

SDC-12/SDC-15 1080p D-ILA 3D Front Projector 2013 User's Manual



SDC-12 aka the "GrayWolf 4K"

ABOUT THIS MANUAL

This manual is designed for use with the Wolf Cinema SDC-12 and SDC-15 Home Cinema Projectors. Information in this document has been carefully checked for accuracy; however, no guarantee is given to the correctness of the contents. The information and specifications in this document are subject to change without notice.

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TRADEMARKS

All trademarks and registered trademarks are the property of their respective owners.



The lightning flash with arrow head within an equilateral triangle is intended to alert the user to the presence of “dangerous voltage” within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE. DANGEROUS HIGH VOLTAGES ARE PRESENT INSIDE THE ENCLOSURE. DO NOT OPEN THE CABINET. REFER SERVICING TO QUALIFIED PERSONNAL ONLY.

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Notices



WARNING! To meet FCC requirements, a shielded power cord is recommended in order to prevent interference. It is essential that only the supplied power cord is to be used. Use only shielded cables to connect I/O devices to this equipment. You are cautioned that changes or modifications not approved by the party responsible for compliance could void your authority to operate the equipment.



WARNING! High-brightness light source. Do not stare into the beam of light, or view directly. Be especially careful and ensure that children do not stare directly into the beam of light.



WARNING! To reduce the risk of fire or electric shock, do not expose this product to rain or moisture.



CAUTION! For minimal servicing and to maintain high image quality, we recommend that you use the projector in an environment that is smoke and dust free. When used in areas where there is a lot of smoke or dust, the filter and lens should be cleaned often to lengthen the service life of the projector.



WARNING! IC chips or other technologies in the product include confidential and/or trade secret property belonging to either Wolf Cinema or the Victor Company of Japan (JVC). Therefore you may not copy, modify, adapt, translate, distribute, reverse engineer, reverse assemble or decompile the contents thereof.



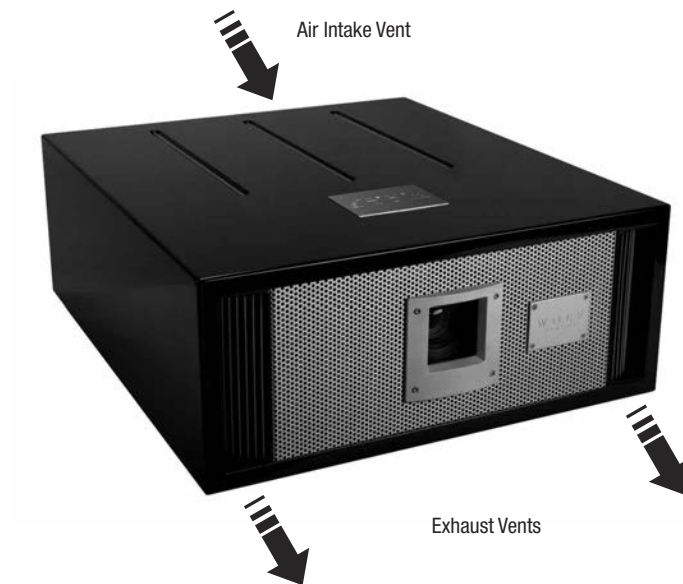
WARNING! The ventilation slots and objects next to them may get extremely hot during operation. Do not touch these areas until they have sufficiently cooled down.



DISPOSAL Do not use household or municipal waste collection services for disposal of electrical and electronic equipment. EU countries require the use of separate recycling collection services.

CAUTION REGARDING THE EXHAUST OF THE PROJECTOR

Do not place the projector in a space that is poorly ventilated or confined. Allow at least 20 in. (50 cm) clearance from walls and have free air flow around the projector.



Before using the projector, please read this operation guide carefully.

To facilitate reporting the loss or theft of your Wolf Cinema components, record the Serial Number located (a) on the bottom of the projector and (b) on the rear of the outboard ProScaler, if applicable; retain this information. Before recycling the packaging, be sure that you have checked the contents of the carton(s) thoroughly against the list of "Package Contents" on page 6.

WARRANTY

This product comes with an original owner's Manufacturer's Warranty. See the separate Statement of Warranty for complete details.

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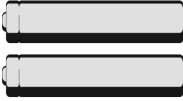
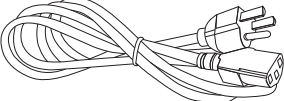

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Introduction

Package Contents

Open the package and ensure that you have the following items:

		
<p>System IR Remote</p>	<p>Two "AA" size batteries</p>	<p>Power cord (By country)</p>
	<ul style="list-style-type: none"> • Stereoscopic (3D) emitter and 3D glasses • Ceiling mount kit 	<ul style="list-style-type: none"> • Wolf Cinema anamorphic lenses • Replacement lamp • Filter
<p>Owner's Manual</p>	<p>Optional accessories:</p>	<p>Optional accessories:</p>

Note: • Some of the cables may not be included depending on the region. Please check with your nearest Authorized Dealer.
• If anything is missing or appears damaged, contact your Wolf Cinema dealer immediately.

Additional Optional Accessories

Replacement lamps:

- For models SDC-12 and SDC-15 [2013 production and beyond] order lamp **WC-LPU230**
- For model SDC-15 [pre-2013 production] order lamp **WC-LPU220**

Note: These lamps are not interchangeable, so please order the exact replacement lamp required. If in doubt contact your local custom installer or Wolf Cinema at 510-843-4500.



3D Glasses:

- For IR technology order glasses **WC-SD3DA-01**
- For RF technology order glasses **WC-SD3DA-02**



Note: The 3D glasses are not interchangeable, so order glasses based on the type of 3D emitter in use. If in doubt contact your local custom installer or Wolf Cinema at 510-843-4500.

3D Synchro Emitters and 3D Glasses Compatibility Chart

3D Synchro Emitters		3D Glasses	
Communication Method		WC-SD3DA-01 IR (Infrared)	WC-SD3DA-02 RF (Radio Frequency)
 <p>IR (Infrared)</p>	X	-	
 <p>RF (Radio Frequency)</p>	-	X	

Thank you for purchasing the Wolf Cinema SDC-12 or SDC-15 – next-generation stereoscopic (3D) home cinema projectors.

Suitable for larger home theater screens, the SDC projectors boast a three-chip, D-ILA® [Direct Drive Image Light Amplifier] light engine for ultra-high-fidelity 1080p viewing experiences. D-ILA is an advanced LCOS [Liquid Crystal on Silicon] technology from the Victor Company of Japan [JVC], which produces stunning film-like imaging with deep contrast level performance and natural color renditions. Our system is complemented by advanced video processing algorithms, custom memory calibration settings plus a precision optics package for razor-sharp image reproduction from today's most demanding HD sources.

Like all Wolf projectors, the SDC-12 and SDC-15 are designed with a highly-efficient thermal chassis for extended projector and lamp life. Multiple whisper fans help keep the light engine at optimum running temperatures by routing cooling air in a rear-to-front design, facilitating a wide range of placement options for the custom installer.

Each Wolf Cinema projector is carefully hand-calibrated at the factory for top performance in both 2D and 3D viewing. The SDC-15 is delivered in an elegant high gloss black cabinet, the SDC-12 in a lovely gloss gray cabinet. Both are completed with a full system IR remote control, LAN and RS-232 system control capabilities. The projectors incorporate a dual set of HDMI 1.4 inputs, one set of component video and PC inputs. Additional home theater options include two VariScope™FX fixed cinema anamorphic lens assemblies that help enable full 2:35 widescreen viewing without unwanted top/bottom “black bars”.

The system provides for optional Wolf Cinema 3D shutter glasses and 3D signal emitter, when you desire the full suite of 3D viewing effects.

We hope you enjoy your Wolf Cinema home theater experience.

FEATURES AND SPECIFICATIONS:

- Advanced three-chip, 1920x1080 D-ILA® engines
- New V4K™ engine for enhanced 4K viewing [3840 X 2160] from standard and HD sources
- Advanced onboard VariScope™ lens memory system [multiple presets] for 1.78, 1.85 and 2.35:1 aspect ratio viewing
- Factory hand-calibrated for both 2D and 3D viewing modes
- New 230W UHP lamp, 1300 ANSI, ~70,000:1 CR performance [SDC-12], ~110,000:1 CR performance [SDC-15]
- Ultra-high contrast chipset with next-gen home cinema iris
- Wolf Cinema's multi-axis color management system (R,G,B,C,M,Y and Orange)
- Custom screen surface mode presets
- Adjustable 3D parallax and crosstalk cancellation for reduced “ghosting” artifacts
- Advanced real time 2D-to-3D conversion mode
- Multi-zone pixel convergence [1/16th pixel, 121 zone adjustment]
- Extended range primary lens: 1.45:1 to 2.78:1 TD
- Inputs: HDMI 1.4a (2), Component (1), PC (1)
- IR Remote Control included plus LAN, RS-232 system control capabilities
- Two optional VariScope FX™ Fixed Anamorphic Lens Assemblies
- Elegant gloss cabinets with optimized thermal design for extended projector and lamp life
- Optional 3D starter pack includes 3D signal emitter and two pairs of active glasses; additional glasses available
- Optional WC-PM-M ceiling mount kit

Getting Started

Safety Precautions

IMPORTANT INFORMATION

This product has a High Intensity Discharge (HID) lamp that contains mercury. Disposal of these materials may be regulated in your community due to environmental considerations. For disposal or recycling information, please contact your local authorities or for USA, the Electronic Industries Alliance: <http://www.eiae.org>.

WARNING! TO PREVENT FIRE OR SHOCK HAZARDS, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

WARNING! THIS APPARATUS MUST BE GROUNDED.

CAUTION: To reduce the risk of electric shock, do not remove cover. Refer servicing to qualified service personnel.

This projector is equipped with a 3-blade grounding type plug to satisfy FCC rule. If you are unable to insert the plug into the outlet, contact your electrician.

About the Installation Place

Do not install the projector in a place that cannot support its weight securely. If the installation place is not sturdy enough, the projector could fall or overturn, possibly causing personal injury.

IMPORTANT SAFEGUARDS

Electrical energy can perform many useful functions. This unit has been engineered and manufactured to assure your personal safety. But IMPROPER USE CAN RESULT IN POTENTIAL ELECTRICAL SHOCK OR FIRE HAZARD. In order not to defeat the safeguards incorporated into this product, observe the following basic rules for its installation, use and service. Please read these Important Safeguards carefully before use.

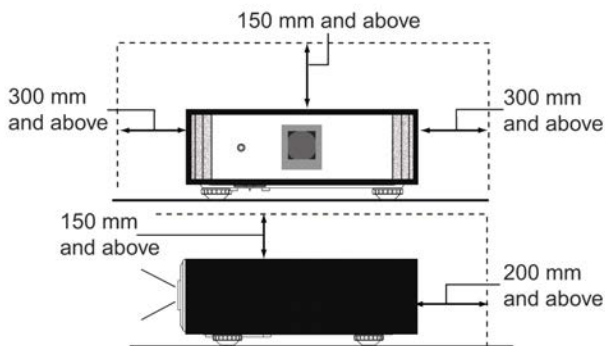
- All the safety and operating instructions should be read before the product is operated.
- The safety and operating instructions should be retained for future reference.
- All warnings on the product and in the operating instructions should be adhered to.
- All operating instructions should be followed.
- Place the projector near a wall outlet where the plug can be easily unplugged.
- Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
- Do not use attachments not recommended by the product manufacturer as they may be hazardous.
- Do not use this product near water. Do not use immediately after moving from a low temperature to high temperature, as this causes condensation, which may result in fire, electric shock, or other hazards.
- Do not place this product on an unstable cart, stand, or table. The product may fall, causing serious injury to a child or adult, and serious damage to the product. The product should be mounted according to the manufacturer's instructions, and should use a mount as recommended by the manufacturer.
- When the product is used on a cart, care should be taken to avoid quick stops, excessive force, and uneven surfaces which may cause the product and cart to overturn, damaging equipment or causing possible injury to the operator.

PORTABLE CART WARNING
(symbol provided by RETAC)



S3126A

- Slots and openings in the cabinet are provided for ventilation. These ensure reliable operation of the product and protect it from overheating. These openings must not be blocked or covered. (The openings should never be blocked by placing the product on bed, sofa, rug, or similar surface. It should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided and the manufacturer's instructions have been adhered to.)
- To allow better heat dissipation, keep sufficient clearance between this unit and its surrounding as shown below. When this unit is enclosed in a space of dimensions as shown below, use an air-conditioner so that the internal and external temperatures are the same. Overheating can cause damage.



- Use the power source indicated on the label. If you are not sure of the type of power supply to your home, consult your product dealer or local power company.
- This product is equipped with a three-wire plug. This plug will fit only into a grounded power outlet. If you are unable to insert the plug into the outlet, contact your electrician to install the proper outlet. Do not defeat the safety purpose of the grounded plug.
- Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them. Pay particular attention to cords at doors, plugs, receptacles, and the point where they exit from the product.
- For added protection of this product during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the cable system. This will prevent damage to the product due to lightning and power line surges.
- Do not overload wall outlets, extension cords, or convenience receptacles on other equipment as this can result in a risk of fire or electric shock.
- Never push objects of any kind into this product through openings as they may touch dangerous voltage points or short out parts that could result in a fire or electric shock. Never spill liquid of any kind on the product.
- Do not attempt to service this product yourself as opening or removing covers may expose you to dangerous voltages and other hazards. Refer all service to qualified service personnel.
- Unplug this product from the wall outlet and refer service to qualified service personnel under the following conditions:
 - a) When the power supply cord or plug is damaged.

- b) If liquid has been spilled, or objects have fallen on the product.
 - c) If the product has been exposed to rain or water.
 - d) If the product does not operate normally by following the operating instructions. Adjust only those controls that are covered by the Operation Manual, as an improper adjustment of controls may result in damage and will often require extensive work by a qualified technician to restore the product to normal operation.
 - e) If the product has been dropped or damaged in any way.
 - f) When the product exhibits a distinct change in performance, this indicates a need for service.
- When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or with same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or other hazards.
 - Upon completion of any service or repairs to this product, ask the service technician to perform safety checks to determine that the product is in proper operating condition.
 - The product should be placed more than one foot away from heat sources such as radiators, heat registers, stoves, and other products (including amplifiers) that produce heat.
 - When connecting other products such as VCR's, and DVD players, you should turn off the power of this product for protection against electric shock.
 - Do not place combustibles behind the cooling fan: for example, cloth, paper, matches, aerosol cans or gas lighters that present special hazards when overheated.
 - Do not look into the projection lens while the illumination lamp is turned on. Prolonged exposure to the strong light can result in impaired eyesight.
 - Do not look into the inside of this unit through vents (ventilation holes), etc. Do not look at the illumination lamp directly by opening the cabinet while the illumination lamp is turned on. The illumination lamp also contains ultraviolet rays and the light is so powerful that your eyesight can be impaired.
 - Do not drop, hit, or damage the light-source lamp (lamp unit) in any way. It may cause the lamp to break and lead to injuries. Do not use a damaged light source lamp. If the lamp is broken, ask your dealer to repair it. Fragments from a broken lamp may cause injuries.
 - Do not ceiling-mount the projector to a place which tends to vibrate; otherwise, the projector and/or mounting assembly could be broken by the vibration, possibly causing it to fall or overturn, which could lead to personal injury.
 - For health reasons, please take a break of about 5-15 minutes after every 30-60 minutes and let your eyes rest. Please refrain from watching any 3D-images when you feel tired, unwell or if you feel any other discomfort. Moreover, in case you see a double image, please adjust the equipment and software for proper display. Please stop using the unit if the double image is still visible after adjustment.
 - Once every three years, please perform an internal test. This unit is provided with replacement parts needed to maintain its function (such as cooling fans). Estimated replacement time of parts can vary greatly depending on frequency of use and the respective environment. For replacement, please consult your dealer, or the nearest authorized Wolf Cinema service center.
 - When affixing the unit to the ceiling, please note that we do not take any responsibility, even during the warranty period, if the product is damaged due to use of ceiling mounts other than our own or if the installation environment of said ceiling fixtures is not appropriate. If the unit is suspended from the ceiling during use, please be careful with regard to the ambient temperature

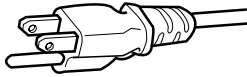
- of the unit. If you use central heating, the temperature close to the ceiling will be higher than normally expected.
- Video images can burn into the electronic component parts. Please do not display screens with still images of high brightness or high contrast, such as found in video games and computer programs. Over a long period of time it might burn into the picture element(s). There is no problem with the playback of moving images, e.g. normal video footage.
 - Malfunctions can also occur when not using the projector for longer periods of time. Please power it on and let it run occasionally. Please avoid using the unit in a room with heavy cigarette smoke. It is impossible to clean optical component parts if they are contaminated by nicotine or tar and will lead to performance degradation.
 - Please watch from a distance from between two to three times the height of the projected image size. Persons with photosensitivity, any kind of heart disease, or weak health should not use 3D glasses.
 - Watching 3D-images may cause nausea or illness. If you feel any change in your physical condition, please stop watching immediately and consult a physician.
 - When watching 3D-images, it is recommended that you take regular breaks. As the length and frequency of the required breaks vary for every person, please judge according to your own condition.
 - If your child watches while wearing 3D glasses, he or she should be accompanied by the child's parents or an adult guardian. The parent or adult guardian should be careful to avoid situations where the child's eyes might become tired, and it is possible for the child's physical condition to deteriorate quickly. As a person's visual sense is not yet fully developed in children under the age of 6, please consult a physician in regard to any problem concerning 3D viewing, as necessary.
 - Note that when using the 3D feature, the video output may appear different from the original video image due to image conversion on the device.

Note: DO NOT allow any unqualified person to install the unit. Be sure to ask your dealer to install the unit (i.e., attaching it to the ceiling) since special technical knowledge and skills are required for installation. If installation is performed by an unqualified person, it may cause personal injury or electrical shock.

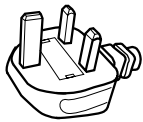
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POWER CONNECTION

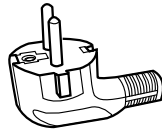
For USA and Canada only Use only the following power cord.



The power supply voltage rating of this product is AC110V – AC240V. Use only the power cord designated by our dealer to ensure Safety and EMC. Ensure that the power cable used for the projector is the correct type for the AC outlet in your country. Consult your product dealer.



For United Kingdom



For European continent countries

WARNING! Do not cut off the main plug from this equipment. If the plug as fitted is not suitable for the AC outlets in your home or the cable is too short to reach an outlet, then obtain an appropriate safety-approved extension cord or adapter, or consult with your dealer. If the main plug is cut off or damaged, dispose of the entire cord immediately. If a new cord or plug is to be used, then follow the instruction given herein or consult your dealer.

WARNING! THIS APPARATUS MUST BE GROUNDED.

IMPORTANT (Europe only): The wire in the cord on this product are colored in accordance with the following pattern: Green-and-yellow – Earth, Blue – Neutral, Brown – Live

As these colors may not correspond with the colored terminals in your plug, proceed as follows: The wire which is colored green-and-yellow must be connected to the terminal which is marked M with the letter E or the safety earth or colored green or green-and-yellow. The wire which is colored blue must be connected to the terminal which is marked with the letter N or black colored. The wire which is colored brown must be connected to the terminal which is marked with the letter L or red colored.

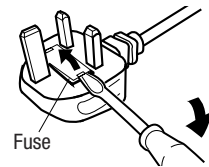
POWER CONNECTION (United Kingdom only) HOW TO REPLACE THE FUSE:

When replacing the fuse, be sure to use only a correctly rated approved type, re-fit the fuse cover.

IF IN DOUBT — CONSULT A COMPETENT ELECTRICIAN.

Open the fuse compartment with the blade screwdriver, and replace the fuse.

(* An example is shown in the illustration at right.)



Information for Disposal of Old Equipment and Batteries (European Union only)

These symbols indicate that equipment with these symbols should not be disposed of as general household waste. If you want to dispose of the product or batteries, please consider the collection systems or facilities for appropriate recycling.



Products



Battery

Note: The sign Pb below the symbol for batteries indicates that this battery contains lead.

CAUTION

In order for you to enjoy 3D movies, you will need:

- Active 3D sources and content, such as displayed from properly enabled Blu-ray players, cable or satellite broadcast equipment.
- Wolf Cinema “3D glasses” and a “3D Sync Emitter” (both sold separately).

Please read through “Safety Precautions” (Reference page: 8), and the precautions in “Explanatory Notes on 3D Systems” in this manual.

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Accessories/Optional Accessories

Check your Accessories

Remote Control	1 piece
AAA size Batteries	2 pieces
Power Cord For the US market (2 m)	1 piece
Power Cord For the EU market (2 m)	1 piece
Power Cord For the UK market (2 m)	1 piece

- Instruction manual, warranty card and other printed material are also included.

Optional Accessories

Please check with your authorized Wolf Cinema dealer for details on all accessories, including the optional 3D glasses and emitter.

Replacement lamps:

- For models SDC-12 and SDC-15 [2013 production and beyond] order lamp **WC-LPU230**
- For model SDC-15 [pre-2013 production] order lamp **WC-LPU220**

Note: These lamps are not interchangeable, so please order the exact replacement lamp required. If in doubt contact your local custom installer or Wolf Cinema at 510-843-4500.

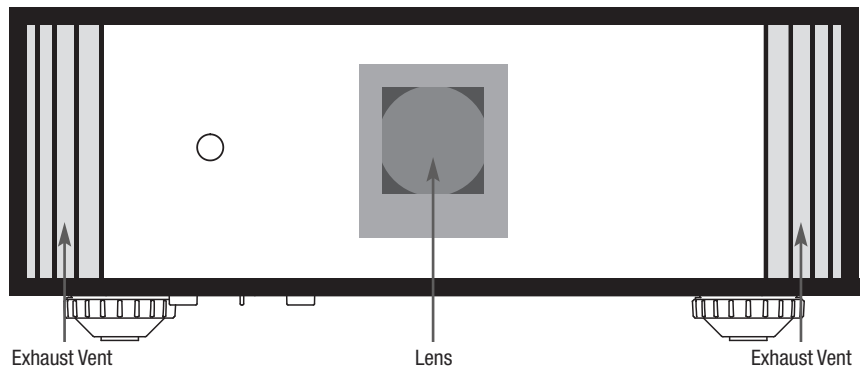
Replacement Filter: **WC-FPSDC-01**

3D-Glasses and Starter Kits:

- 3D starter kit, Infrared [IR]: includes IR emitter and 2 (two) sets of Active 3D Shutter Glasses **WC-SD3PK-01**
- 3D starter kit, Radio Frequency [RF]: includes RF emitter and 2 (two) sets of Active 3D Shutter Glasses **WC-SD3PK-02**
- Active 3D Shutter Glasses, IR technology **WC-SD3DA-01**
- Active 3D Shutter Glasses, RF technology **WC-SD3DC-02**

Projector Ceiling Mount Kit: **WC-PM-M**

Main Body - Front



Lens This is a projection lens. Please do not look inside during projection.

Remote Receiver (front) Please aim the remote control at this area when using it.

- There is also a remote receiver at the rear.

Indicator Please see “Status indicator lights display” for details. (Reference page: 17)

Exhaust Vent Warm air flows out in order to cool the interior of the projector. Please do not block the vents.

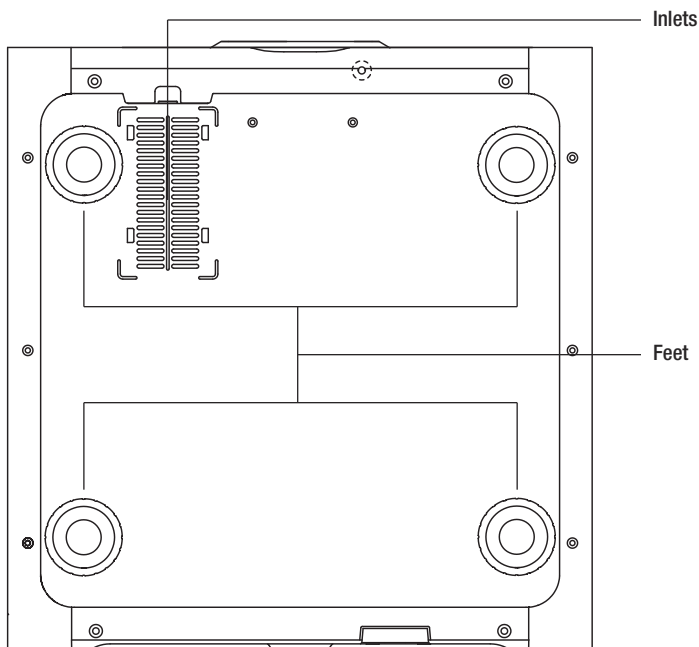
Bezel and Front Logo Orientation The front Wolf Cinema logo and lens bezel can be removed and re-oriented to best suit your installation. Use a 2.5mm hex or Allen key [not included] to remove the front lens bezel; use a 1/16” key [not included] to remove and reverse the Wolf Cinema badge.

