1
Vertical Keystone	DKV at RW	0	100	50	1
Vertical Position	VPS at RW	0	100	50	1
Vertical Refresh Frequency	QVR at R				
Video Standard	VSU at RW	0	5	0	
Red Offset Green Offset Blue Offset	RCO at RW GCO at RW BCO at RW	0	100	50	

SplitScreen Second Source 0:off 1: VGA 2: HDMI1 3: HDMI 2 4: Component 1 5: Component 2 6: Component 3 7: S-video 8: Composite	SSL at RW	0	6	0	
SplitScreen Second Source Location 0:right 1: bottom 2: left 3: top 4: bottom right 5: bottom left 6: top left 7: top right	SSY at RW	0	7	0	
SplitScreen Second Source Size 0: small 1: medium 2: large	SSZ at RW	0	2	2	
SplitScreen Swap 0: n/a 1: enable	SSS at W	0	1	n/a	
Standby Power Save	SPS at RW	0	1	1	
Startup Logo 0: blank screen 1: default 2: captured	SHP at RW	5	9		

SplitScreen Compatibility

SplitScreen allows two distinct sources to be displayed simultaneously. Switch primary sources, make picture adjustments and choose one of multiple display options: either two side by side horizontal or vertical source regions or a small secondary source image displayed on top of the primary source in one of four placement options lets you show two different sources at the same time. The following source combinations are supported:

	HDMI 1	HDMI 2	VGA/ Component 4	Component 1	Component 2	Component 3	S-video	Composite
HDMI 1		X			X	X		
HDMI 2	X		X	X			X	X
VGA/Component 4		X			X	X		
Component 1		X			X	X		
Component 2	X		X	X			X	X
Component 3	X		X	X			X	X
S-video		X			X	X		
Composite		X			X	X		

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