Main Body - Bottom

Inlets (at 3 points on the rear/bottom) In order to cool the inside of the unit, air flows from the chassis rear and base plate toward the front vents. Do not block or prevent air flow into or out from the projector, as doing so could lead to failure of the unit.

- There is one air intake vent on the projector base plate, and two air intakes along the right rear sides.

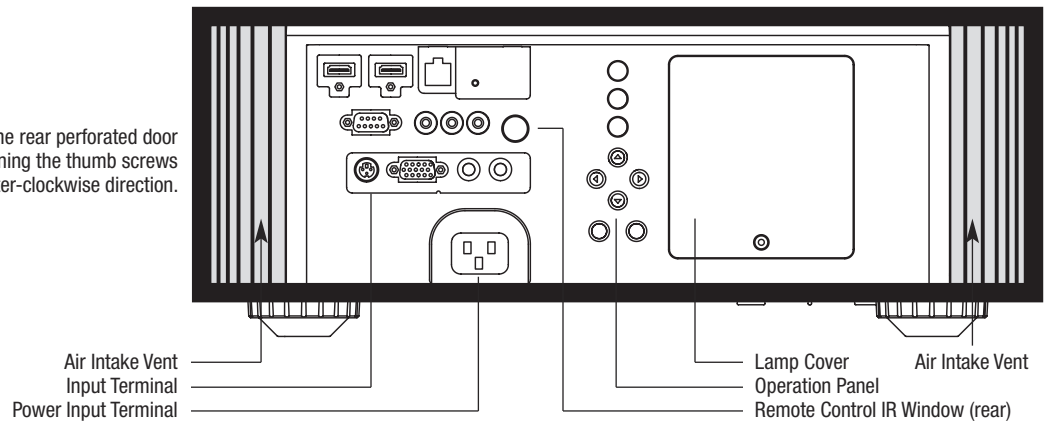
Feet The height (0 to 5 mm) can be adjusted by turning the foot.



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Main Body - Rear

Remove the rear perforated door panel by turning the thumb screws in a counter-clockwise direction.



Input Terminal These are the main system interconnect terminals – 2 HDMI inputs, 1 DB15 terminal for PC connection, 1 Component Video input, and so forth, plus ports to connect the optional 3D signal emitter.

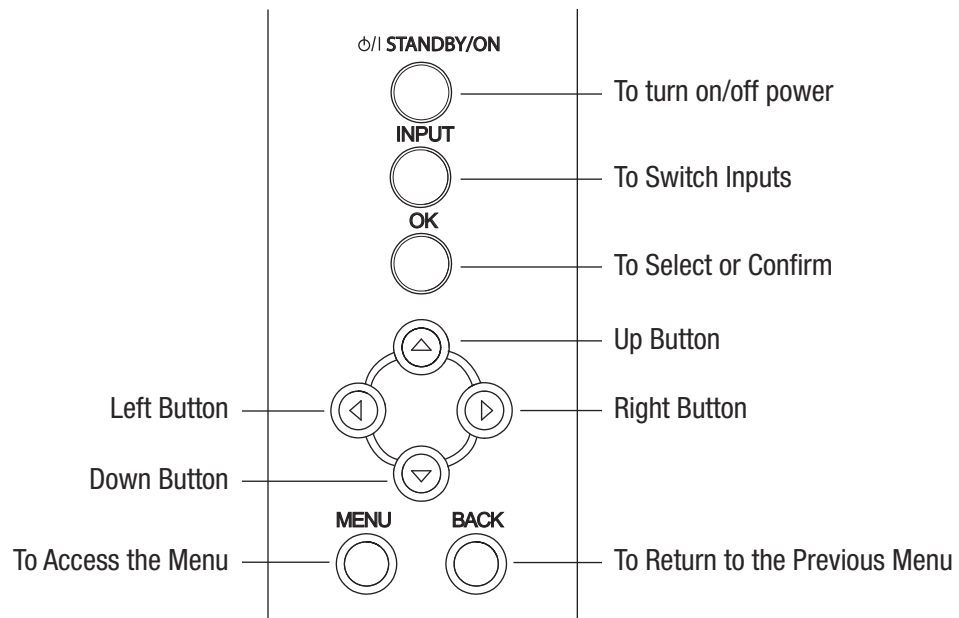
Lamp Cover Remove this cover to replace the projector lamp. (Reference page: 62)

Operation Panel See the following illustration “Control panel” for more details.

Remote control IR window (rear) Aim your remote control at this section when using the IR remote.

AC Terminal This is the AC input terminal. It is connected via the supplied power cord. (Reference page: 33)

Operation Panel



Status Indicator Lights

LED indicators are present during normal operation mode of this unit, and are displayed with the indicators for [STAND BY / ON], [LAMP], and [WARNING].

Meaning of the indicators:



The indicator light in a steady state.



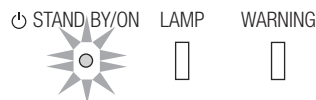
The indicator light is “flashing” to alert the user to a state change.

Operation Mode

Displays the color and lighting/flashing of the [STAND BY / ON] indicator.

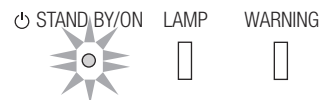
STAND BY Light on (Red)

During stand by



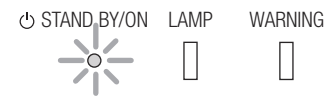
STAND BY Light on (Green)

While activating the lamp
(about 1 minute)



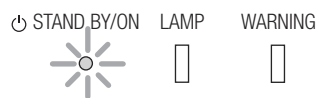
STAND BY Blinking (Red)

During cool down



STAND BY Blinking (Green)

When “Hide” is set to ON



All Off

During image projection

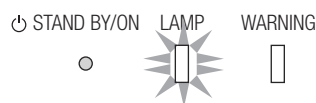


Lamp Replacement Indicator

Displays lighting/flashing of the [LAMP] indicator.

LAMP Light On (Orange)

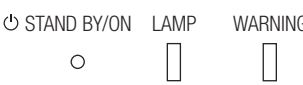
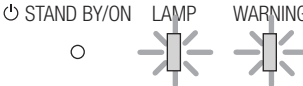
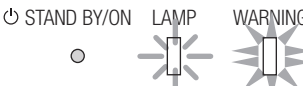
Lamp replacement time is near
(accumulated lamp time exceeds 2900 hours)



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Front panel indicator lights inform you of various operating conditions with the projector. Certain warning notices are provided by the repeated flashing of the [WARNING] and [LAMP] indicators. Moreover, the [STAND BY / ON] indicator, which shows the operating mode of the unit, may also be displayed simultaneously with either indicator lights.

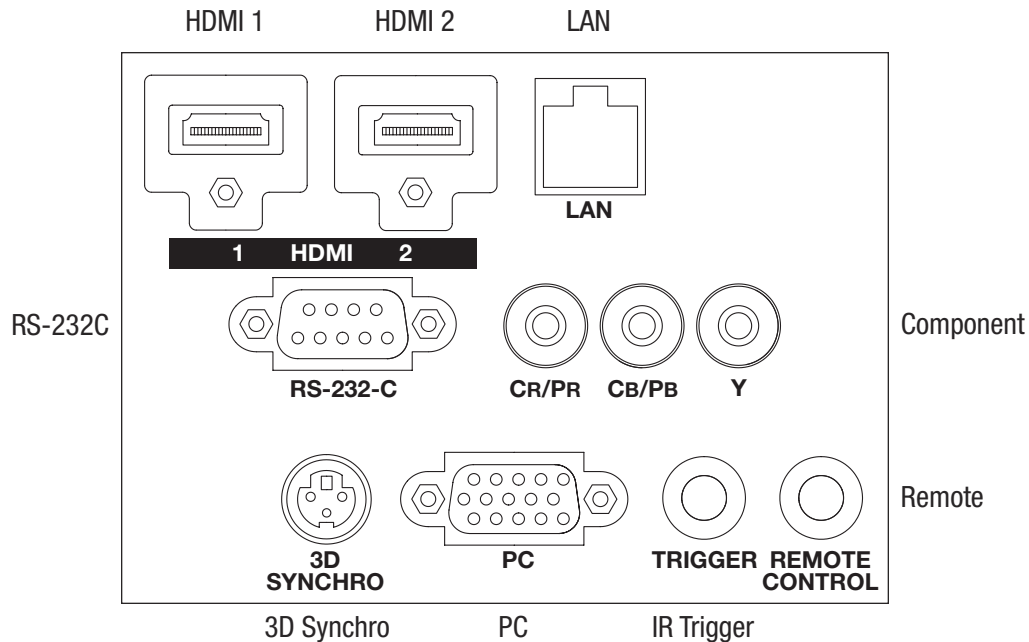
During any [WARNING] mode indication, the light output is interrupted for about 60 seconds and the cooling fan is turned on. Please disconnect the power plug from the electric socket ONLY after the cooling fan has stopped running. Additional indicators and actions are noted below:

Lighting/Flashing Lights Status Diagram	Blinking Frequency	Content	Confirmation and Countermeasures
 <p>(red) Mode Display (*)</p>	1 time	Power supply problems	<ul style="list-style-type: none"> • Check that nothing is blocking the air inlets. • Insure that the external temperature is normal. <p>Action Leave the unit until it cools down. After that, turn on the power again.</p>
	2 times	Cooling fan stops running	
	3 times	Internal temperature is too high	
	4 times	External temperature is too high	
 <p>(orange) (red) Mode Simultaneous Display Flashing</p>	1 time	Faulty electrical circuit	<ul style="list-style-type: none"> • Check that an impact shock has not occurred during operation. • Check that the lamp unit and lamp door cover are both correctly installed. • Check that nothing is blocking the auto lens cover. <p>Action Turn on the power again.</p>
	2 times		
	3 times		
	4 times	Something is wrong with the automatic lens cover	
 <p>(orange) (red) Mode Display</p>	1 time	Lamp does not light up and does not project an image	<ul style="list-style-type: none"> • Check that the lamp unit and lamp door cover are both correctly installed. • Check that nothing is blocking the auto lens cover. <p>Action Turn on the power again.</p>
	2 times	Lamp is turned off during projection period	
	3 times	Lamp cover is removed	

If any warning indicators are displayed multiple times [after power cycling], please wait for the cooling fan to stop, then carefully remove the power plug from the AC power outlet. Contact your authorized dealer for repair.

(*) When the scheduled time for the lamp replacement is exceeded, this indicator might also illuminate.

Main Input Terminal



HDMI 1 Terminal

You can connect any source component equipped with an HDMI output. There is also a M3 locking hole (hole depth 3mm).

HDMI 2 Terminal

You can connect any source component equipped with an HDMI output. There is also a M3 locking hole (hole depth 3mm).

LAN Terminal (RJ-45)

This is a LAN-terminal. The projector may be operated via networked PC or system controller commands.

RS-232C Terminal (male D-Sub 9 pin)

This is a standard RS-232C interface terminal for external system controller connectivity.

COMPONENT Terminals (RCA x 3)

Standard input terminals for analog RGB (Synch on G), component (Y, Cb, Cr), DTV format (Y, Pb, Pr) video signals.

3D SYNCHRO Terminal

3D synchro emitter connector: connect the external 3D emitter (sold separately) to enjoy 3D content.

PC Terminal (D-Sub 15 pin)

Input terminal used to connect any Personal Computer (RGB video and sync signals).

Trigger (⊖ ⊕)

12V DC power supply output terminal (100mA). This is typically used to control motorized or masking screens; contact your Wolf Cinema installer for further details.

Note: Damage can be caused to third party equipment if the connection is performed incorrectly. (Tip = DC +12 V, Sleeve = GND)

IR REMOTE terminal (Stereo mini jack)

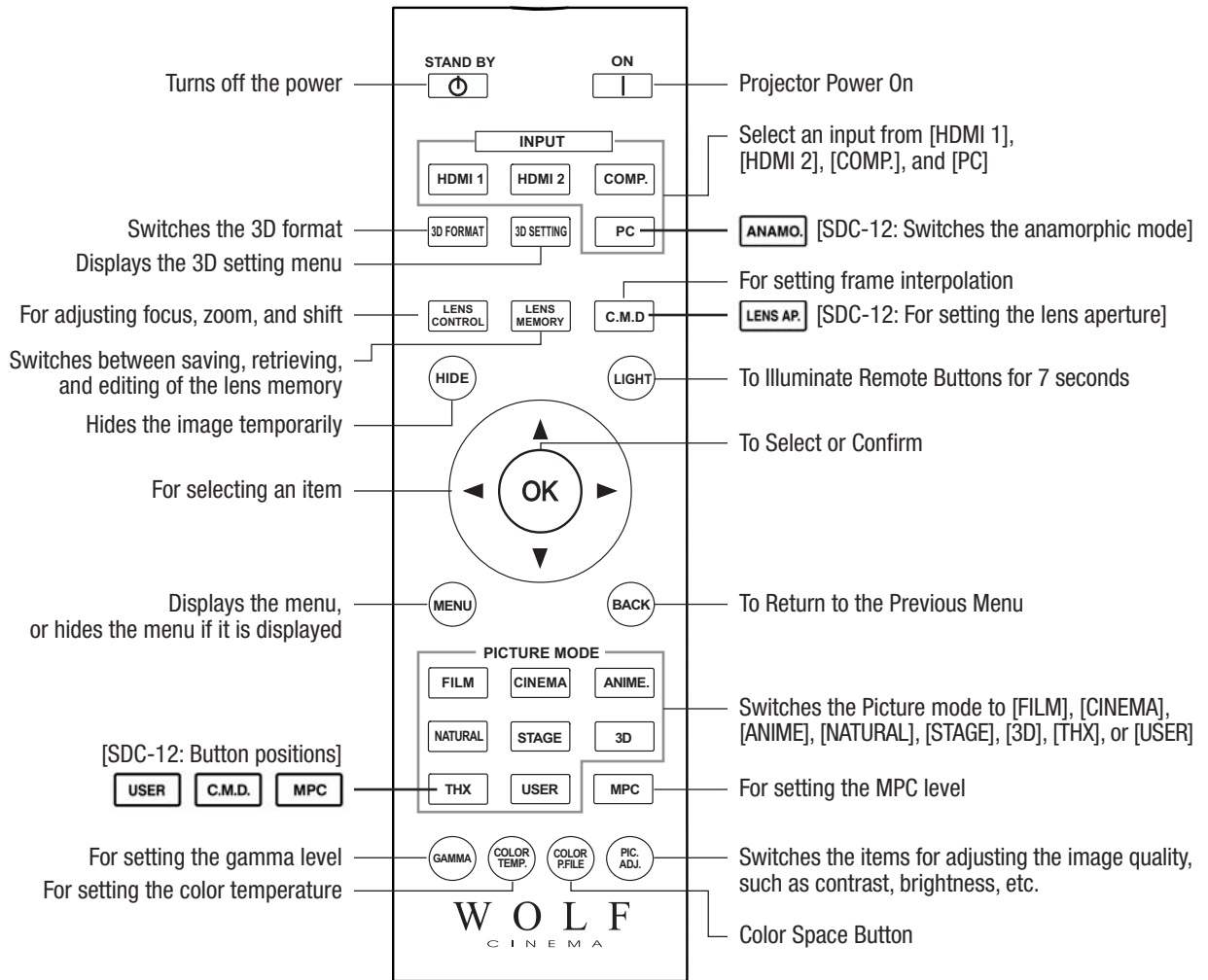
This terminal may be used with compatible third party IR sensors, in the event the main chassis IR sensor(s) are hidden or otherwise inaccessible. Consult with your authorized Wolf Cinema dealer or installer for further details and technical support.

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Remote Control

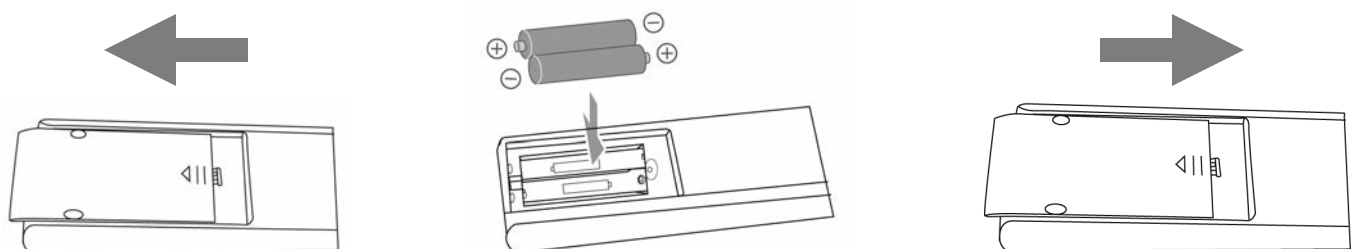
Remote Control

Your SDC-12 or SDC-15 projector remote controls have been modified to incorporate the following features:



Inserting Batteries into the Remote Control

- Slide open the rear cover, then insert the batteries according to the positive (+) and negative (-) indicator marks. Insert the (-) end first.
- If an error occurs when using the remote control, remove the batteries and wait for 5 minutes. Load the batteries again and continue operating the remote control.



Important Points Concerning Installation

Please read the following carefully before installation of this projector



Installation Environment

CAUTION

This unit is a precision device. Therefore, please refrain from installation or usage in the following locations, otherwise, fire or serious malfunction may occur:

- Dust, wet and humid locations.
- Sooty or cigarette smoke filled locations.
- On top of a carpet or bedding, or other soft surfaces
- Locations with very high ambient temperatures - as located in direct sunlight.
- Locations with high or low temperatures.

Permissible extreme high or low operating temperature range: $+5^{\circ}$ to $+35^{\circ}$.

Relative humidity range permissible for operating: 20% ~ 80% (non-condensing).

Storage temperature tolerance: -10° to $+60^{\circ}$.

- If the installation of the unit is done in a room with soot and/or smoke over a longer period, even small amounts of these substances may affect the device. This unit cools its optical components (which produce a great deal of heat) via air flow through the projector. If the optical circuits get dirty, this might lead to malfunctions, such as the video images becoming darker or a deterioration of color fidelity. Dirt sticking to the optical components cannot be removed.



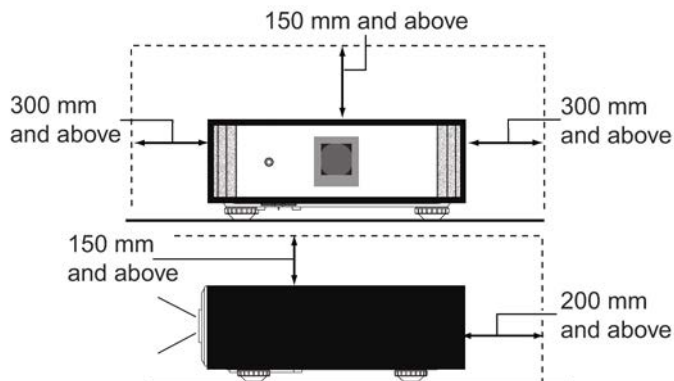
Please Perform the Installation at a Set Distance from Walls and Other Devices

CAUTION

For optimum heat dissipation, please keep a minimum distance between this unit and its surroundings as shown in the following illustration.

Moreover, please keep the front of the unit clear from all obstructions. If there are any objects in front of the exhaust ports, hot air may flow back into to the unit and cause overheating. Note that hot air exhaust flowing out of the unit might cause shadows on the screen (heat haze phenomenon).

If the projector is enclosed in a space as shown in the following illustration, please insure that the enclosed interior has the same temperature as the outside. High temperatures can lead to failure of the unit.





Please Be Careful During Use

CAUTION

This unit uses a projection lamp, which will get hot when in use. Please refrain from projecting in the following circumstances, otherwise, fire or serious malfunctions may occur:

- Projection angle. (Reference page: 23)

Avoid projection if the installation of the unit is done at an excessive angle of more than $\pm 15^\circ$. This may reduce life of the lamp and cause unwanted color shading.

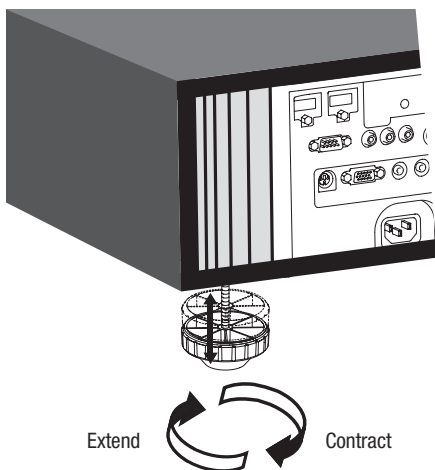
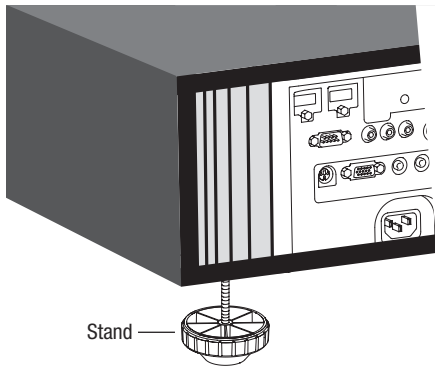
- Avoid projection at any location where the air vents or exhaust ports might get blocked.

Consult with your Wolf Cinema installer as to the optimum screen surface to use with this projector. Note that certain perforated or woven "acoustic transparent" screens may result in visual interference patterns with the pixel array of the D-ILA light engine components. One way to reduce any unwanted interference pattern is to change the size of the screen, or type of screen surface, so that any interference patterns will be less noticeable.

Inclination Adjustment for this Projector

How to Adjust the Horizontal and Vertical Angles

Height and inclination of the unit (0 ~ 5mm) can be adjusted by rotating its feet. Lift the unit and adjust the four feet.

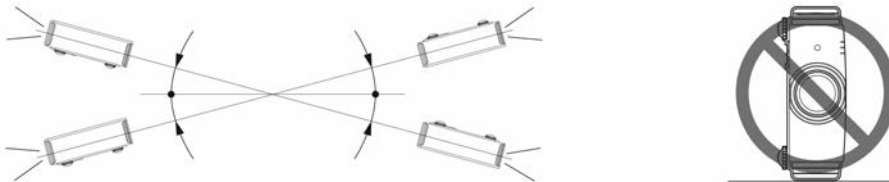


Installing the Projector and Screen

While installing, please place this unit and the screen perpendicular to each other. Failing to do so may increase trapezoidal distortion.

Set Angle

The angle range which can be set for this projector is $\pm 15^\circ$.

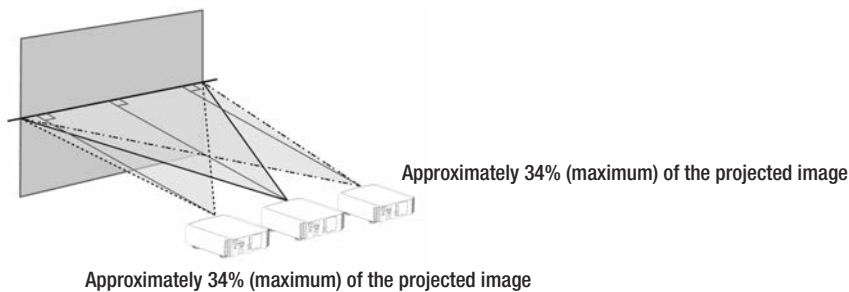


- Malfunctions may occur if the angle is not set within the above ranges.

Shift

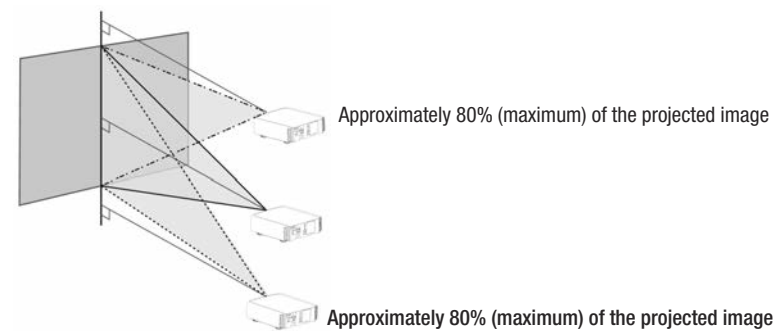
Left/Right Position

* 0% up/down position (center)



Up/Down Position

* 0% left/right position (center)

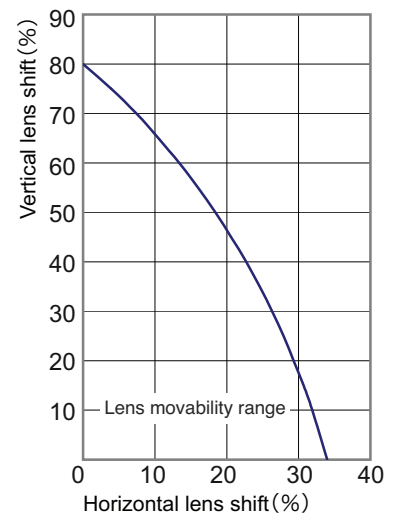


Lens shift correlation chart:

Left-Right Shift(%)	0%	10%	20%	30%	34%
Up-Down Shift (%)	80%	66%	47%	18%	0%

- Maximum Up-Down shift varies with the amount of Left-Right shift. Likewise, maximum Left-Right shift varies with the amount of Up- Down shift.
- The values on the chart are intended to act as a guide. Use them for reference during installation.

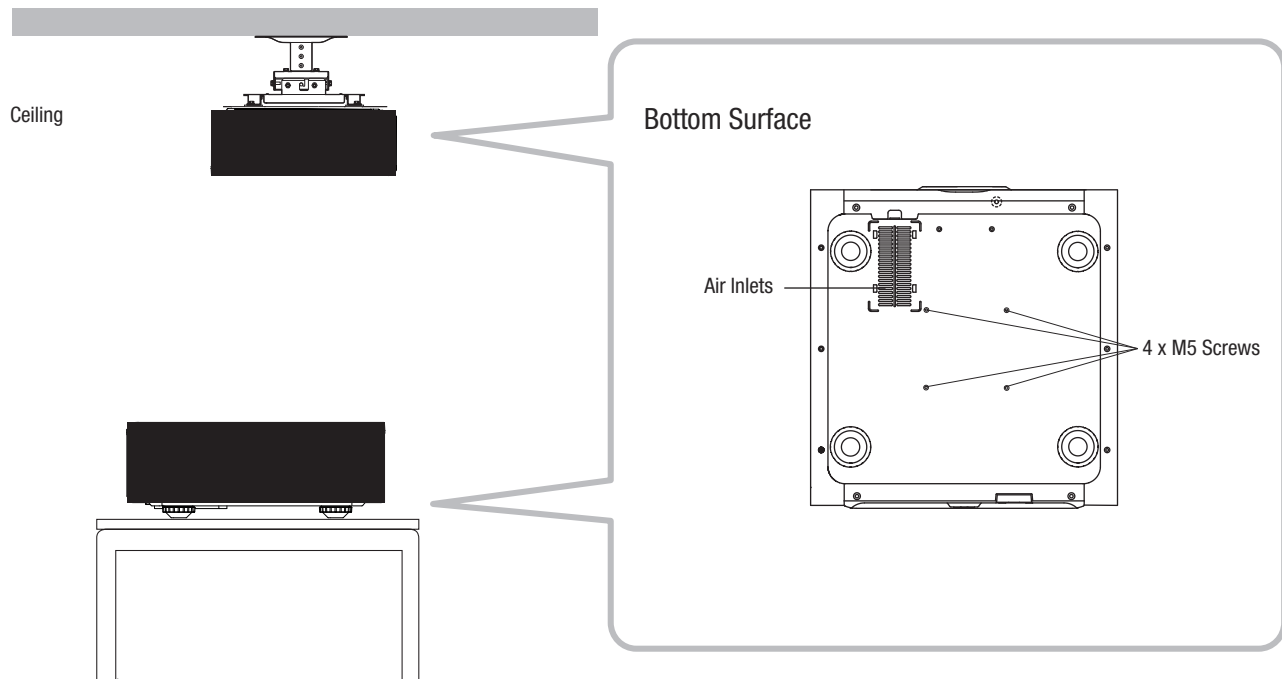
Lens Shift Movement Range



Projector Mounting

Measures to prevent the unit from toppling or dropping should be used for safety reasons and accident prevention.

When mounting this unit on a pedestal or ceiling, use all the 4 screw holes provided (M5 screws) to mount.



Mounting Precautions

- Special expertise and techniques are required when mounting this unit. Be sure to ask your Wolf Cinema dealer to perform all desired mounting.
- Depth of the screw holes (screw length) is 23 mm. Use screws shorter than 23 mm but longer than 13 mm. Using non-compliant screws may result in malfunctions or cause the unit to drop.
- When mounting to a pedestal, ensure sufficient space (foot height of 10 mm or higher) around the unit so that the air inlets are not blocked.
- Do not tilt this unit more than ± 5 degrees from side to side when using.
- Regardless whether the unit is still under warranty, Wolf Cinema is not liable for any product damage caused by improper mounting, or mounting the unit with non-compliant Wolf Cinema ceiling mounting hardware, or when the environment is not suitable for ceiling mounting.
- When hanging from a ceiling, pay attention to the surrounding temperature. Note that during colder seasons and whenever a room heater is in use, temperature around the ceiling will be higher than expected and may damage the projector.

Screen Size and Projection Distance

Determine the distance from the lens to the screen to achieve your desired screen size. This projector features a 2.0x power zoom lens.

Relationship Between Projection Screen Size and Projection Distance

Projection Screen Size (Height, Width) Aspect Ratio 16:9	Approximate Projection Distance W(Wide) to T(Tele)
60" (Approx. 0.7, 1.3m)	Approx.1.78m to Approx.3.66m
70" (Approx.0.9, 1.5m)	Approx.2.09m to Approx.4.28m
80" (Approx.1.0, 1.8m)	Approx.2.40m to Approx.4.89m
90" (Approx.1.1, 2.0m)	Approx.2.70m to Approx.5.51m
100" (Approx.1.2, 2.2m)	Approx.3.01m to Approx.6.13m
110" (Approx.1.4, 2.4m)	Approx.3.31m to Approx.6.75m
120" (Approx.1.5, 2.7m)	Approx.3.62m to Approx.7.36m
130" (Approx.1.6, 2.9m)	Approx.3.92m to Approx.7.98m

Projection Screen Size (Height, Width) Aspect Ratio 16:9	Approximate Projection Distance W(Wide) to T(Tele)
140" (Approx.1.7, 3.1m)	Approx.4.23 m to Approx.8.60m
150" (Approx.1.9, 3.3m)	Approx.4.53m to Approx.9.22m
160" (Approx.2.0, 3.5m)	Approx.4.84m to Approx.9.84m
170" (Approx.2.1, 3.8m)	Approx.5.14m to Approx.10.45m
180" (Approx.2.2, 4.0m)	Approx.5.45m to Approx.11.07m
190" (Approx.2.4, 4.2m)	Approx.5.75m to Approx.11.68m
200" (Approx.2.5, 4.4m)	Approx.6.06m to Approx.12.30m

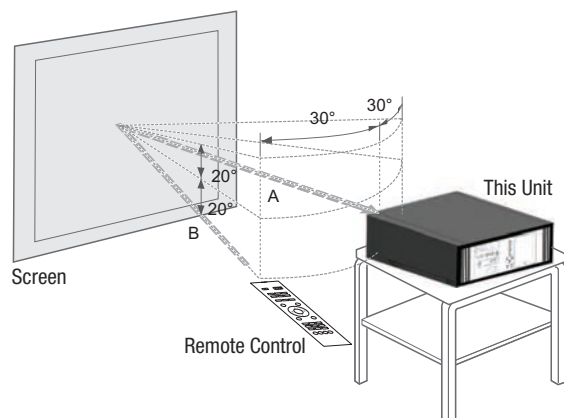
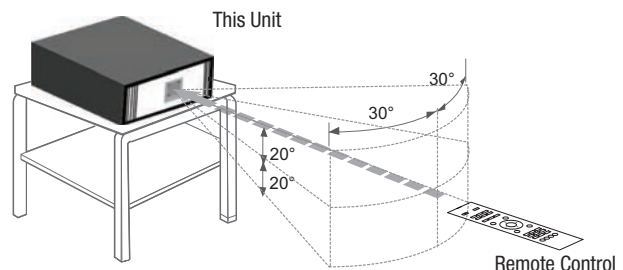
Effective Range of IR Remote Control

Aim the IR remote control toward the unit.

- When aiming the remote control towards the IR sensor on this unit, maintain a distance to the sensor (in front or at the rear of this projector) within 7 m or appx. 23 feet.
- If the remote control fails to work properly, move closer to this unit.

“Bounce” the IR Signal off a Wall or Screen

- Insure that the total of distance A between this unit and screen and distance B between remote control and screen is within 7 m.or appx. 23 feet.
- As the efficiency of signals reflected from the remote control unit will vary with the type of screen used, operable distance may decrease.



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Making the Connection

Types of Possible Input Signals (PC Compatible)

HDMI

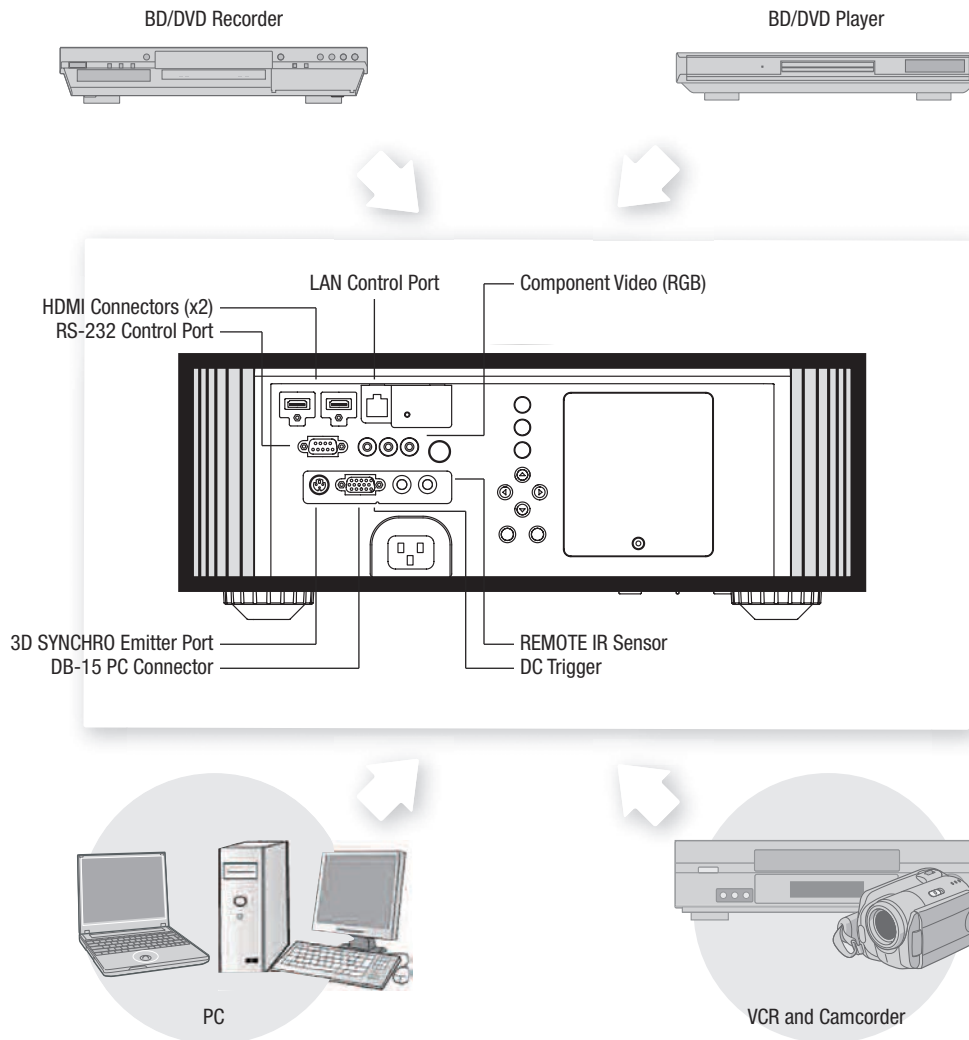
No.	Designation	Resolution	fh [kHz]	fv [Hz]	dot CLK [MHz]	Total No. of dots [dot]	Total No. of lines [line]	No. of effective dots [dot]	No. of effective lines [line]
1	VGA 60	640 X 480	31.500	60.000	25.200	800	525	640	480
2	VGA 59.94	640 X 480	31.469	59.940	25.175	800	525	640	480
3	SVGA 60	800 X 600	37.879	60.317	40.000	1,056	628	800	600
4	XGA 60	1024 X 768	48.363	60.004	65.000	1,344	806	1,024	768
5	WXGA 60	1280 X 768	47.760	60.000	79.998	1,675	796	1,280	768
6	WXGA +60	1440 X 900	55.919	59.999	106.470	1,904	932	1,440	900
7	SXGA 60	1280 X 1024	63.981	60.020	108.000	1,688	1,066	1,280	1,024
8	WSXGA +60	1680 X 1050	65.222	60.002	147.140	2,256	1,087	1,680	1,050
9	WUXGA 60	1920 X 1200	74.038	59.95	154.000	2,080	1,235	1,920	1,200

PC (D-sub 3-lines 15 pins)

No.	Designation	Resolution	fh [kHz]	fv [Hz]	dot CLK [MHz]	Total No. of dots [dot]	Total No. of lines [line]	No. of effective dots [dot]	No. of effective lines [line]
1	VGA 60	640 X 480	31.500	60.000	25.175	800	525	640	480
2	VGA 72	640 X 480	37.900	72.000	31.500	832	520	640	480
3	VGA 75	640 X 480	37.500	75.000	31.500	840	500	640	480
4	VGA 85	640 X 480	43.300	85.000	36.000	832	509	640	480
5	SVGA 56	800 X 600	35.200	56.000	36.000	1024	625	800	600
6	SVGA 60	800 X 600	37.900	60.000	40.000	1056	628	800	600
7	SVGA 72	800 X 600	48.100	72.000	50.000	1040	666	800	600
8	SVGA 75	800 X 600	46.900	75.000	49.500	1056	625	800	600
9	SVGA 85	800 X 600	53.700	85.000	56.250	1048	631	800	600
10	XGA 60	1024 X 768	48.400	60.000	65.000	1344	806	1024	768
11	XGA 70	1024 X 768	56.500	70.000	75.000	1328	806	1024	768
12	XGA 75	1024 X 768	60.000	75.000	75.750	1312	800	1024	768
13	XGA 85	1024 X 768	68.700	85.000	94.500	1376	808	1024	768
14	WXGA 60	1280 X 768	47.760	60.000	79.998	1675	796	1280	768
15	WXGA+ 60	1440 X 900	55.919	59.999	106.470	1904	932	1440	900
16	SXGA 60	1280 X 1024	64.000	60.000	108.000	1688	1066	1280	1024
17	SXGA+ 60	1400 X 1050	63.981	60.020	108.000	1688	1066	1400	1050
18	WSXGA+ 60	1680 X 1050	65.222	60.002	147.140	2256	1087	1680	1050
19	1920x1080 60	1920 X 1080	67.500	60.00	148.500	2200	1125	1920	1080
20	MAC13"	640 X 480	35.000	66.667	30.240	864	525	640	480
21	MAC16"	832 X 624	49.107	75.087	55.000	1120	654	832	624
22	MAC19"	1024 X 768	60.241	74.927	80.000	1328	804	1024	768

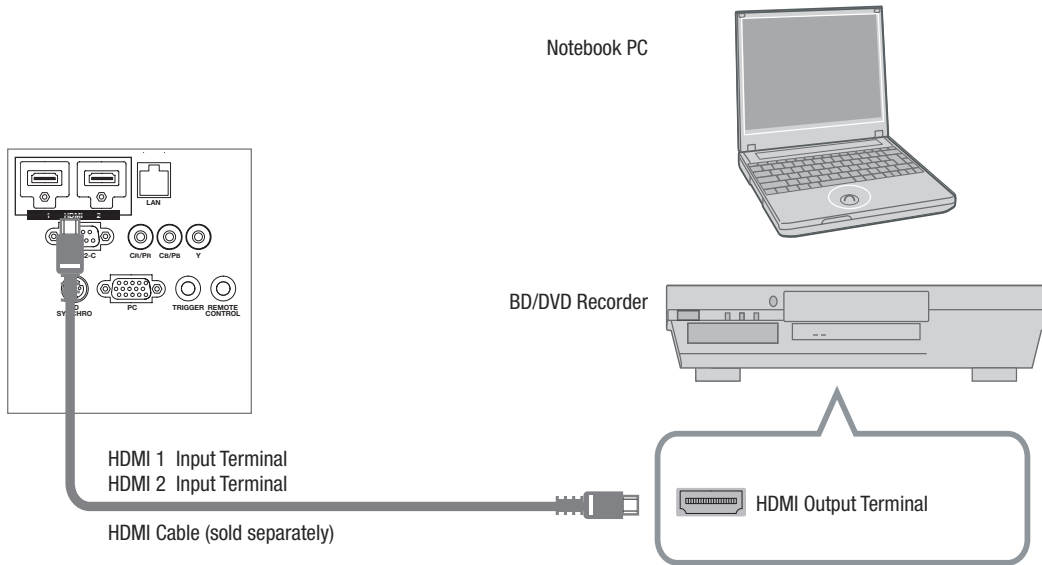
Connecting Video Sources to the Projector

- Do not turn on the AC power until all connections are completed.
- The connection procedures vary according to the device(s) used. For specific details, refer to the instruction manual of the device(s) to be connected.
- This unit is used for image projection only. Connect video source gear to audio processing devices (such as AV receivers, used with speakers) for proper sound output.
- The projector requires appropriate cabling from the video source components. High quality cables make for improved video imaging. For HDMI cables (sold separately), only use those that are HDMI-approved.



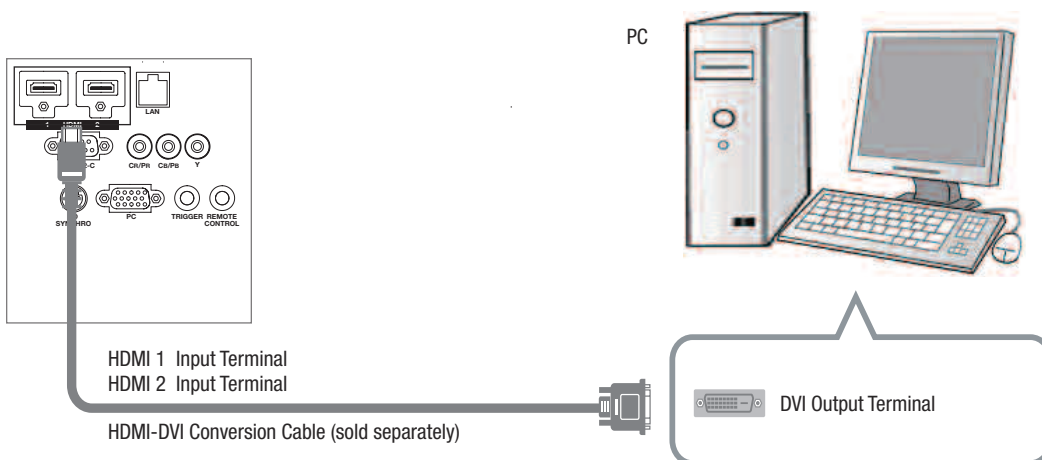
Connecting via HDMI Cable

- For a video signal in compliance with the HDMI standard, a 340MHz cable is recommended. In case a cable is used with a reduced bandwidth of 75MHz, it is recommended to reduce output to 1080i or less from the video source.
- If the video is not displayed properly, try an alternate cable, reduce the length of the HDMI cable, or lower the output resolution of the video source.



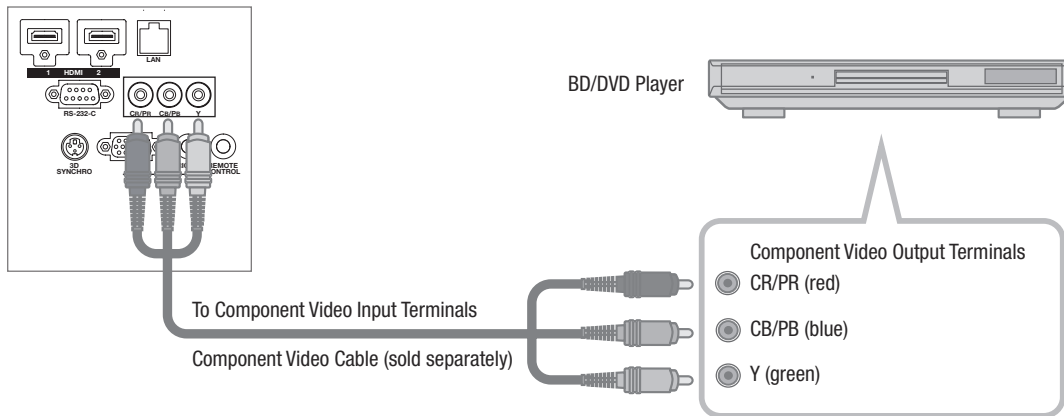
Connecting via HDMI Cable

- If the video is not displayed properly, try an alternate cable, reduce the length of the HDMI cable, or lower the output resolution of the video source.



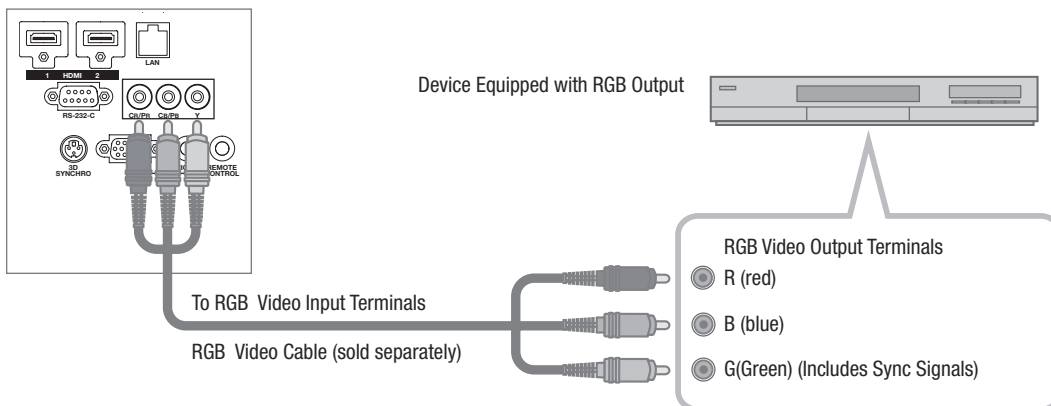
Connecting via Component Video Cable

- Set “COMP.” in the setting menu to “RGB”. (Reference page: 56)



Connecting via RGB Video Cable

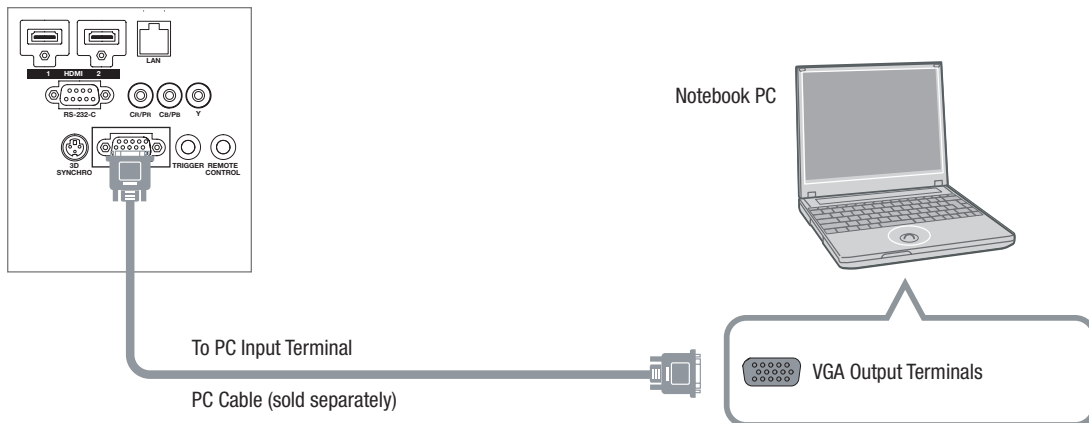
- Set “COMP.” in the setting menu to “RGB”. (Reference page: 56)
- For information on compatible input signals, see “Specifications” in this Manual.



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Connecting via PC Cable

- For information on supported input signals, please refer to “Specifications” in this Manual

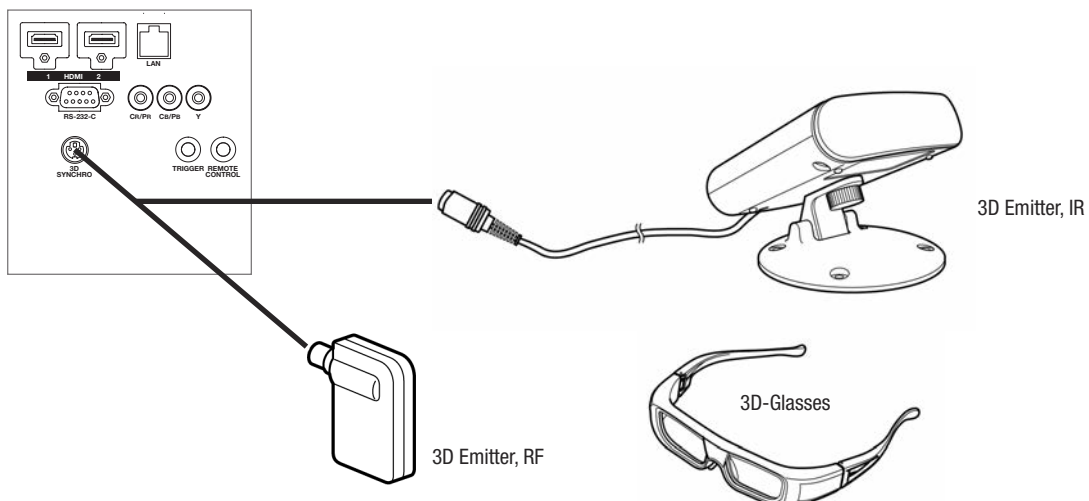


Connecting a 3D Emitter

- 3D emitter: This is a dedicated terminal for an optional 3D signal emitter (sold separately).
- 3D glasses are optional devices, used in conjunction with the 3D emitter.
- Adjust the 3D Emitter position so that the 3D Glasses can receive signals from the 3D Emitter.
- For more details, please refer to the instruction manuals 3D Glasses and 3D Synchro Emitter.

CAUTION

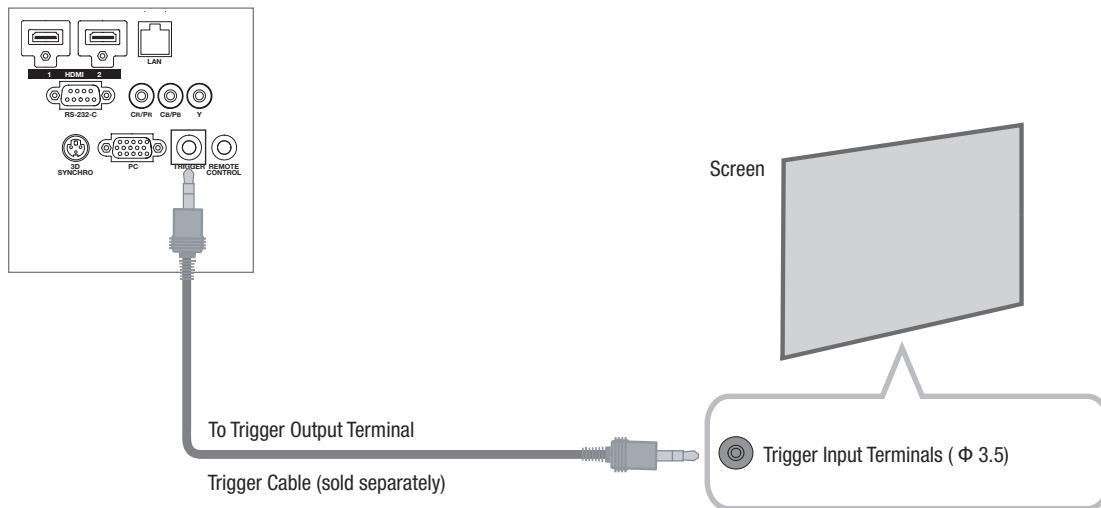
- 3D image quality may vary depending on the ambient room temperature and lamp usage. Stop using the projector in 3D modes if images cannot be projected correctly.
- Before you watch 3D video images, make sure to read “3D Viewing”.
(Reference pages 62 to 64, plus pages 6 to 8 in the 2013 New Features Addendum)



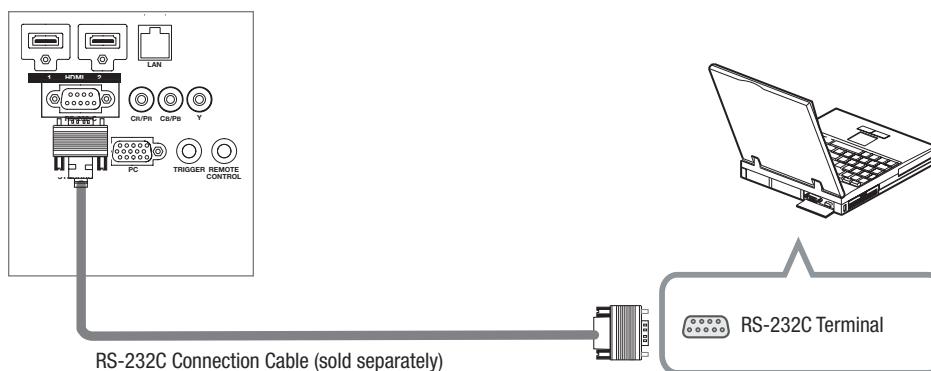
Connecting the Trigger Cable

CAUTION

- Do not supply power to the other devices.
- Do not connect audio terminals of other devices using similar connectors such as headphones etc. Otherwise, this may cause a serious malfunction to the other devices and/or injury.
- Usage beyond the rated values will cause system malfunctions.
- Exercise caution to prevent short circuits, as the trigger terminal outputs a voltage of 12V.
- The default trigger setting is “No output”. Please enable it under item “Trigger” of menu [5] “Function”. (Reference page: 59)



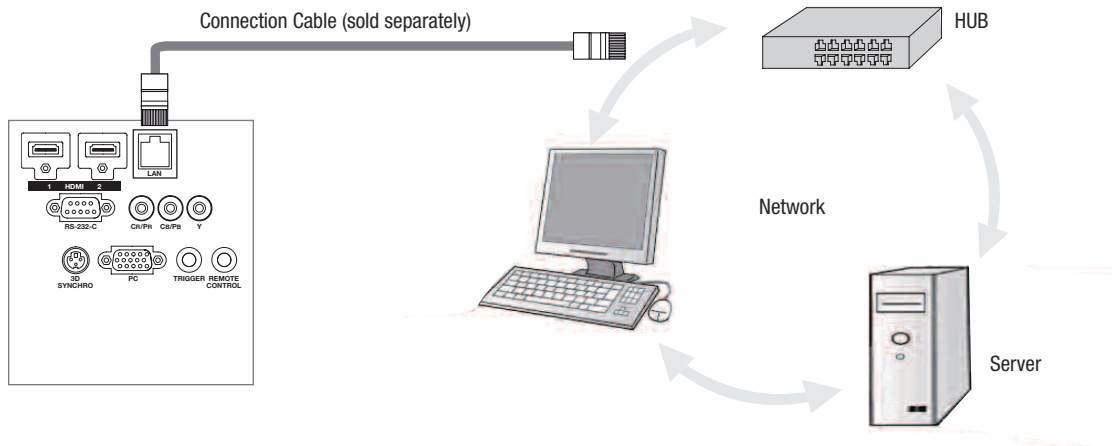
Connecting the RS-232C Control Cable



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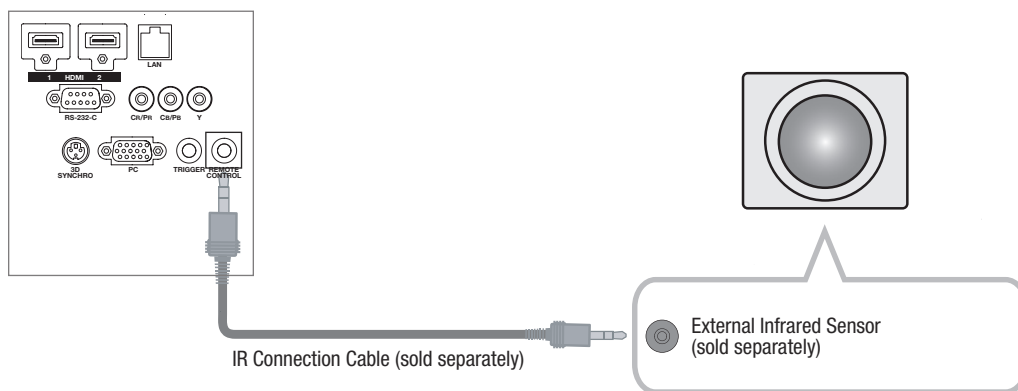
Connecting LAN Terminal

- The LAN network is used to control the unit. It is not used for transmission of the video signal.
- Please contact your Wolf Cinema installer for questions regarding the network connection.



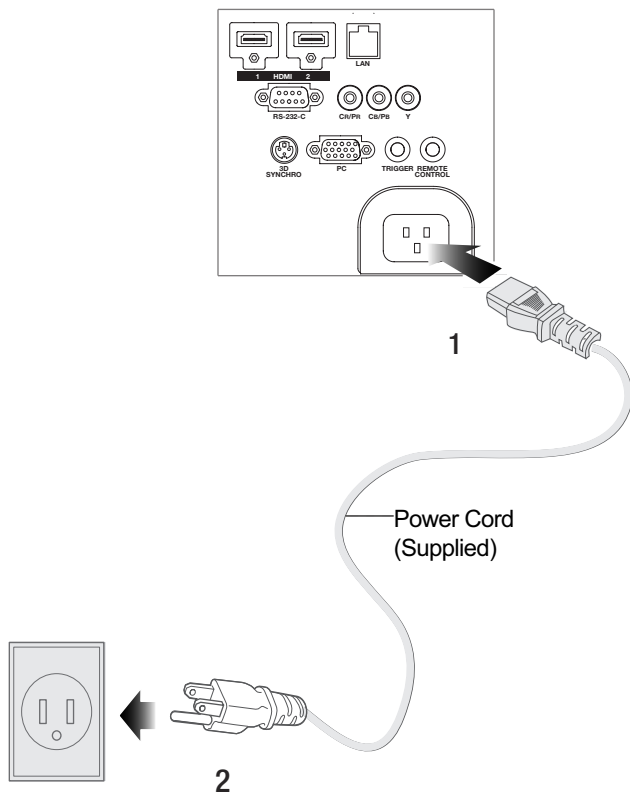
Connecting an EXTERNAL Infrared SENSOR

- For an external infrared sensor and connecting cable, please contact your Wolf Cinema dealer or custom installer.



Connecting the AC Power Cord (provided)

Once you have connected all video source equipment, connect the projector AC power cord.



1 Connect the power cord supplied with the unit power input terminal

2 Connect to the power outlet

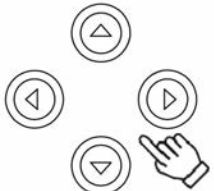
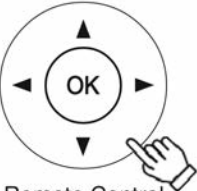


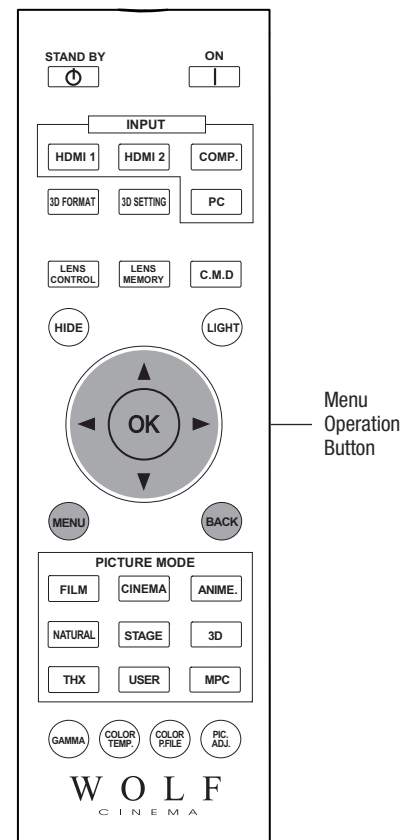
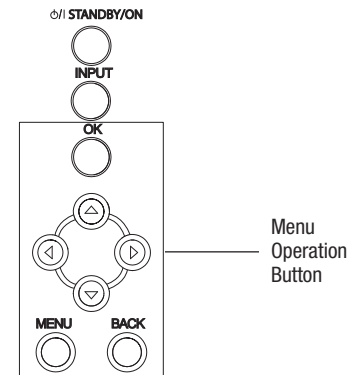
Be Careful to Avoid Fire and Electric Shocks

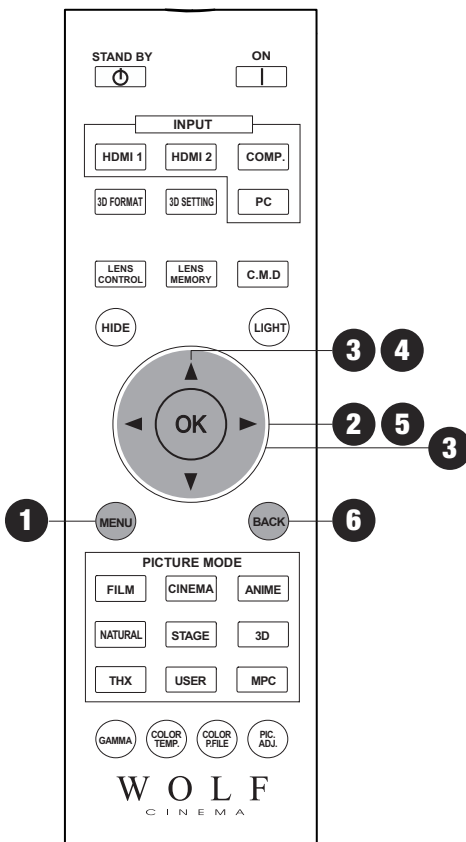
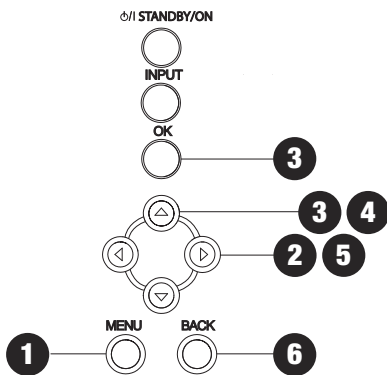
- Please connect the projector directly into the nearest available AC wall outlet.
- When you are not using the equipment, please unplug the power cord.
- Connect it only with the provided AC power cord.
- Do not use voltage other than the indicated power voltage.
- Do not damage, break or modify the power cord. Note that the power cord may be damaged if you place it under heavy objects, expose it to high heat or pull it too excessively.
- Never handle or unplug the power cord with wet hands.

Menu Button

Operate the menu by use of the buttons on the projector body or on the remote control.

Button		Function
Projector	IR Remote	
MENU	MENU	Menu is Displayed While the menu is displayed, the menu screen is turned off.
OK	OK	While showing "Main menu" (Layer 1) selected items are confirmed, and "Submenus" (Layer 2) will be displayed. When a submenu is displayed, press OK, and the displayed items in the selection are moved to the "Settings screen" (Layer 3).
BACK	BACK	Return to the Previous Menu Screen The menu screen is turned off when the main menu screen is shown.
 Projector	 Remote Control	Displaying the Main Menu and the Submenu ◀/▶: Select an adjustment item in the menu. Set the setting value of the selected adjustment item. The adjusted setting value is immediately. ▼/▲: Selection of a displayed sub-menu item. Selection of an item in the menu.





Menu Operation Procedures

1 Press MENU

The main menu is displayed on the screen.

The submenu items, which are currently selected, are shown. Currently selected menu items are highlighted and the icon is colored in orange.

The submenu items, which are currently selected, are displayed.

Example: Picture Adjust

2 Press Cursor (◀/▶) to Select a Submenu

- A submenu (picture adjust, input signal, installation, display setup, function, information) may be selected:
- If one selects "Information", information about the currently selected video input and PC input are displayed at the bottom of the menu.

3 Press OK or cursor (▼/▲)

- Sub-menu item is displayed.
- Sub-menu items vary depending on the input signal and the picture mode. See "Content menu" on the next page for more details.

Example: Input signals other than PC signals

Example: When inputting PC signals

4 Press the Cursor (▼/▲) to Select the Items to Adjust

If the name of a submenu item is dimmed, it cannot be selected.

5 Press Cursor (◀/▶) to Change Settings

6 After Adjusting, Press BACK

Every time it is pressed, you will return to the previous menu screen.

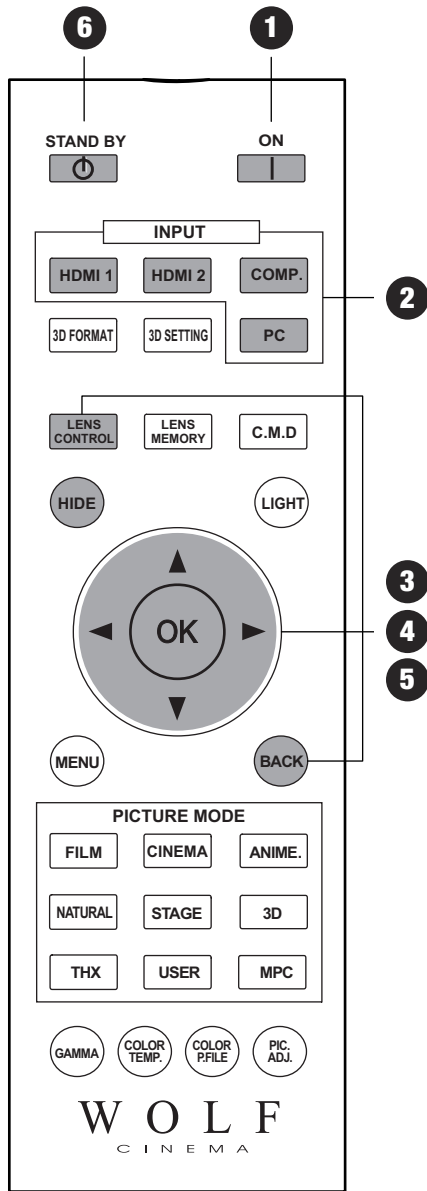
7 Repeat Steps 6-2 to Adjust Other Items

After all adjustments are done, press MENU, and the menu disappears from the screen.

Basic Operation

Initial Setup

Once you have completed all source component connections, the projector can be used with the following basic steps.



1 Turn On Power

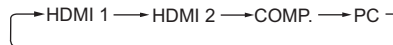


- You can also press the button on the unit to turn on the power.
- The lens cover will automatically open.

2 Select Video Input

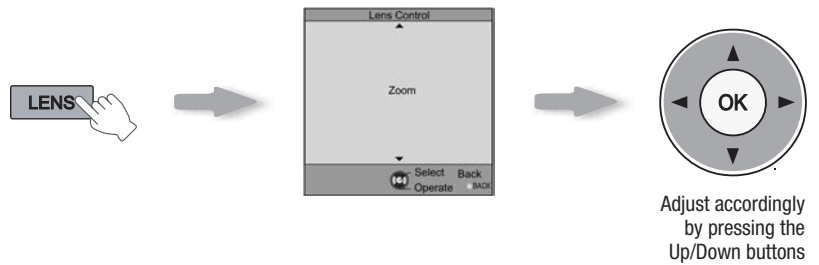
Select Input

- You can also select the desired source by pressing the input button repeatedly on the unit.

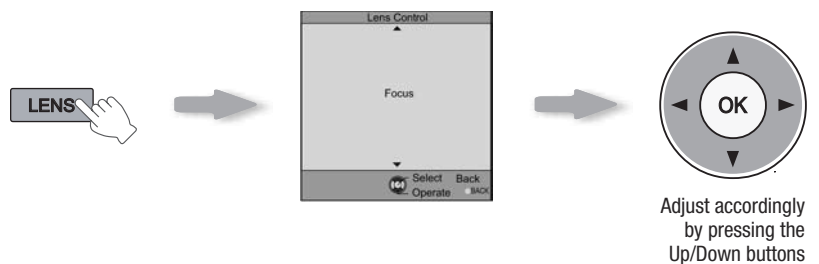


Play Back the Selected Device

3 Adjust Image Zoom (screen size)



4 Adjust Image Focus (focal point)



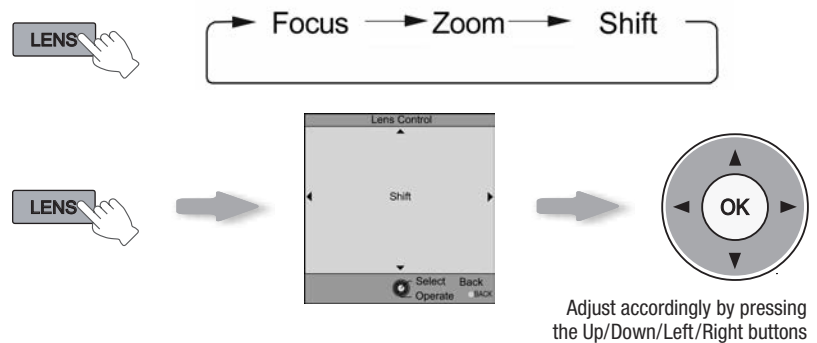
About Cool Down Mode

- The Cool Down mode is a procedure to cool the lamp for approximately 60 seconds after turning off the projector. This function prevents the internal parts of the unit from deformation or damage due to lamp overheating. It also prevents lamp failure and premature shortening of lamp life.
- During Cool Down mode, the [STANDBY/ON] indicator blinks red.
- Once the Cool Down mode is complete, the unit automatically returns to the standby mode.
- DO NOT pull out the AC power plug during Cool Down mode. This may shorten the lamp life and cause major system malfunctions.

5 Adjust Lens Shift (image position)

- After adjusting the image position, it may be necessary to select “Pixel Adjust” from the Settings menu “Installation”. (Reference page: 58 and in the Manual Addendum document, where indicated)
- Every time the **LENS** button is pressed, the adjustment action will be switched between “Focus”, “Zoom” and “Shift”.

OK It can also be switched with the button.

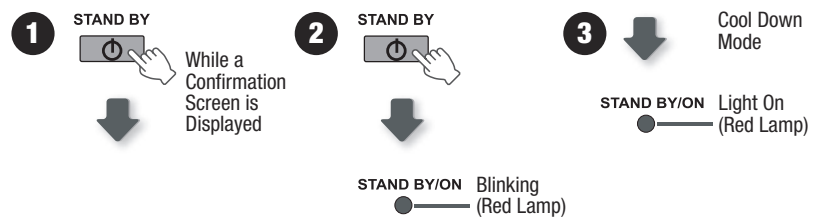


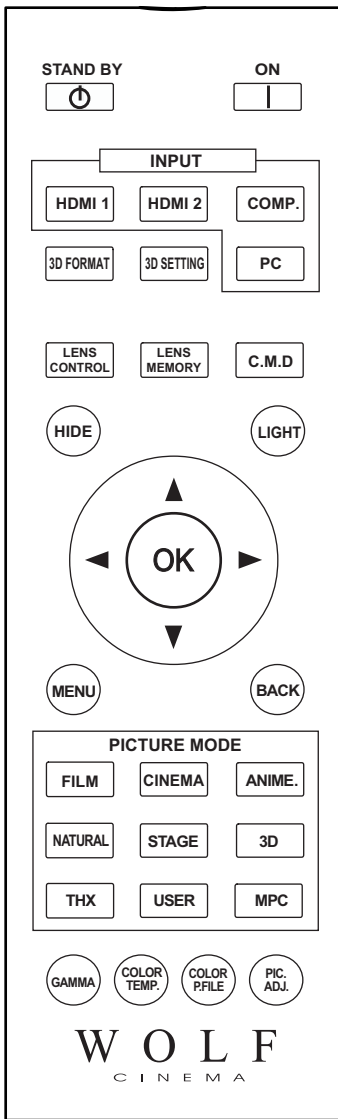
6 Lens Memory Save

- Press the **LENS MEMORY** button to display the available memories (aspect ratios)
- Select the desired memory and press the **OK** button.
- Press **MENU** to exit.

7 Turn Off Power

- AC power cannot be turned off for approximately 90 seconds once it has been turned on. Begin operations only after 90 seconds time.
- You can also press the **⏻/|** button on the unit to turn off AC power.
- Carefully remove the AC power plug if the unit will not be used for a prolonged period of time.





Sizing, Masking and Keystone

You can quickly change the screen size (aspect ratio) of the projected image, or mask image borders as desired if the surrounding edges of the image area are distorted.

A Setting the Screen Size (Aspect Ratio)

B Masking the Borders of an Image

C Temporarily turning-off video

D Keystone adjustment

A Setting the Basic Screen Size (Aspect Ratio)

The projected image can be set to a most appropriate screen size (aspect ratio).

- The screen size can also be changed via "Aspect (Video)" in the settings menu.

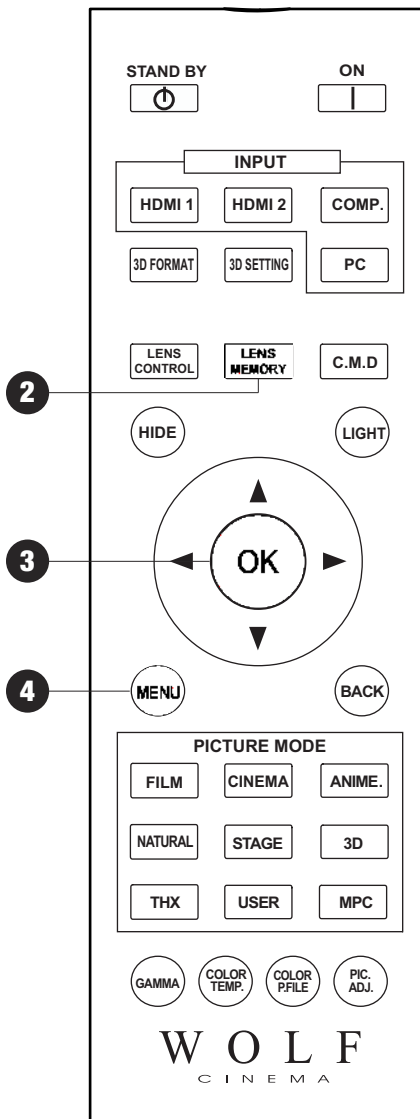


- When PC signals are chosen, the "Aspect (Computer)" settings will become available.

Input Image and Projected Image by Different Screen Size

Input Image	Screen Size		
	4:3	16:9	Zoom
<p>SDTV(4:3)</p>	<p>Aspect Ratio: Same Most appropriate screen size</p>	<p>Aspect Ratio: Landscape Image is stretched horizontally</p>	<p>Aspect Ratio: Same Top and bottom of the image are missing</p>
<p>SDTV(4:3) Image recorded in landscape (black bands on top and bottom) of DVD software</p>	<p>Aspect Ratio: Same Small image is projected</p>	<p>Aspect Ratio: Landscape Image is stretched horizontally</p>	<p>Aspect Ratio: Same Most appropriate screen size</p>

- Depending on the source image, selecting "4:3" may result in a vertically stretched image, while selecting "16:9" provides you with the most appropriate screen size.
- Whenever there is 3D signal detected, the aspect ratio is set at "16:9".



Saving and Retrieving VariScope™ Aspect Ratios

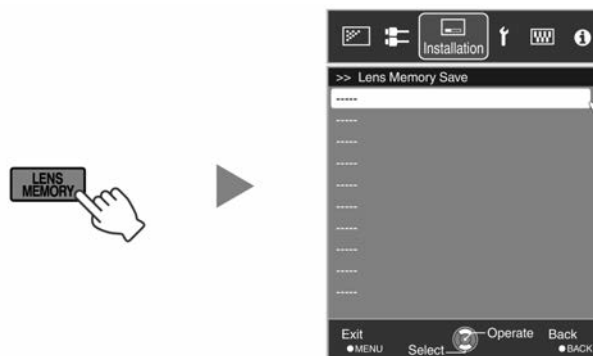
The focus, zoom, and shift settings can be saved or retrieved, so you can switch easily to a different aspect ratio (screen size) according to the image.

- Pressing the **LENS MEMORY** button each time switches the mode in the following sequence: “Lens Memory Save” → “Lens Memory Select” → “Lens Memory Name Edit” → “Lens Memory Save”...
- In a state where no adjustment settings are saved (factory default), only “Lens Memory Save” is displayed.

Saving a VariScope Aspect Ratio

1 Adjust focus, zoom, or shift

2 Press the **LENS MEMORY** button to display “Lens Memory Save”



- You can also save an adjustment data by selecting “Installation” → “Lens Control” → “Lens Memory Save” from the menu.

3 Select the item to save, and press the **OK** button

- The adjustment data is saved.
- Items with no adjustment data saved are displayed as [].
- If you have selected an item for which an adjustment data has already been saved, the old data will be overwritten.
- You can change the name when saving an item.
- The maximum number of items that can be saved is 10 for the SDC-15 and 5 for the SDC-12.

4 Press the **MENU** button to exit

Saving a VariScope Aspect Ratio Memory

1 Press the **LENS MEMORY** button to display “Lens Memory Select”



- You can also retrieve an adjustment data by selecting “Installation” → “Lens Control” → “Lens Memory Select” from the menu.

2 Select the adjustment data to retrieve, and press the **OK** button

- The retrieved data is adjusted automatically.
- If no adjustment data has been saved, the item will be grayed out and cannot be selected.

Renaming an Aspect Ratio

1 Press the **LENS MEMORY** button to display “Lens Memory Name Edit”

- You can also edit an adjustment data by selecting “Installation” → “Lens Control” → “Lens Memory Name Edit” from the menu.



2 Select the adjustment data to edit, and press the **OK** button

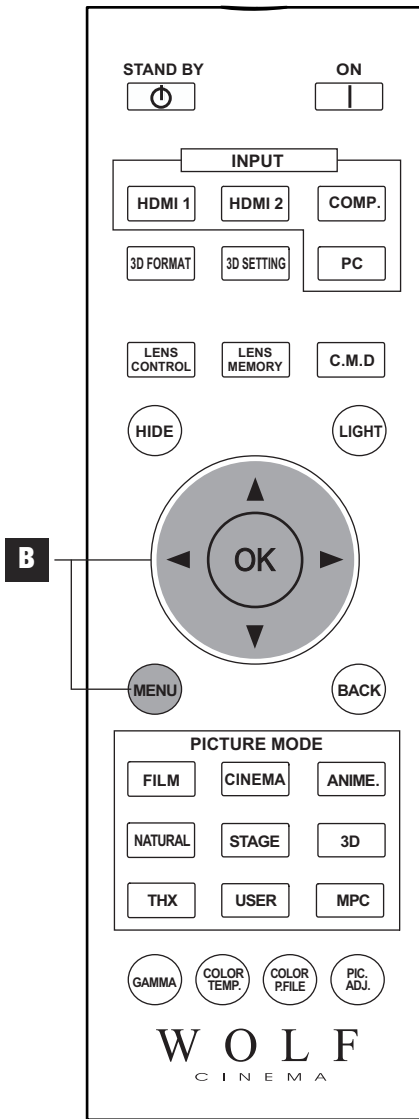
- An edit screen appears.



- You can input up to 10 characters.
- Characters that are usable include alphabets (upper or lower case), numeric characters, and symbols.
- Pressing the **BACK** button cancels the content that is currently being edited, and exits the edit mode.

3 After renaming, select “OK” and press the **OK** button

4 Press the **MENU** button to exit



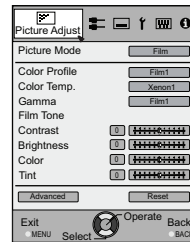
B Masking the Borders of an Image

Images where the borders have deteriorated, or image quality reduced can be masked (hidden) from the main body of the projected image.

Project an Image

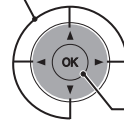


1 Select Menu

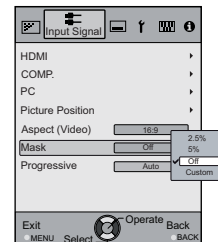


2 Select "Input Signal" → "Mask"

1 Select

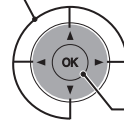


2 Confirm

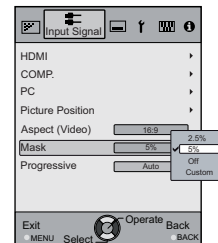


3 Set a Mask Value

1 Select



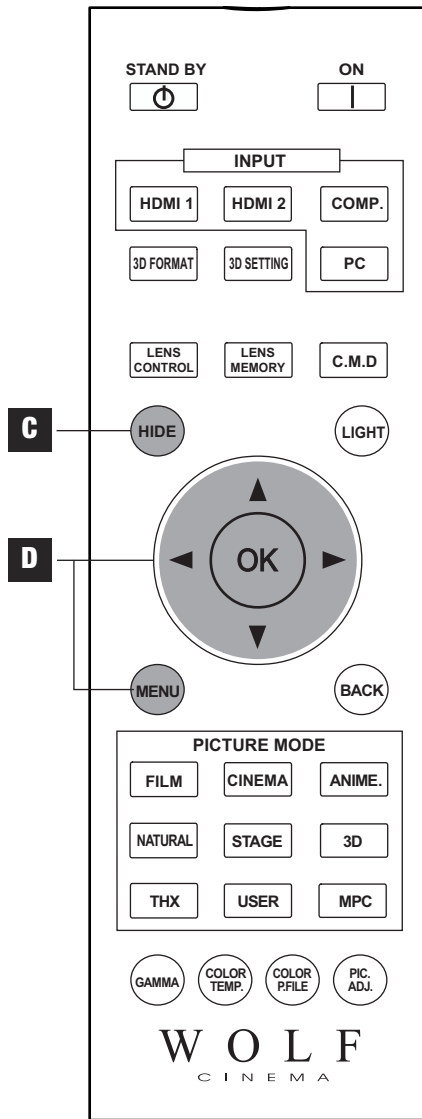
2 Confirm



Example:
When the "Mask"
value is changed
from "Off" → "5%"

To End





C Temporary Turning-Off Video

You can temporarily hide the projected image.

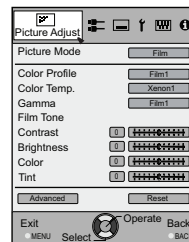


- Press the **HIDE** button again to display the image.
- AC power cannot be turned off when the image is hidden.

D Keystone Adjustment

Keystone adjustment may be used if the projector is installed at an angle that is not parallel to the screen (horizontal or vertical).

1 Select Menu



2 Select "Installation" → "Keystone"

1 Select



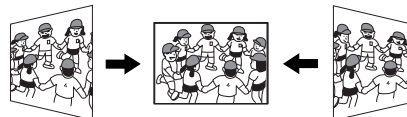
2 Confirm



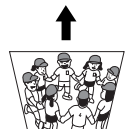
3 Adjusts Keystone Correction

If one presses the cursor (vertical and horizontal arrows) in the keystone correction mode, the keystone distortion can be adjusted.

Adjust horizontal distortion with the cursors for left and right.



Adjust vertical distortion with the cursors for up and down.



4 Select Menu to Exit



Note: With 3D input signals, keystone adjustment is not possible. Moreover, if keystone correction is used in 2D viewing, keystone correction is removed when 3D input signals are detected.

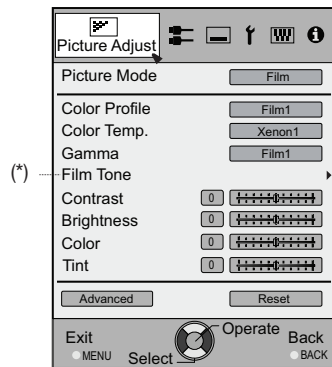
Menu Settings and Adjustments

Structure of the Menu Hierarchy (summary)

The projector's Menu "tree" is organized as follows. As this is only a brief guideline, items which might not be displayed due to other enabled settings may still be shown in these illustrations. Note that the values and final menu settings for your system may be different than illustrated, due to installation, calibration and personal settings.

See "Menu Items Descriptions" (Reference: pages 49 and following) for additional details.

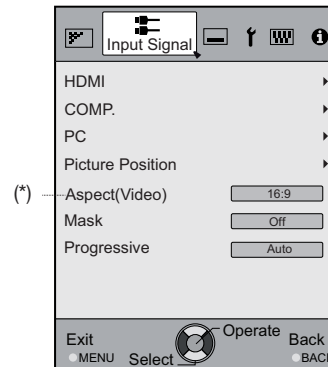
1 Picture Adjust



(*)

(*) Apart from "Film", "Brightness/darkness correction" is displayed in the "Picture Mode".

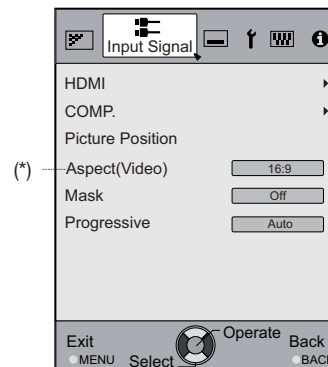
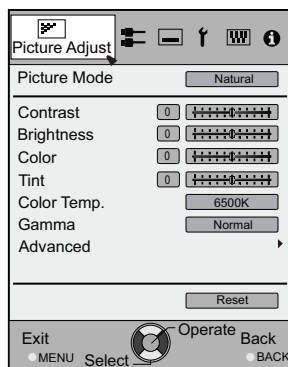
2 Input Signal



(*)

(*) When there is a PC signal input, "Aspect (PC)" is displayed.

Continue to the Next



(*)

(*) When there is a PC signal input, "Aspect (PC)" is displayed.

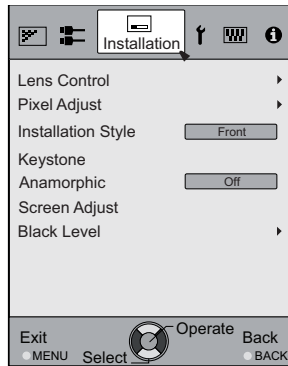


To "1 Layers and organization of the picture quality submenu"



To "2 Layers and organization of the input signal submenu"

3 Installation



4 Display Setup



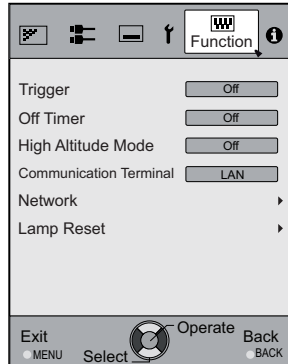
Continued from the
Previous Page

Continue to the Next



To “3 Layers and
organization of the
installation submenu”

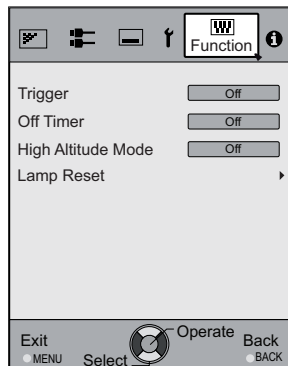
5 Function



6 Information



Continued from the
Previous Page



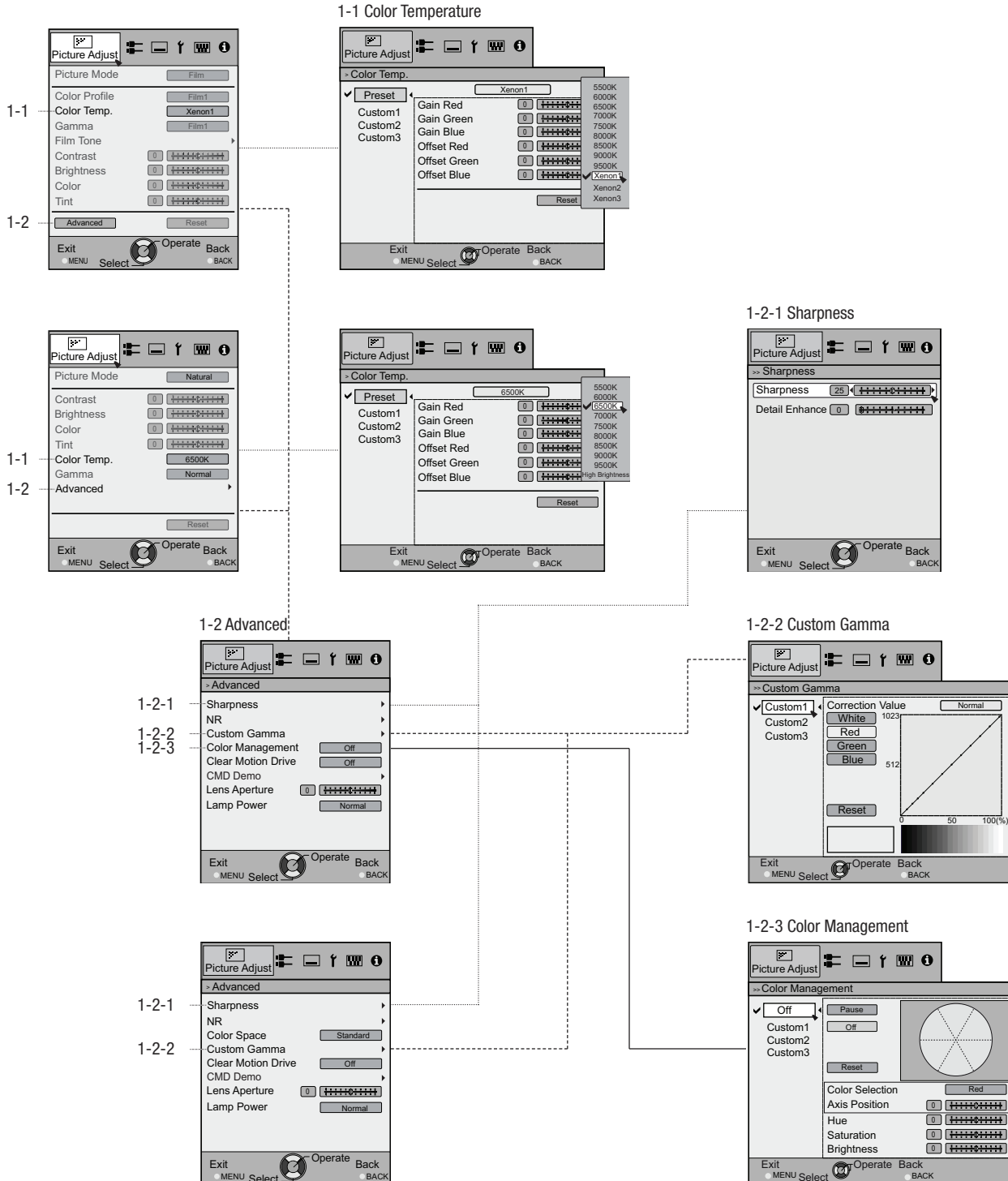
For PC signal input



To “5 Layers
and organization
of the function
submenu”

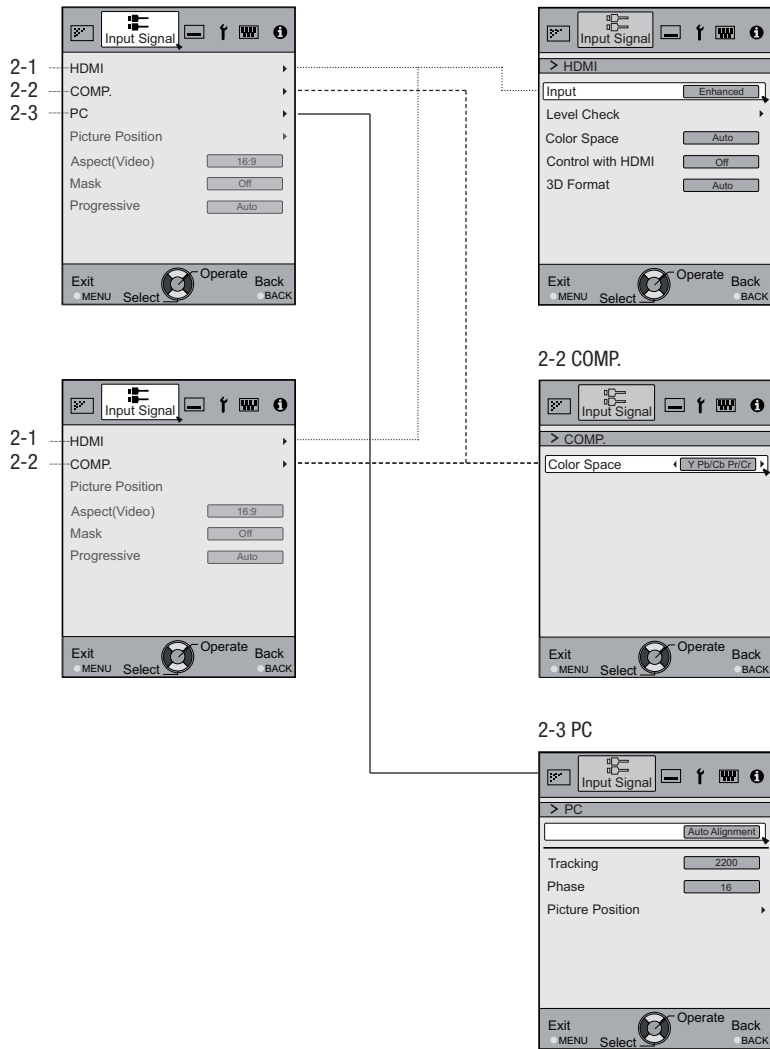
1 Layers and Organization of the Picture Adjust Submenus

1 Picture Adjust



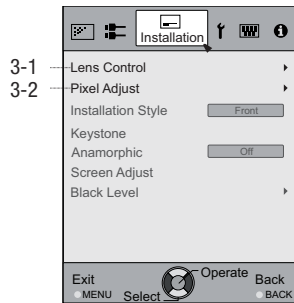
2 Layers and Organization of the Input Signal Submenu

2 Input Signal

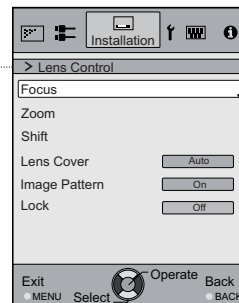


Layers and organization of the submenus 3 installation and 5 function

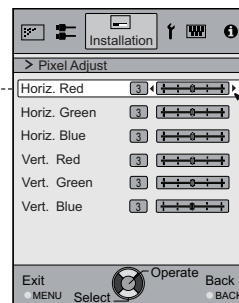
3 Installation



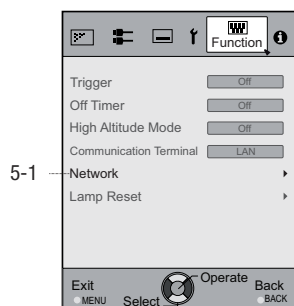
3-1 Lens Control



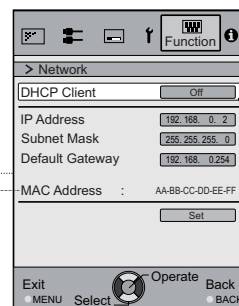
3-2 Pixel Adjust



5 Function



5-1 Network



(*)

(*) MAC address is different depending on the respective equipment.

Menu Item Descriptions

All numbers for the items within [] are default settings.

- It is possible to operate all items displayed in the menu display by pressing OK/BACK or the cursor (up, down, left, right arrows).
- Displayed items vary depending on the selected item in the menu and type of input signal (or absence of any signal).
- Certain settings, modes and features vary depending on the projector model; not all settings are user accessible and/or available for adjustment.

1 Picture Adjust

Picture Mode	Please refer to the description of each mode, and then use the mode best suited for you. Moreover, it is possible to adjust the image quality by selecting User 1, 2, and 3. Settings: Film, Cinema, Animation, Natural, Stage, 3D, THX, User 1-5. [Natural]
Film	This image setting is calibrated to best suit film, and may be thus used for watching movies in general.
Cinema	This image setting is based on the DCI standard and brings to life brightly colored pictures. Suitable for viewing action movies and brightly-colored images. [DCI: Shorthand for Digital Cinema Initiative].
Animation	An image setting calibrated for animation films.
Natural	An image setting featuring natural colors/tonality. Suitable for viewing a wide variety of video material [ex: TV dramas/serials].
Stage	This image setting is best for watching live events, concerts and theater presentations.
3D	This is the image setting for watching 3D movies.
User 1-5	User settings 1-5 are available for individual calibration, as desired. Last adjustments made are saved into memory.
User Adjustable Color Profiles	User 1 is hand calibrated by Wolf factory technicians and may be adjusted to compensate to your specific screen screen type.
THX	Image settings certified by THX.
Color Profile	These are adjustable color profiles to best suit the source material. Depending on the settings, the items that can be changed in the "Picture Mode" will vary. (See Table 1) The color profile is typically selected based on preferences and video content. (* If you select "Off", it is impossible to perform any picture adjust for other color temp. other than "Lamp Power" and "Lens Aperture" under "Advanced", and also "Gamma" or "Sharpness." Settings: Film 1, Film 2, Cinema 1, Cinema 2, Standard, Anime 1, Anime 2, Video, Vivid, Adobe, Stage, 3D, Off. Depending on the picture mode, the default values will change. [See table 1]
Film 1	This is a profile that comes closest to the color space of films made under the Eastman Kodak Company film process.
Film 2	This is a profile that comes closest to the color space of a Xenon lamp, with films made under the FUJIFILM Corporation process.
Film 3	This profile based on Technicolor film process.
Cinema 1	This is a profile that enables rich colors of film.
Cinema 2	This is a profile that resembles the color space of the DCI film standards.
Standard	This profile closely represents the film-specific color space of HDTV content. [HDTV: Shorthand for High Definition Television].
Anime 1	This is a profile suitable for CG animation, which can be often found in Hollywood-produced animated TV or film series. [This profile is intended for content with bright colors].
Anime 2	This is a profile suitable for animation cel-style animation series, which are more common in Japan. [This profile is intended for animation with more dim colors].
Video	This profile is suitable for general TV / drama / sports viewing.
Vivid	This is a profile with richer sense of color, often suitable for video games.
Adobe	This is the color profile best suited for Adobe® RGB. (* Adobe, and the Adobe logo are registered trademarks or trademarks of Adobe Systems, as Incorporated in the United States and/or other countries.
Stage	This profile is suitable for live music, orchestral and opera concerts, theater, etc.
3D	This is the most suitable profile when using 3D-glasses. Three profiles: cinema, video and animation.
Off	This mode does not enable color management adjustment.

SDC-12/SDC-15 1080p D-ILA 3D Front Projector 2013 User's Manual

[Table 1] The Settings and Default Values of the Picture Mode Color Profiles

Color Profile	Picture Mode							User 1-5
	Film	Cinema	Anime	Natural	Stage	3D	THX	
	Film 1	Cinema 1	Anime 1	Video	Stage	3D	THX	Everything is displayed except for Film 1, film 2 and Film 3
	Film 2	Cinema 2	Anime 2	Vivid	Standard	Standard		
	Film 3	Standard	Standard	Adobe		Vivid		
				Standard				

This is the default value according to the picture mode.

Color Temp.	Adjust color temperature. To "[1-1] Color Temp." of the submenu	
Gamma	Adjust gamma curve. Set to your desired preference. Settings: Normal, A (3D), B (3D), Film 1, Film 2, Film 3 Film 4, A, B, C, D, Custom 1, Custom 2, Custom 3	[Normal]
Normal	The typically recommended setting. (* It is not possible to set it when the "Picture Mode" is set to "3D". (* It is not possible to set it when the "Picture Mode" is set to "Film".	
A (3D) B (3D)	A (3D), B (3D) can only be set, if the "Picture Mode" is "3D". This is the normal gamma curve for 3D. A (3D) will be brighter.	
Film 1 Film 2 Film 3 Film 4	Film 1, 2, 3, 4 can only be set if the "Picture Mode" is set to "Film". This is the gamma curve that approximates the characteristics of an Eastman Kodak Company film process. This is the gamma curve that approximate the characteristics of a film made by the FUJIFILM Corporation process. This is a gamma curve that emphasizes tonality in the gamma of Film 1. This is a gamma curve that emphasizes contrast in the gamma of Film 2.	
A B C D-H	A, B, C, D cannot be set if the "Picture Mode" is "3D". (* It is not possible to set it when the "Picture Mode" is set to "Film". This is a gamma curve focused on tonality. This is a gamma curve for film's unique S curve. This is a gamma curve that – in regard to the gamma of B – emphasizes contrast. For normal, these are gamma curves where the intermediate gradations look brighter.	
Custom 1 Custom 2 Custom 3	Custom 1, 2, 3 cannot be set if the "Picture Mode" is "3D". Under submenu "[1-2-2] Custom Gamma", it is possible to change the gamma curve and save it. The initial value of Custom 1, 2, and 3 is the same as for "Normal".	
Film Tone	You can reproduce the intensity of the exposure image. (* This function can be set only if the "Picture Mode" is set to "Film".	
White Red Green Blue	Settings: (The more under-exposure, the darker) -16 to 16 (the more over-exposure, the brighter) Setting: (under-exposure to for red), -16 to 16 (over-exposure for red) Settings: (under-exposure for green) -16 to 16 (over-exposure for green) Settings: (under-exposure for blue) -16 to 16 (over-exposure for blue)	[0] [0] [0] [0]
Dark/Bright Level	Compensates for excessive darkness / brightness of an area. (* It is possible to set it unless the "Picture Mode" is set to "Film".	
Dark Level Bright Level	Values: (makes dark areas darker) -7 to 7 (brightens dark areas) Settings: (darkens bright areas) -7 to 7 (makes bright areas brighter)	[0] [0]

Contrast	Adjusts the contrast (white level) of the image. Settings: (darker) -50 to 50 (whiter)
Brightness	Adjusts the brightness (black level) of the image. Settings: (dark) -50 to 50 (bright)
Color	Adjusts the color intensity of the image. Settings: (less saturated), -50 to 50 (saturated)
Tint	Adjusts the image tint (hue) of the image. Settings: (reddish) -50 to 50 (greenish)
Advanced	Functions such as contour correction, custom gamma and color management can be set to sub-menu "[1-2] Advanced".
Reset	Resets all settings to the factory default settings.

1-1 Color

Temp.	Adjusts the color temp. of the video images. Adjust to your preference. (*) For this setting, the setting choices can vary in accordance with the "Picture Mode". Adjustment is not possible when set to "THX". Settings: (Preset value), Xenon1, Xenon2, Xenon3, High Bright, Custom 1, Custom 2, Custom 3	[Preset value]
(Preset value)	The color temp. can be adjusted within the range of 5500K to 9500K in steps of 500K. A value of 6500K produces the most balanced video image. Settings: Between (reddish) 5500-9500 (bluish) in steps of 500K	[6500]
Xenon1	This control reproduces the color temperature characteristics of a xenon lamp as used in cinemas. A light source color that is employed by film projectors.	
Xenon2	A light source color employed by a digital cinema projector.	
Xenon3	A light source color that looks "cooler" than the Xenon2 setting.	
Offset	Xenon 1, Xenon 2, Xenon 3 can each be adjusted based on the "color" in black of the video images.	
Red	Settings: (Weak red) -50 to 50 (strong red)	[0]
Green	Setting: (Weak green), -50 to 50 (strong green)	[0]
Blue	Setting: (Weak blue) -50 to 50 (strong blue)	[0]
High Bright	Select this to get the brightest image possible.	
Custom 1	You can adjust the color temp. and recall each in Custom 1, 2, and 3.	
Custom 2	Please save your preferred adjustment values here.	
Custom 3		
Gain	Adjustments to the brighter areas (ie white) of the video image, for optimum color.	
Red	Settings: (Weak red) -255 to 0 (strong red)	[0]
Green	Setting: (Weak green) -255 to 0 (strong green)	[0]
Blue	Setting: (Weak blue) -255 to 0 (strong blue)	[0]
Offset	Adjustments to the darker areas (ie black) of the video image, for optimum color.	
Red	Settings: (Weak red) -50 to 50 (strong red)	[0]
Green	Setting: (Weak green) -50 to 50 (strong green)	[0]
Blue	Setting: (Weak blue) -50 to 50 (strong blue)	[0]

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1-2 Advanced

Sharpness	Adjust sharpness and detail enhancement via "[1-2-1] Sharpness" of the submenu.	
NR	Reduces unwanted noise in the video image. Adjust to preference.	
RNR	Adjusts the intensity of random noise elimination of the image. Values: (Low) 0 to16 (strong)	[0]
MNR	Adjusts the intensity of mosquito noise elimination of the image. (* It is not possible to set when the "Picture Mode" is set to "3D". Moreover, it is not possible to set it on certain HD signals. Values: (Low) 0 to16 (strong)	[0]
BNR	Reduces the block noise of the video images. (* It is not possible to set when the "Picture Mode" is set to "3D". Moreover, it is not possible to set it on certain HD signals. Settings: On, Off	[Off]
Color Space	You can switch the color space as displayed by the projector. Settings: Standard, Wide 1, Wide 2	
Standard	Equivalent to the HDTV color space.	
Wide 1	Equivalent to the color space of the DCI standard.	
Wide 2	A color space that is broader than Wide1	
Custom Gamma	It is possible to create and save custom gamma curves. Adjust to your preference. To "[1-2-2] Custom Gamma" of the submenu.	
Color Management	It is possible to adjust and save desired color space calibrations. To "[1-2-3] Color Management" of the submenu.	
Clear Motion Drive	This setting improves scenes with fast motion, helping to produce clearer images with little residual image retention. For PC and 3D signals, the "Clear motion Drive" cannot be used. On occasions the image may appear distorted in some scenes, or light and dark flashes might occur. In this case, please choose "Off", and then a setting of your choice. Settings: Off, Mode 1, Mode 2, Mode 3, Mode 4, Inverse Telecine	[Off]
Off	Off	
Mode 1	Black insertion weak	
Mode 2	Black interpolation strong	
Mode 3	Interpolation weak	
Mode 4	Interpolation strong	
Inverse Telecine	With 60i/60p signals, e.g of TV-broadcast and DVDs, original 24 frame video image footage is changed to a 24 frame display. (*) 24p will not function.	
CMD Demo	It is possible to visually confirm the effects of the settings in Mode 3 and Mode 4 of the Clear Motion Drive. Upon pressing the button "OK", it will be displayed on all sides of a screen in the center split into two parts. Finally, it will turn to "Off". It cannot be set for PC and 3D signals. Settings: Left -> right -> top -> Bottom -> Off (changed with "OK" button)	[Off]
Left	The left screen displays a demonstration of the Clear motion drive.	
Right	The right screen displays a demonstration of the Clear motion drive.	
Top	The upper screen displays a demo of the Clear motion drive.	
Bottom	The screen below displays a demo of the Clear motion drive.	
Off	The Demo of the Clear motion drive is turned off.	
Lens Aperture	Adjusts the optical iris and aperture setting. A setting of 0 means fully opened. Settings: (Dark) -15 to 0 (bright)	
MPC Level	Enjoy more natural V4K™ images with greater sense of depth.	[0]

Lamp Power Adjust the brightness of the lamp.
 (*) If continually used in the "High" mode, the lamp will dim sooner and will likely require earlier replacement.
 (*) For about 60 seconds after the lamp is lit, the lamp cannot be switched off.
 Settings: Normal, High [Normal]

Normal Normally this setting is optimal (160W drive).
 High Commonly used in a brighter lit rooms, this setting may be chosen. (220W drive)

1-2-1 Sharpness

Sharpness Emphasizes the outline sharpness of all images. Adjust to your preference.
 Values: 0 to 50 (sharper)

Detail Enhance This control makes minute details of the image "stand out." Adjust to your preference.
 Values: 0 to 50 (strong)

1-2-2 Custom Gamma

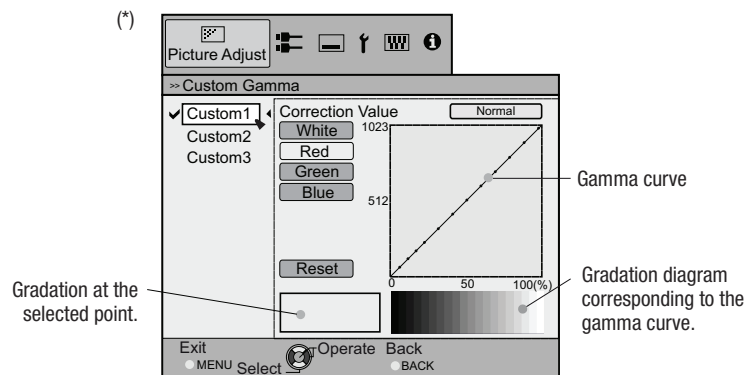
Custom 1~3 [1] Create custom gamma curves and save in the Custom 1, 2, and 3 memory settings.
 Please adjust to your preference. (Refer to page 61 for additional information on Gamma Curve adjustments)
 (*) Initial values of Custom 1, 2, and 3 are the same as for "Normal".
 (*) Please refer to the figure at the bottom for adjustment.

Correction Value You can choose to add the underlying gamma curve adjustment.
 (*) Can choose any setting, as the default gamma curve will always appear linear. Settings: Normal, A, B, C, D
 (brightens in particular dark to intermediate parts) 1.8 to 2.6 (darkens in particular dark to intermediate parts)
 in the range of values with increments of 0.1 [Normal]

Gamma Adjustment The gamma curve for "green" is being displayed as being representative. If "white", "red," "green" or "blue" are selected, the corresponding color curves are displayed.
 Place the cursor on a gamma curve with 12 points with the buttons for left and right, and then use the buttons for up and down buttons to move those points up or down.

White Red, green and blue can be adjusted at the same time.
 Red Adjust only the gamma curve for red.
 Green Adjust only the gamma curve for green.
 Blue Adjust only the gamma curve for blue.

Reset The same data as for the "Normal" modes are used when resetting custom gamma.
 (*) When you exit the adjustment menu of Custom Gamma, please save the adjustment values.
 You can return to the original data, which should be saved.



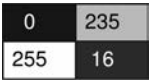
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1-2-3 Color Management

Custom 1~3	Adjust the 7 color axis (red / orange / yellow / green / cyan / blue / magenta) color as desired and save to memory. For example you may want to change only the red color of roses. Please adjust to your preference. According to your adjustments, the input image in the background changes. It is possible to confirm the video image before adjustment by pressing the "HIDE" button of the remote control.
Pause	Pauses the live image, quite useful when making color adjustments. Settings: On, Off
On	"Freezes" the image.
Off	"Unfreezes" the image.
Color Selection	Enables you to precisely adjust the 7 colors: red, orange, yellow, green, cyan, blue and magenta, and then to achieve the desired hue, color saturation and brightness. Please adjust to your preference.
Axis Position	Fine-tune the position of the central axis of the selected color. Settings: -30 to 30 [0]
Hue	Adjust the hue. Settings: -30 to 30 [0]
Saturation	Adjust the color saturation. Settings: (dim color), -30 to 30 (vivid colors) [0]
Brightness	Adjust the brightness. Settings: (dark) -30 to 30 (bright colors) [0]

2 Input Signal

HDMI	Select the available HDMI input signal via the submenu "[2-1] HDMI".
COMP.	Component video input selection via the submenu "[2-2] COMP."
PC	Select PC input via the submenu "[2-3] PC".
Picture Position	An adjustment may be enabled if the edges of the picture are partially missing due to the timing of horizontal and vertical synchronization signals. The value of the picture position depends on the input signal. (*) Depending on the input signal, only partial video images can be displayed. (*) When there is a 3D signal, this adjustment is not possible.
Horiz.	This aligns the horizontal position of the image.
Vert.	This aligns the vertical position of the image.
Aspect (Video)	(*) It is displayed when there is a video signal detected. (*) If set to 3D, ratio is fixed to 16:9. Three aspect ratio settings: 4:3, 16:9, Zoom [16:9]
4:3	Sets the screen size of the image to 4:3. For HD signals, left and right sides are reduced.
16:9	Sets the screen size of the video image screen to 16:9. For SD signals left and right sides are expanded.
Zoom	Zooms the video images. (*) For HD signals, this cannot be used.
Aspect (PC)	Sets the video image screen size when a PC video signal is detected. (*) Is displayed when there is a PC signal input. Settings: Auto, 1:1, Full [Auto]
Auto	Positions the video image screen in the center of the display range and fills the screen. Depending on the size of the video screen, left and right black borders will be drawn.
Just	The video image screen size is displayed with the size of the input image.
Full	Depending on the input video image, the screen will become smaller or part of the input image off the screen may be cut off. It does not retain the aspect ratio of the video image and fills the entire screen.

Mask	This hides the upper, lower, left and right borders of the screen with a black mask. Can be individually adjusted vertically and horizontally. Adjust to your preference. Settings: Off, 2.5%, 5%, Custom	[Off]
Off	Not masked.	
2.5%	Compared with the original video image, approximately 2.5% around the image may be masked.	
5%	Compared with the original video image, approximately 5% around the image may be masked.	
Custom		
Left	Compared with the original video image, approximately 5% of the image is masked on the left side. Settings: 0 ~ 5%	[0]
Right	Compared with the original video image, approximately 5% of the image is masked on the right side. Settings: 0 ~ 5%	[0]
Top	Compared with the original video image, approximately 5% of the image is masked at the upper side. Settings: 0 ~ 5%	[0]
Bottom	Compared with the original video image, approximately 5% of the image is masked at the bottom side. Settings: 0 ~ 5%	[0]
Progressive	Interlaced signals (480i/576i/1080i) are converted to progressive signals. Interpolates interlaced signal video images with video images from the surrounding fields. Please set to your preference. Settings: Auto, Off	[Auto]
Auto	This detects 24p video content, as seen in film. This also detects interlaced signals from the original video material or if they are the product of signal conversion and are interpolated accordingly.	
Off	The interpolation of video images as interlaced video signals, e.g. video material.	
2-1 HDMI		
Input	Sets the dynamic range of the input video images (scale). Dark and bright areas, which are not matched correctly, might get brighter or darker. If you are unsure of the input signal dynamic range, please review "Level Check". Settings: Standard, Enhance, Super White	[Standard]
Standard	This is most commonly used when the input signal is standard video, and the resulting dynamic range levels fall between 16-235.	
Enhanced	This is where the dynamic range of the input video will scale from 0-255, as typically seen with PC signals.	
Super White	This is set when the dynamic range of the input video scales from 16-255. Please set the output to video equipment compatible with SuperWhite for SuperWhite-enabled DVD/BD etc.	
Level Check	You can confirm the dynamic range of the input signal. A pattern as shown in the illustration is displayed in the four corners and center of the screen. Please compare the dynamic range of the input signal with this pattern illustration and confirm. (*) The number in the illustration is the scale level. This number is not displayed. The illustration of the gradation in the figure is accentuated for explanatory purposes. It may be different from the actual scale level.	
		
Color Space	Adjust the color space of the input signal. Settings: Auto, YCbCr(4:4:4), YCbCr(4:2:2), RGB	[Auto]
Auto	YCbCr(4:4:4), YCbCr(4:2:2), RGB signals are automatically detected and configured.	
YCbCr (4:4:4)	Settings if the input of a YCbCr(4:4:4) input video image signal is detected.	
YCbCr (4:2:2)	Settings if the input of a YCbCr(4:2:2) input video image signal is detected.	
RGB	Default setting when RGB video signals input are detected.	
Control with HDMI	Configured communication of HDMI equipment. Settings: On, Off	[Off]

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3D Format	Determines the format of the 3D input signal. Some signals may not be embedded with 3D information, thus the image projected may not occur in 3D if they are recognized as 2D images. If this occurs, you will need to reconfigure the 3D settings manually. (* It is recommended to read "On 3D" (reference page: 53) before watching 3D video images. Settings: Auto, Frame Packing, Side by Side, Top & Bottom, 2D	[Auto]
Auto	3D formats are determined automatically.	
Frame Packing	Select this if the 3D input signal is the frame pack method.	
Side by Side	Select this if the 3D input signal is the side by side method.	
Top and Bottom	Select this if the 3D signal is the top and bottom method.	
2D	Projected as a 2D signal.	

2-2 Component Video

	(* The Component video input selection.	
Color Space	This configures the input signal method of the component input. Settings: Y Pb/Cb Pr/Cr, RGB	[Y Pb/Cb Pr/Cr]
Y Pb/Cb Pr/Cr	The setting for the component video input signal.	
RGB	The setting for the RGB video image input signal.	

2-3 PC

	(* The PC input selection.	
Auto Alignment	The picture position of Tracking and Phase will be automatically adjusted.	
Tracking	Adjusts the size and display of the horizontal direction and display area of the video images. (Depending on the signal, there is typically little need for adjustment)	
Phase	Adjusts the flickering and blur of the video images. (Depending on the signal, there is typically little need for adjustment)	
Picture Position	Adjust the picture positioning.	
Horiz.	Adjusts the horizontal position of the image.	
Vert.	Adjusts the vertical position of the image.	

3 Installation

Lens Control	To Sub-menu "[3-1] Lens Control" Pixel Adjust	
Pixel Adjust	To submenu "[3-2] Pixel Adjust"	
Installation Style	Adjusts for the projector's position; one can switch horizontal and vertical flip / forward switch. Settings: Front, Ceiling Mount (Front), Rear, Ceiling Mount (Rear)	[Front]
Front	Front upright projection mode.	
Ceiling Mount (F)	Ceiling/front projection mode.	
Rear	Rear upright projection mode.	
Ceiling Mount (R)	Ceiling/ rear projection mode.	
Keystone	Concerning the projection plane, keystone correction may be deployed (especially useful when the projector is not parallel to the screen or environment). (* There may be instances, when the video image - after having corrected for keystone distortion - will still not match the screen. The position with a shift correction of 0% position is one exception. (* With 3D input signals, keystone adjustment is not possible.	
Horizontal	Adjusts the horizontal keystone. Settings: -40 to 40	[0]
Vertical	Adjusts the vertical keystone. Settings: -30 to 30	[0]

Pincushion	For correcting distortion of the projection screen. Setting range: -20 (pin-cushion) to +20 (barrel) [correction cannot be performed during 3D signal input]	
Anamorphic	The video images are enlarged [stretched] in the vertical direction of the panel resolution. This setting is used when one uses the anamorphic lens to enlarge them in the horizontal direction. (* Anamorphic modes cannot be set when there is a 3D signal input. If a 3D signal is fed in whenever the Anamorphic modes are set to A or B, the Anamorphic modes are automatically turned Off. Settings: A, B, Off	[Off]
A	Video with an aspect ratio of 2.35:1 is enlarged in the vertical direction of the panel resolution and projected.	
B	Video with an aspect ratio of 16:9 are displayed by reducing them in the horizontal direction, without changing their size in the vertical direction.	
Off	Used when watching video images other than those with a 2.35:1 aspect ratio while using an anamorphic lens. 2.35:1 video images are projected without any changes. (Black bands appear on all sides)	
Screen Adjust	This control may correct for white balance errors, when determined to occur from the non-uniform reflective properties of the projection screen. Please adjust to your preference.	
Environment Setting	By configuring "Environment Setting" according to the viewing environment, image quality adjustment and correction according to environmental differences are preformed automatically to minimize any influence on the image quality.	
Black Level	Adjusts black level when used indoors. Settings: 0 to 10	[0]
3-1 Lens Control		
	This controls each motorized functions of the lens during projector installation.	
Focus	This function is used to adjust focus.	
Zoom	This function is used to adjust zoom.	
Shift	This function is used to adjust shift.	
Lens Cover	This function is used to set the lens cover position, and whether or not it should be linked with a power supply for opening/closing, or simply left open. Settings: Auto, Open	[Auto]
Auto	This opens/closes the lens cover when linked to power on/off commands.	
Open	Regardless if the power is on/off, the lens cover is always open.	
Image Pattern	An Adjustment pattern can be displayed when setting focus and zoom. Settings: On, Off	[On]
On	During the adjustment, the image pattern is displayed.	
Off	The image pattern is displayed in conjunction with the above items. The external input signal is displayed without displaying the image pattern.	Off
Lock	This locks the lens adjustment controls Settings: On, Off	[Off]
On	This turns on the lens "lock" feature. If the remote control button "LENS" button is pressed, a warning message is issued.	
Off	This enables all lens control functions.	

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3-2 Pixel Adjust (Refer to pages 12 to 14 of the 2013 New Features Addendum)

This fine tunes possible slight color errors in the horizontal/vertical directions of the video Images, in units of 1 pixel.
 (*) It is impossible to match all image pixels on the screen. Due to the technology there will always be some gaps.
 (*) In case the image is reversed, or upside-down, the horizontal and vertical directions are reversed.
 (*) Please perform adjustments on a clear still image.
 (*) For fine tuning, the effects of adjustments may be difficult to see on some video images.

Horiz. Red	(Move red to the left) 1 to 5 (move red to the right)	[3]
Horiz. Green	(Move green to the left), 1 to 5 (move red to the right)	[3]
Horiz. Blue	(Move blue to the left) 1 to 5 (move red to the right)	[3]
Vert. Red	(Move red down) 1 to 5 (move red up)	[3]
Vert. Green	(Move green down) 1 to 5 (move green up)	[3]
Vert. Blue	(Move blue down) 1 to 5 (move blue up)	[3]

4 Display Setup

Back Color	Sets the background color when no input signal is detected. Settings: Blue, Black	[Blue]
Blue	Sets the background color to blue.	
Black	Sets the background color to black.	
Menu Position	Sets the position of the on-screen menu. By pressing the [OK] button, an image illustration appears at the position of the menu. The highlighted position in the illustration can be moved via the left and right keys. If one presses [OK], the menu moves to the highlighted position. If you press the key to the right, the menu will move starting from the top left -> top right -> central -> bottom right -> bottom left and then back to the upper left. By pressing of the left key, the menu moves in the opposite direction.	[Upper left]
Menu Display	Determines the length of time to display the menu. Settings: 15 sec, On	[On]
15 sec	If there is no operation for 15 seconds, the menu disappears.	
On	Display is always on until dismissed.	
Line Display	Configures if input is displayed [or not] whenever the input is switched. Value: 5 sec, on	[5 sec]
5 sec	Displays for 5 seconds.	
Off	Not displayed.	
Source Display	Configures whether or not to display the signal, when the input is switched. Settings: On, Off	[On]
On	Display.	
Off	Not displayed.	
Logo	Configures whether or not to display the "D-ILA" logo upon activation. Settings: On, Off	[On]
On	Displayed for 5 seconds.	
Off	Not displayed.	
Language	For setting menus to one of 13 languages	

5 Function

Trigger	Configures 12V output to an external device (ex: motorized screen equipped with a trigger function). Settings: Off, On (Power), On (Anamorphic)	[Off]
Off	No output.	
On (Power)	When projector power is turned on, a 12V control pulse is emitted from the trigger output. When turning off power, the output of the 12V control signal stops. During standby mode, an output will occur if the OPERATE button is pressed. After cooling, the output stops [as the projector returns to standby].	
On (Anamo)	Control signals (12V) are emitted when the Anamorphic mode is set from "Off" to "A" or "B". If the Anamorphic mode is set to "A" or "B", the operation in this state equals "On (Power)".	
Off Timer	Establishes a system Power Off Timer. * If there are no operations, the unit powers off automatically. * It powers off automatically even while projecting an image. Settings: Off, 1 hour, 2 hours, 3 hours, 4 hours	[Off]
Off	Power is not turned off.	
1 Hour	Power is turned off automatically after 1 hour.	
2 Hour	Power is turned off automatically after 2 hours.	
3 Hour	Power is turned off automatically after 3 hours.	
4 Hour	Power is turned off automatically after 4 hours.	
High Altitude Mode	Used when the projector is installed at higher elevations (appx. 3000 feet , or 900m above sea level). Settings: On, Off	[Off]
On	Set.	
Off	Not set.	
ECO Mode	Minimizes power consumption in Standby mode. Settings: On, Off	
On	If there is no signal transmission or operation for 30 minutes while an image is projected, the power is turned off automatically.	
Off	Set to "Off" if RS-232C / LAN communication is performed or the HDMI link function is used in the Standby mode.	
Communication Terminal	Determines the control terminal to be used. Only one terminal type may be used at one time. Settings: RS-232C, LAN	[RS-232C]
RS-232C	Select the RS-232C port.	
LAN	Selects the LAN port.	
Network	Network is displayed if LAN is chosen in "Communication terminal" submenu "[5-1] Network" is set to "LAN".	
Lamp Reset	Resets the lamp use timer to "0".	
5-1 Network		
DHCP Client	Sets the DHCP client. Settings: On, Off	[Off]
On	Automatically obtains an IP address from the connected network's DHCP server. * The automatic retrieval starts with the "Set" within the menu.	
Off	The network settings are established manually.	
IP Address	Sets the IP address.	[192.168.0.2]
Subnet Mask	Sets the subnet mask.	[255.255.255.0]
Default Gateway	Sets the default gateway.	[192.168.0.254]
MAC Address	Displays the MAC address of the unit.	
Set	[5-1] Reflects the network setting.	

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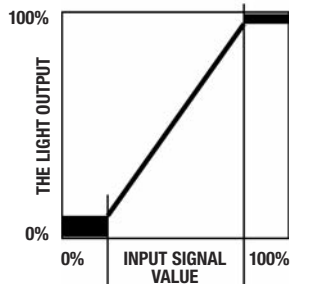
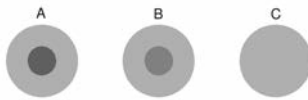
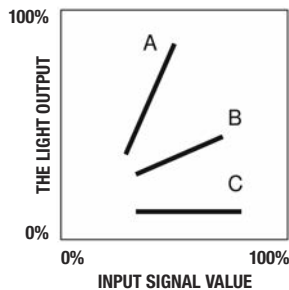
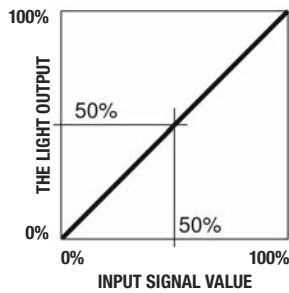
6 Information

Displays upon HDMI/COMP. input

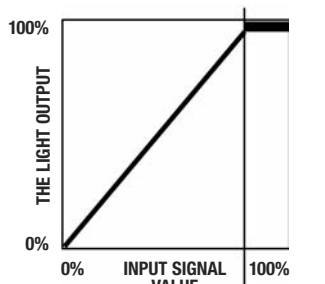
Input	Displays video image input terminal.
Source	Displays the name of the input source.
Deep Color	Displays the color bit depth concerning an input video signal. * When you input YCbCr (4:2:2), it is not displayed. * When there is information about DeepColor from the source device, it is displayed.
Lamp Time	Displays the lamp usage time.

Displays upon PC input

Input	Displays video image input terminal.
Resolution	Displays image resolution.
H Frequency	Displays the H Frequency.
V Frequency	Displays V Frequency.
Deep Color	Displays the color bit depth concerning an input video signal. * When you input YCbCr (4:2:2), it is not displayed. * When there is information about DeepColor from the source device, it is displayed.
Lamp Time	Displays the lamp usage time.



THE DISTRIBUTION OF THE INPUT SIGNAL



THE DISTRIBUTION OF THE INPUT SIGNAL

About Gamma Curve Adjustments

Gamma Curve

Gamma encoding of images is required to compensate for properties of human vision - to maximize the use of the bits or bandwidth [in digital devices] relative to how humans perceive light and color. Human vision under common illumination conditions (not pitch black or blindingly bright) follows an approximate gamma or power function. If images are not gamma encoded, they allocate too many bits or too much bandwidth to highlights that humans cannot differentiate, and too few bits/bandwidth to shadow values that humans are sensitive to and would require more bits/bandwidth to maintain the same visual quality. [... excerpt from Wikipedia, 6/11]

The gamma curve of the SDC-15 projector can be custom tailored to match the relative values of the input signal, the projector's light output, for optimum picture fidelity. Adjustments can be made both in total white and via the three primary RGB colors.

The value of the input video image signal is displayed as a percentage - with both being displayed in % of units - of the maximum light input signal for brightness, and the brightness output value as a percentage of the maximum output of the projector. We can say that relative to the signal input value at 50%, it projects with a brightness output value also at 50%. However, a light output value of 0% is not completely black since that cannot be projected [the possibility of any projector to reproduce absolute blackness is limited; thus the light output at "0% black" will be actually slightly brighter in real terms].

The input video image signal value is thus represented by a continuous gamma curve from 0% to 100%, which can be adjusted by you or your calibrator. The gamma curve can be set for each color separately, i.e. red, green and blue – or by selecting white to adjust all colors at the same time.

A larger "angle" of inclination of the gamma curve ("A" below) leads to a greater differentiation of the light output values in that area, thus making it easier to resolve fine details in the video. A lower "angle" of inclination will lead to fewer differences in that area, making the images harder to distinguish between the important gradations ("B"). If it is impossible to achieve any inclination angle, becoming horizontal, the gap in that area vanishes and it may be impossible to distinguish between any of the key details in video ("C").

Suppose you knew the exact inclination (or gamma curve) value(s) of the input video signal, and could increase the slope in the desired areas and attenuate the slope in other portions of the video. The result would be a clearer, well defined image. Conversely, if one does not know the inclination values of the video content, fine adjustment might be more difficult to perform. However, there are some known trends of the input signal value and loosely determined by the type of video content. A few typical examples are presented in the [Gamma] (Reference Page:48).

Some methods about how to adjust the gamma curve are presented here, but in reality one can think of various adjustment methods, for example where red, green and blue are individually adjusted. In your own image creation, please work the process of trial and error and discover for yourself the impact of various gamma curves.

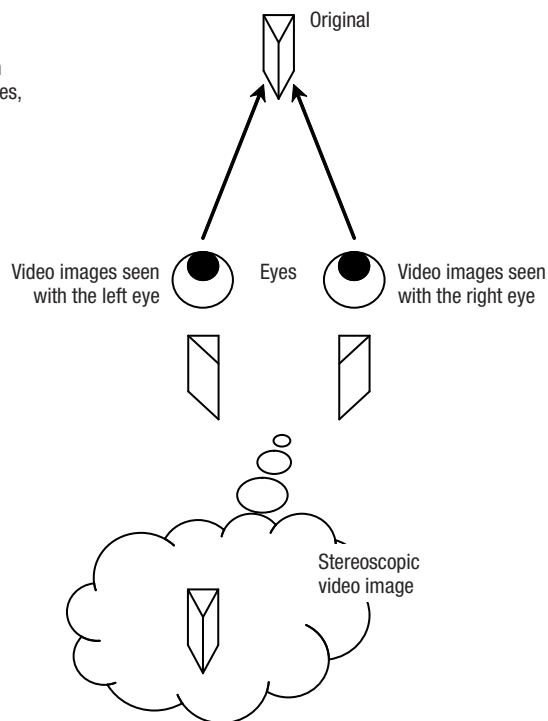
3D [Stereoscopic] Viewing

This is a brief description of the 3D methodology available from this projector. You will need 3D-glasses, a 3D emitter that synchronizes the active shutter glasses with the projected images (3D glasses and emitter sold separately), plus appropriate content from a 3D Blu-ray player, cable or satellite system, or game console.

The 3D scheme employed by this system utilizes the principle of binocular parallax. It projects with the frame sequential method, where separately alternating images are produced for the left and right eye. Opening and closing of 3D glasses fitted with liquid crystal shutters are controlled in such a way that video images corresponding to the right/left eye and are only visible by the respective eye. As a result, one can see true three-dimensional images with this system:

Binocular Parallax:

Difference of view on a single object as seen by the left and right eyes, respectively.



Due to the subtle difference of image perspective as seen by each eye, the brain perceives them in a stereoscopic way. The 3D video images that “may” be seen by the respective eyes are artificially produced today by sophisticated 3D cameras. Due to the exposure of each eye to ONLY the respective left and right video images, the brain is induced to create a stereoscopic image - an illusion which is not present in the real object. In other words, today's 3D magic is a sophisticated use of virtual imaging techniques!



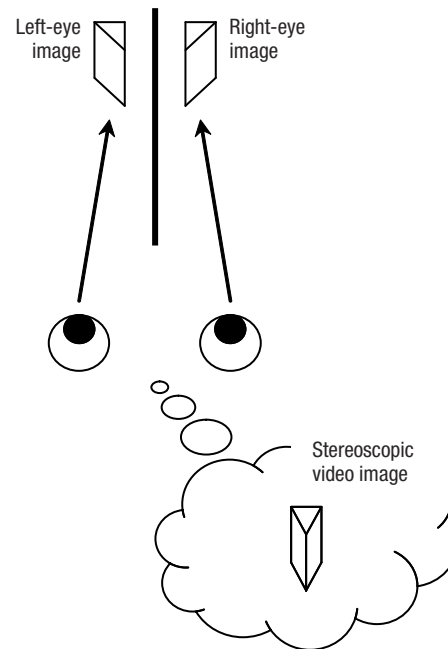
Please stop watching at once if you feel unwell and consult a physician if necessary.

- People who suffer from certain types of photosensitivity, from heart disease, or people in generally poor physical condition should not watch 3D video images from this device.
- It is recommended that you take a break periodically. Length and frequency of the breaks will vary due to individual differences and tolerances. Please judge for yourself and use caution when viewing for longer periods of time.
- The brain and eyes function to judge stereoscopic vision. A feeling for real distances starts to develop from early childhood; we learn distances by touching and seeing real objects. Even though there are individual differences, children under 5 are still developing these important skills. Letting them frequently watch virtual 3D images can be an obstacle in the development of the real world's three-dimensional perspectives.
- Young children may suddenly become nauseous when watching 3D images. They may continue to watch for long periods without understanding where the symptoms of motion sickness arise from 3D imagery. Please accompany your children while watching in 3D, and pay particular attention to the health of our younger viewers at all times.

! In most cases, 3D images are produced horizontally and are meant to be displayed in the horizontal viewing plane. Since it is known that 3D viewing can cause certain problems with sensitive or young viewers (such as motion sickness), please do not hold the 3D glasses slanted relative to the video images.

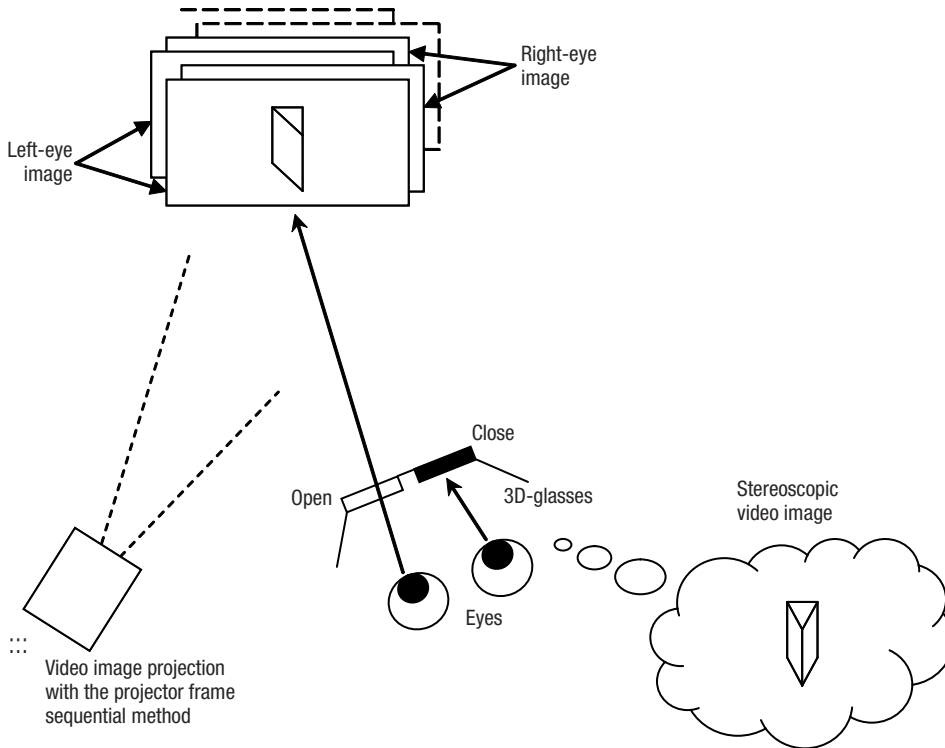
! Please watch 3D images from a distance approximately three times the height of the screen. For example, for a projected image on a 120-inch diagonal screen, that screen is just under 5-feet tall. One should thus sit approximately 15 feet from the screen. Please refer to page 25, and review the table with screen sizes and height measurements. Choosing a distance closer than recommended may cause undue eyestrain.

Separate images which can be seen by the right eye and left eye, respectively, are taken and produced separately. Therefore, the image for the left eye is only visible to the left eye, and the images for the right eye only or the right eye. The human brain perceives stereoscopic images based on image information from both sides.



The closer one looks at stereoscopic images, the greater the binocular disparity, which means greater perception of outward projection. At the same time, 3D images must fit the screen, but the projected image and the artificially created 3D focal plane may be in conflict. This may cause visual fatigue and discomfort.

The frame sequential method is a way of displaying left- and right-eye video images [sequentially]. The projector projects the video images used for the left- and right-eyes directly onto the screen. The video images for the left and right side are only visible with the respective eye, as the left and right sides of the 3D glasses are opened and/or shut rapidly by a liquid crystal shutter. As a result, the left and right images are seen only by the respective eye and reveal a 3D image.



In order to match the timing of the 3D video images with the opening/closing of the liquid crystal shutters, the projector sends rapid timing data to the 3D glasses, via infrared pulses as broadcast from the 3D emitter.

! As the video images for the left and right side flash alternatively when displayed, we urge you to refrain from looking at the screen with the naked eye. Insure sufficient 3D glasses are present for your entire viewing audience.

- The optional 3D glasses are only to be used for viewing 3D videos from the projector. Please do not use it for watching other objects or for watching 2D video images.

! With using the 3D emitter, please orient the emitter in such a way towards the audience glasses, so that the IR timing data can reach the 3D glasses without interference. The IR information may be “bounced” off certain screen surfaces and reach the glasses.

- In certain cases, the system may still not work correctly, especially:
 - If you are near other infrared communication equipment or lighting.
 - If the 3D emitter is oriented away from the 3D glasses.
- Depending on the type and usage of 3D emitters, it is also possible that its operation might influence the operation of other devices using infrared communications.



When the lamp run time is between 3,000 and 4,000 hours, a message may appear on screen and the lamp replacement is encouraged.

- NEVER insert your hands into the ANY opening while AC power is connected! This could cause product failure plus severe personal injury, electric shock and even death.
- Do not replace the lamp immediately after the projector has been used; allow a cooling period of 1 hour or more before lamp replacement. The lamp assembly may still be hot and can cause burns.
- Do not shake or otherwise roughly handle the lamp unit. This may cause failure.
- Do not use any flammable cloth or duster to clean the internal parts of the projector. This may cause a fire.

Usable Lamp Life

- When the "Lamp Power" is set at "Normal", the lifetime of the lamp will be approximately 4000 hours. This is an average lifetime and cannot be guaranteed.
- The lamp may not reach 4000 hours depending on your viewing frequency or operating conditions.
- When the lamp has reached the end of its usable life, deterioration progresses rapidly.
- If the picture becomes dark, the tint becomes strange, or the image flickers, promptly replace the lamp.

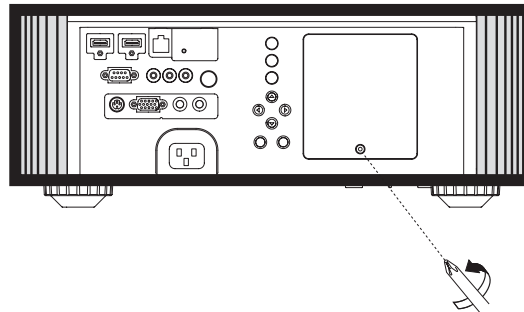
Lamp Replacement Procedure

The lamp is a replaceable item. If the image becomes dark over time, or the lamp fails then replace the lamp assembly.

1 Remove the Power Plug from the Outlet

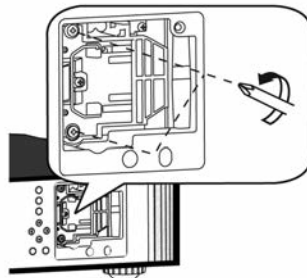
2 Remove the Lamp Cover

- Remove the screws with a ⊕ screwdriver.



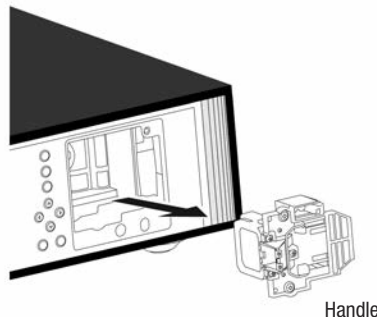
3 Loosen the Screws on the Lamp Unit

- Loosen the screws with a ⊕ screwdriver.



4 Pull Out the Lamp Unit

- Grasp the handle and pull out the lamp unit.



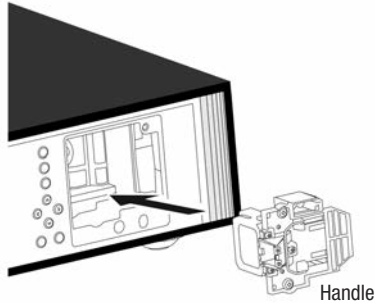
Purchasing the Lamp Unit

Please consult your authorized Wolf Cinema dealer.

Lamp Unit

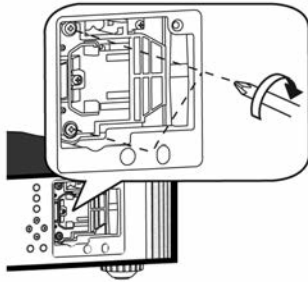
Part No.: WC-LPU230 [SDC-12 and SDC-15, 2013 models]
WC-LPU220 [SDC-15, pre-2013 production]

5 Remove the Power Plug from the Outlet



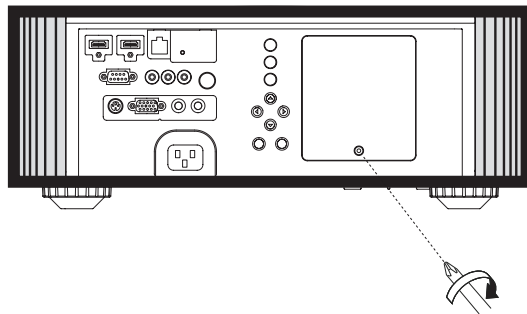
6 Tighten the Screws of the New Lamp Unit

- Tighten the screws with a \oplus screwdriver.



7 Attach the Lamp Cover

- Insert the top part (with 2 claws) of the lamp cover into the unit.
- Fasten the screws with a \oplus screwdriver.

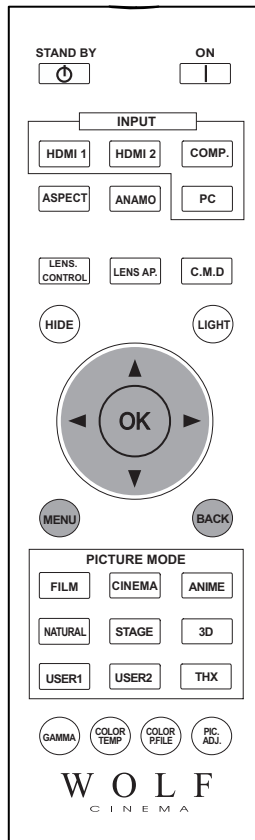


Use only genuine replacement parts for the lamp unit. Also, never attempt to reuse an old lamp. This may cause a malfunction.

- Do not touch the surface of a new lamp. This may shorten the lamp life and cause lamp blowout.

After Replacing the Lamp

- Do not place the removed lamp unit at any location reachable by children, or set it near combustible items.
- Dispose of used lamp modules in the same way as fluorescent lamps. Follow your local community rules for disposal.

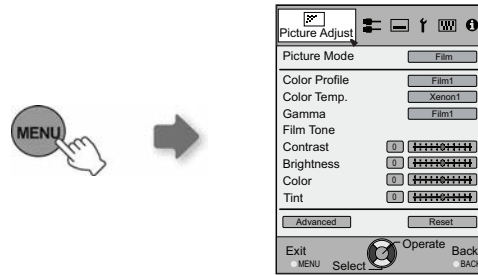


Resetting Lamp Time

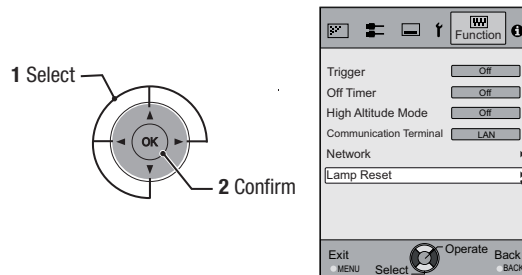
After replacing a lamp unit, please reset the lamp time.

Reset the lamp time from the menu screen.

1 Display the Setting Menu

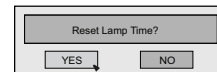


2 Select "Function" → "Lamp Reset"



3 Re-confirm

- Select "Yes" and the lamp time is set to zero. Moreover, one returns to the previous menu.



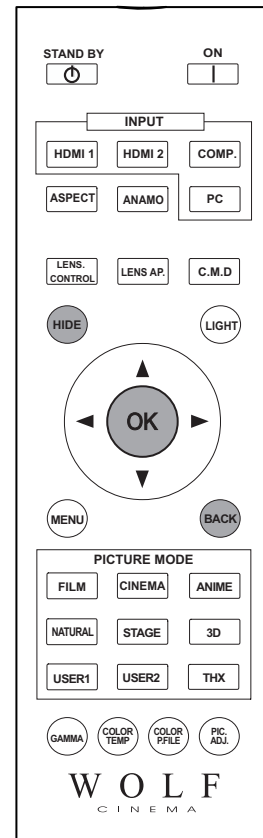
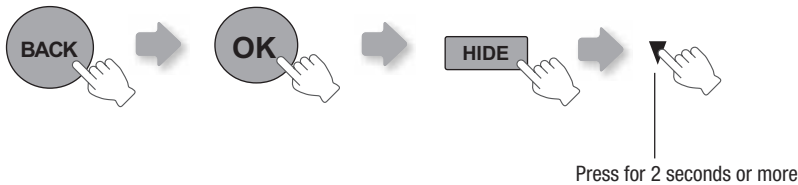
Reset the Lamp Time by Remote Control


1 Insert the Power Plug to the Power Outlet

STANDBY/ON  Red Lights

2 Operate the Remote Control with the Projector in the Standby Mode (the projector is powered, but is not turned on)

- Press in the order as shown.
- Press each button within 2-second intervals and press the last button for 2 seconds or more.
- [STANDBY/ON] indicator and [LAMP] indicator blink alternately for 3 seconds. After that, the unit switches to standby mode.



 Reset the lamp time only when you have replaced the lamp.

- Never reset the service time when the lamp is still in use. Otherwise, the approximate standards for gauging replacement time may be inaccurate and lamp blowout may occur.



Pull the AC power plug from the power outlet before cleaning.

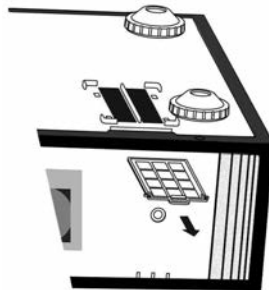
If the filter is Damaged or Too Dirty to be Cleaned

- Replace with a new filter. A dirty filter will not protect the internal parts of the unit and may cause shadows to appear on the video image.
- To purchase a new filter contact your authorized Wolf Cinema dealer.

Cleaning and Replacing Filters

Clean the filter regularly or air intake efficiency may deteriorate and malfunction may occur.

1 Remove the Filter

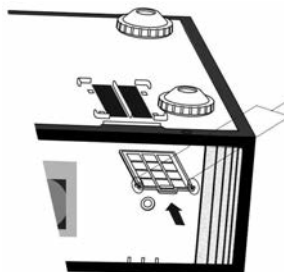


2 Clean the Filter

- Wash the filter with water and dry it in a shaded area.
- In extremely soiled cases, the use of a neutral detergent is recommended. Put on rubber gloves when using a detergent.
- After washing the filter with water, make sure that it is completely dry before reinstalling - otherwise electric shock or malfunctions may occur.
- Do not clean the filter with a vacuum cleaner or air duster. The filter is soft and may be damaged.



3 Reinstall the Filter



Check that the left and right claws are locked onto the unit

Purchasing the Replacement Filter

Please consult your authorized Wolf Cinema dealer.

Replacement Filter

Part No.: WC-FPSDC-01

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Troubleshooting

Before Sending the Projector Back to Your Authorized Dealer for Repair, Please Check the Following

- You do not need to worry about the following situations if there is no visual abnormality on-screen.
 - Part of the top surface or front of the unit runs hot.
 - A creaking sound is heard from the unit.
 - An operating sound is heard from the inside of the unit.
 - Color smears occur on some screens.
- Perform the following test if the unit does not operate normally, often due to external static discharge or noise.
 - 1 When the unit is in standby mode, pull out the AC power plug, then re-insert again.
 - 2 Press the power button on the unit to turn on the power.
- A sound may be heard when the lamp is off but there is no danger.
- D-ILA light engines are manufactured using high-precision technologies, but over time there may be some missing pixels or pixels that remain permanently lit.

No Power		
Is the power cord disconnected?	Insert the power cord (plug) firmly.	Reference page: 33
Is the lamp cover properly shut?	Remove the power plug when the unit is in standby mode and close the lamp cover properly. After that, insert the AC plug again.	Reference page: 65
Is the lamp in Cool Down mode?	After the Cool Down mode is complete, turn on the power again.	Reference page: 37

Video Image Does Not Appear		
Is the correct external input selected?	Chose the correct external input.	Reference page: 36
Is the AV device properly connected?	Connect the AV device properly.	Reference page: 28 to 33
Is the power of the AV device turned on?	Turn on the power of the AV device and play the video.	Reference page: 28 to 33
Are the correct signals being output from the AV device?	Set the AV device properly.	Reference page: 28 to 33
Is the setting of the input terminal correct?	Set "COMP." and "HDMI" in the setting menu according to the input signal.	Reference page: 54 to 56
Is the video image temporarily hidden?	Press the [HIDE] button to display the video image again.	Reference page: 42

Remote Control Does Not Work		
Are batteries installed correctly?	Match the polarities (⊕ or ⊖) correctly when inserting the batteries.	Reference page: 20
Are batteries exhausted?	Replace with new batteries.	Reference page: 20
Is there an obstruction between the remote control and remote sensor?	Remove any obstructive objects.	Reference page: 25
Is the remote control held too far away from the unit?	Hold the remote control closer to the sensor when using.	Reference page: 25

The Picture Cannot be Projected from HDMI Sources		
Will the picture flicker and become invisible with HDMI input?	Please use a shorter HDMI cable.	Reference page: 28

The Image Cannot be Seen from an HDMI Source		
Is the setup of "Control with HDMI" function "Off"?	Set up the "Control with HDMI" function to "Off".	Reference page: 55

- Even if the "Control with HDMI" function is "On", there are still some devices that cannot reveal images normally via HDMI.

Color Does Not Appear or Looks Strange		
Is the image correctly adjusted?	Adjust "Color" and "Tint" in the setting menu.	Reference page: 51 to 54

Video Image is Fuzzy		
Is the focus correctly adjusted?	Adjust the focus.	Reference page: 36
Is the unit placed too near or too far away from the screen?	Set the unit at a correct distance from the screen.	Reference page: 23, 25

Video Images are Missing or Cropped		
Has setting been performed for screen mask?	Set "Mask" in the setting menu to "Off".	Reference page: 41, 55
Is the display out of position?	Alter the "Picture Position" value in the setting menu to ensure that images are not missing.	Reference page: 54

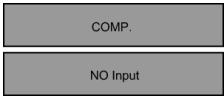

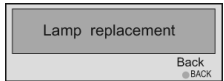
Projected Image is Dark		
Is the lamp near exhaustion?	Check the lamp time on the information menu. Prepare a new lamp unit or replace as soon as possible when the lamp is near its end time.	Reference page: 65 to 68

The Unit Works when Power is Turned on but Stops Abruptly After a Few Minutes		
Are the air inlets and exhaust vent blocked?	Remove the power plug when the unit is in standby mode and remove any blocking object. After that, insert the plug again.	Reference page: 3, 15
Is the filter dirty?	Clean the filter.	Reference page: 69

Power is Cut Off Suddenly		
Has "Off Timer" been configured?	Set "Off Timer" in the setting menu to "Off".	Reference page: 59
Has "ECO Mode" been configured?	Set "ECO Mode" in the setting menu to "Off".	Reference page: 59

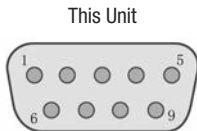
Unable to View 3D Images		
Are the 3D Glasses turned on?	Turn on the power manually	Reference page: 62 to 64
Are the 3D Glasses charged?	Check the battery (charge) of the 3D Glasses.	Reference page: 62 to 64
Are the 3D Glasses and 3D Emitter too far away from each other?	Position them at an appropriate distance.	Reference page: 62 to 64
Is the correct 3Dformat selected?	If the format does not switch automatically, configure 3D Format in the setting menu.	Reference page: 56 plus Addendum

Error Messages

Message	Cause (Details)
 <p>COMP. NO Input</p>	<p>No device is connected to the input terminals. The input terminal is connected but there is no signal.</p> <p>Input appropriate video signals from compatible sources.</p>
 <p>COMP.</p>	<p>A video signal that cannot be used in this unit has been connected.</p> <p>➡ Input video signals that can be used.</p> <p>*The names of input terminals such as COMP. will be displayed in yellow.</p>
 <p>Lamp replacement Back @BACK</p>	<p>This message is displayed when the accumulated lamp time has exceeded 2900 hours. To clear the message, press the [Back] button.</p> <p>➡ Prepare a new lamp unit and replace it as soon as possible. Reset the lamp time after replacing the lamp. (Reference page: 65 to 68)</p>

RS-232C Specifications

The projector may be remotely controlled when connected with an RS-232C cross cable (D-Sub9 pin) to a PC or system controller. The projector can also be connected to a computer network by connecting it with a LAN cable and sending the proper control commands. Contact your Wolf Cinema dealer for additional details.



Pin No.	Signal	Function	Signal Direction
2	RxD	Receive data	PC→This unit
3	TxD	Transmit data	This unit→PC
5	GND	Signal ground	-
1,4,6 - 9	N/C	-	-

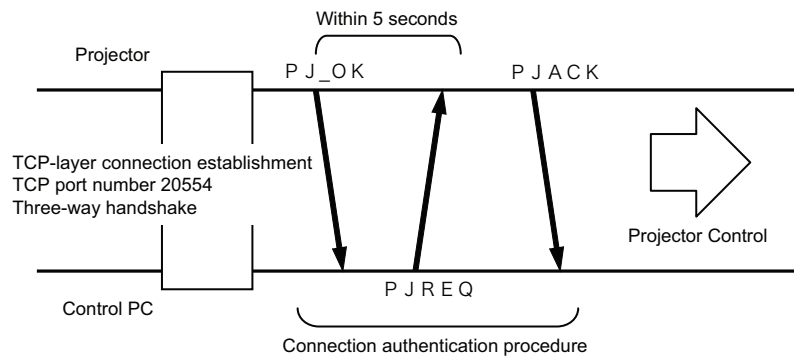
Mode	Non-synchronous
Character Length	8 bit
Parity	None
Start Bit	1
Stop Bit	1
Data rate	19200 bps
Data format	Binary

- PC refers to the controller such as a personal computer.



TCP/IP-Connection

Before you can control the projector via LAN, you have to establish a TCP-connection via a “3-way-handshake”. It is necessary for a connection authentication to be sent from the projector “PJ_OK” and - within 5 seconds after sending a “PJREQ” – to receive “PJACK”. Please perform this operation – after confirming the operating status of the projector - again after establishment of a TCP connection, if you cannot send within 5 seconds “PJ_NG” or could not receive “PJNAK”.



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Command Format

The command between this unit and the computer consists of "Header", "Unit ID", "Command", "Data" and "End".

- Header (1 byte), Unit ID (2 bytes), Command (2 bytes), Data (n bytes), End (1 byte).

Header

This hexadecimal code indicates the start of communication.

Hexadecimal Code	Type	Description
21	Operating command	PC → This unit
3F	Response command	PC → This unit
40	Reference command	This unit → PC
06	ACK	This unit → PC (When the command is accepted without error, it returns to PC)

Unit ID

This code specifies the unit. The hexadecimal code is fixed at "8901".

Command and Data

Operating command and data (hexadecimal code)

Command	Type	Description
0000	Connection check	Check whether communication is available between this unit and the PC during standby.
5057	Power supply	During standby 31: Turn on the power. During power on 30: Turn off the power. (Standby mode)
4950	Input	During power on 32: COMP. 33: PC 36: HDMI 1 37: HDMI 2
5243	Remote Control	Sends the same code as the supplied remote control. • "Remote control code" (Reference page: 75)

Reference command and data (hexadecimal code)

Command	Type	Data Description
5057	Power supply	During standby or power on 30: Standby mode 31: Power-on mode 32: During Cool Down mode 34: Warning mode
4950	Input	During power on 32: COMP. 32: PC 36: HDMI 1 37: HDMI 2

End

This code indicates the end of communication. The hexadecimal code is fixed at "0A".

Remote Control Code

- Hexadecimal code is sent during communication.

Remote Control Button Name	Hexadecimal Code
▲	37 33 30 31
▼	37 33 30 32
BACK	37 33 30 33
ON	37 33 30 35
STAND BY	37 33 30 36
HIDE	37 33 31 44
LENS.AP.	37 33 32 30
MENU	37 33 32 45
OK	37 33 32 46
LENS CONTROL	37 33 33 30
▶	37 33 33 34
◀	37 33 33 36
PC	37 33 34 36
COMP.	37 33 34 44
ANIME	37 33 36 36
STAGE	37 33 36 37
CINEMA	37 33 36 38
FILM	37 33 36 39

Remote Control Button Name	Hexadecimal Code
NATURAL	37 33 36 41
USER 1	37 33 36 43
USER 2	37 33 36 44
USER 3	37 33 36 45
THX	37 33 36 46
HDMI 1	37 33 37 30
HDMI 2	37 33 37 31
PIC.ADJ.	37 33 37 32
INFO.	37 33 37 34
GAMMA	37 33 37 35
C.TEMP	37 33 37 36
ASPECT	37 33 37 37
3D	37 33 38 37
COLOR PROFILE	37 33 38 38
C.M.D	37 33 38 41
ANAMO	37 33 43 35
MPC	37 33 46 30

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RS-232C Communication Examples

This section shows the communication examples of RS-232C.

Operating Command

Type	Command	Description
Connection check	PC → This unit: 21 89 01 00 00 0A This unit → PC: 06 89 01 00 00 0A	Connection check.
Power (On)	PC → This unit: 21 89 01 50 57 31 0A This unit → PC: 06 89 01 50 57 0A	When power is turned on from standby mode.
Power (Off)	PC → This unit: 21 89 01 50 57 30 0A This unit → PC: 06 89 01 50 57 0A	When power is turned off (standby mode) from power-on mode.
Input (COMP.)	PC → This unit: 21 89 01 49 50 32 0A This unit → PC: 06 89 01 49 50 0A	When video input is set to component.
Remote Control (MENU)	PC → This unit: 21 89 01 52 43 37 33 32 45 0A This unit → PC: 06 89 01 52 43 0A	When the same operation as pressing the [MENU] button on the remote control is made

Reference Command

Type	Command	Description
Power (On)	PC → This unit: 3F 89 01 50 57 0A This unit → PC: 06 89 01 50 57 0A This unit → PC: 40 89 01 50 57 31 0A	When information of power-on mode is acquired.
Input (HDMI 1)	PC → This unit: 3F 89 01 49 50 0A This unit → PC: 06 89 01 49 50 0A This unit → PC: 40 89 01 49 50 36 0A	When information of HDMI 1 input is acquired.

About Trademarks and Copyright



- HDMI, HDMI logo and high definition multimedia interface are trademarks or registered trademarks of HDMI Licensing LCC.



- For the SDC-15 projector, a “THX 3D Display Certification” by THX has been granted. In addition to 2D movies, you can also enjoy faithful reproduction of images in a “quality as intended by the filmmaker” during playback of 3D movies. The THX 3D certification is “an indication of high definition and high resolution”, which is granted to products that have cleared more than 400 image quality tests.

Caution

D-ILA Device Characteristics

Do not project still pictures or pictures that have still segments for a long period of time. The still parts of the picture may remain (“burn in”) onto the screen. Take special notice of images on the screens of video games and computer programs. There is no problem when playing normal video images such as movies or TV content.

When Unit is Unused for a Long Time

Prolonged disuse of the unit may cause component failure. Turn on the power occasionally and operate the unit.

Usage Environment

- Avoid direct exposure to sunlight and direct illumination. Block ambient light using a curtain or shades. Images are improved when darkening the room.
- Do not use this unit in rooms with cigarette smoke or oily smoke. This may cause the unit to malfunction.

Parts Replacement

This unit contains parts (optical parts, cooling fan, etc.) that may require replacement over time to maintain its proper functionality. The estimated time for parts replacement varies greatly depending on the usage and environment. Please consult your authorized dealer for service.

Maintenance Procedures

Dirt on the Cabinet

- Gently clean dirt on the cabinet with a soft cloth. In the case of heavy soiling, soak a cloth in water, wring dry and wipe, followed by wiping again with a dry cloth. Pay attention to the following as the cabinet may deteriorate in condition or paint may come off.
 - Do not wipe with thinner or benzene.
 - Do not spray with volatile chemicals like insecticide.
 - Do not allow prolonged contact with rubber or plastic products.

Dirt in the Air Inlets

- Use a vacuum cleaner to suck up any visible dirt particles in the air inlets. Otherwise, use a cloth to wipe off the dirt. If dirt is allowed to accumulate in the air inlets, the internal temperature cannot be adjusted and this may cause major malfunctions.

Dirt on the Lens

- Carefully brush away any major dust or dirt particles. Clean the lens ONLY with commercial lens cleaning papers, such as used for cleaning glasses and cameras. Do not use fluid-type cleaning agents as this may lead to peeling of the surface coatings.

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Specifications

Product Name	Wolf Cinema SDC-12 and SDC-15 3D D-ILA Home Cinema Projectors
Model Name	Model Name SDC-12, aka "GrayWolf 4K", and SDC-15, aka "The Cub"
Display Panel/Size	D-ILA device * 2 *3 0.7" (1920 pixels x 1080 pixels) x 3 (total no. of pixels: approx. 6.22 million)
Projection Lens	2.0 x power zoom lens (1.45:1 to 2.78:1) (zoom/focus: power), VariScope™ enabled
Light-source Lamp	230 W Ultra-high pressure mercury lamp [Part No. WC-LPU230] Average Lifespan: 4000 hours (normal mode)
Screen Size	Approx. 60" to 200" (aspect ratio: 16:9)
Projection Distance	Approx. 1.8m to 12m
Analog Video Input Format	480i, 480p, 576i, 576p, 720p/50 Hz, 720p/60 Hz, 1080i/50 Hz, 1080i/60 Hz
Digital Video Input Format	480i, 480p, 576i, 576p, 720p/50 Hz, 720p/60 Hz, 1080i/50 Hz, 1080i/60 Hz, 1080p/24 Hz, 1080p/50 Hz, 1080p/60 Hz PC compatible signals (Reference page: 26)
Resolution	1920 dots x 1080 dots
V4K™ Resolution	3840 dots x 2160 dots
Input terminal	
Video Input	1 system, RCA pin jack x3 Y:1.0Vp-p, 75Ω Pb/Cb, Pr/Cr:0.7Vp-p, 75Ω * Also supports R / G / B Sync on G
HDMI Input	2 system, HDMI 19 pin × 2 (HDCP compliant) * 4 Compatible with the HDMI v1.4a standard * 5
PC Input	1 system Φ, D-Sub 15 pin VGA
Output terminal	
Trigger terminal	1 system, 3.5mm DC power jack (⊖ ⊕) DC OUT 12V, 0.1A
3D synchro	3D synchro emitter dedicated terminal (1 system, mini DIN 3pin)
Control terminal	
RS-232C terminal	1 system, D-sub 9-pin (male) x1 (external control)
Remote terminal	1 system, stereo mini jack x1 (remote control)
LAN terminal	1 system, RJ-45 plug x1
Power Requirements	AC 110V-240V 50/60Hz
Power Consumption	360W (3.4A) (standby mode: 0.4W)
Operation Environment	Temperature: 5°C to 35°C Humidity: 20% to 80% (no condensation) (storage temperature: -10 C to 60 C)
Installation Height	Recommended below 5000 ft (1524 m) (high altitude operating mode available)
Dimensions (WxHxD)	19.5 x 8.8 x 22.5 in., 496 x 224 x 572 mm
Weight	60 lbs., 28 kg. net / 75 lbs., 34 kg. shipping
Accessories	(Reference page: 14)

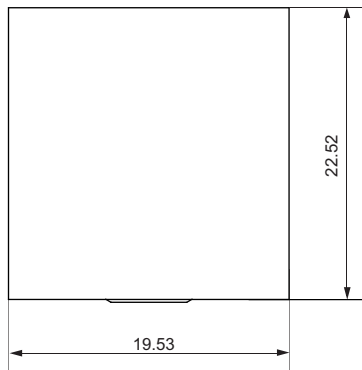
- * 2 D-ILA is the abbreviation for Direct-Drive Image Light Amplifier.
- * 3 D-ILA devices are manufactured using extremely high-precision technology. Pixel effectiveness is 99.99%. Only 0.01% or less of the pixels may be off or permanently lit and still be within spec.
- * 4 HDCP is the abbreviation for High-bandwidth Digital Content Protection system.
- * 5 Ethernet is not supported.

- Design and specifications are subject to change without prior notice.
- Please note that some of the pictures and illustrations may have been abridged, enlarged or contextualized in order to aid comprehension. Images may differ from the actual product.

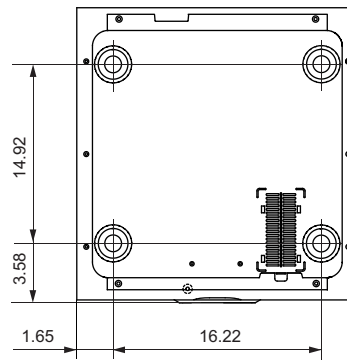
Dimensions

(Unit: inch)

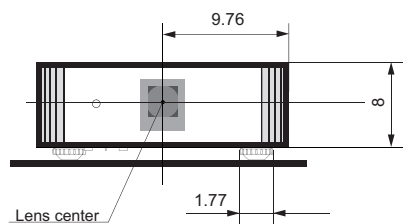
■ Top Surface



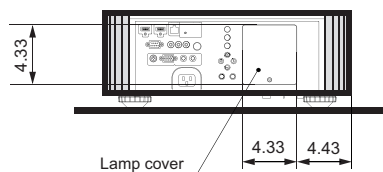
■ Bottom Surface



■ Front



■ Back Surface



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