RLM-W14

User manual

BARCO

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Changes

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Class A ITE is a category of all other ITE which satisfies the class A ITE limits but not the class B ITE limits. Such equipment should not be restricted in its sale but the following warning shall be included in the instructions for use:

Warning : This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

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

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1. SAFETY

About this chapter

Read this chapter attentively. It contains important information to prevent personal injury while installing and using a RLM W14 projector. Furthermore, it includes several cautions to prevent damage to the RLM W14 projector. Ensure that you understand and follow all safety guidelines, safety instructions and warnings mentioned in this chapter before installing your RLM W14 projector. After this chapter, additional "warnings" and "cautions" are given depending on the installation procedure. Read and follow these "warnings" and "cautions" as well.

1.1 General considerations

The content is applicable for following Barco products:

- RLM W14

⚠️	**WARNING:** Ensure you understand and follow all the safety guidelines, safety instructions, warnings and cautions mentioned in this manual.
⚠️	**WARNING:** Be aware of suspended loads.
⚠️	**WARNING:** Wear a hard hat to reduce the risk of personal injury.
⚠️	**WARNING:** Be careful while working with heavy loads.
⚠️	**WARNING:** Mind your fingers while working with heavy loads.
⚠️	**CAUTION:** High pressure lamp may explode if improperly handled.

General safety instructions

- Before operating this equipment please read this manual thoroughly and retain it for future reference.
- Installation and preliminary adjustments should be performed by qualified Barco personnel or by authorized Barco service dealers.
- All warnings on the projector and in the documentation manuals should be adhered to.
- All instructions for operating and use of this equipment must be followed precisely.
- All local installation codes should be adhered to.

Notice on safety

This equipment is built in accordance with the requirements of the international safety standards IEC60950-1, EN60950-1, UL60950-1 and CAN/CSA C22.2 No.60950-1, which are the safety standards of information technology equipment including electrical business equipment. These safety standards impose important requirements on the use of safety critical components, materials and insulation, in order to protect the user or operator against risk of electric shock and energy hazard and having access to live parts. Safety standards also impose limits to the internal and external temperature rises, radiation levels, mechanical stability and strength, enclosure construction and protection against the risk of fire. Simulated single fault condition testing ensures the safety of the equipment to the user even when the equipment's normal operation fails.

Users definition

Throughout this manual, the term SERVICE PERSONNEL refers to persons having appropriate technical training and experience necessary to be knowledgeable of potential hazards to which they are exposed (including, but not limited to HIGH VOLTAGE ELECTRIC and ELECTRONIC CIRCUITRY and HIGH BRIGHTNESS PROJECTORS) in performing a task, and of measures to minimize the potential risk to themselves or other persons. The term USER and OPERATOR refers to any person other than SERVICE PERSONNEL, AUTHORIZED to operate professional projection systems.

A RLM W14 projector is intended "FOR PROFESSIONAL USE ONLY" by AUTHORIZED PERSONNEL familiar with potential hazards associated with high voltage, high intensity light beams, ultraviolet exposure and high temperatures generated by the lamp and associated circuits. Only qualified SERVICE PERSONNEL, knowledgeable of such risks, are allowed to perform service functions inside the product enclosure.

1.2 Important safety instructions

To prevent the risk of electrical shock

- This product should be operated from a mono phase AC power source.
- This apparatus must be grounded (earthed) via the supplied 3 conductor AC power cable. If none of the supplied power cables are the correct one, consult your dealer. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the purpose of the grounding-type plug.
- Do not allow anything to rest on the power cord. Do not locate this product where persons will walk on the cord. To disconnect the cord, pull it out by the plug. Never pull the cord itself.
- Use only the power cord supplied with your device. While appearing to be similar, other power cords have not been safety tested at the factory and may not be used to power the device. For a replacement power cord, contact your dealer.
- Do not operate the projector with a damaged cord. Replace the cord.Do not operate the projector if the projector has been dropped or damaged - until it has been examined and approved for operation by a qualified service technician.
- Position the cord so that it will not be tripped over, pulled, or contact hot surfaces.
- If an extension cord is necessary, a cord with a current rating at least equal to that of the projector should be used. A cord rated for less amperage than the projector may overheat.
- Never push objects of any kind into this product through cabinet slots as they may touch dangerous voltage points or short out parts that could result in a risk of fire or electrical shock.
- Do not expose this projector to rain or moisture.
- Do not immerse or expose this projector in water or other liquids.
- Do not spill liquid of any kind on this projector.
- Should any liquid or solid object fall into the cabinet, unplug the set and have it checked by qualified service personnel before resuming operations.
- Do not disassemble this projector, always take it to an authorized trained service person when service or repair work is required.
- Do not use an accessory attachment which is not recommended by the manufacturer.
- Lightning - For added protection for this video product during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet. This will prevent damage to the device due to lightning and AC power-line surges.

To prevent personal injury

- Isolate electrically before replacing the lamp or lamp house. Caution: Hot lamp (house).
- Caution: High pressure lamp may explode if improperly handled. Refer servicing to qualified service personnel.
- To prevent injury and physical damage, always read this manual and all labels on the system before inserting the lamp casing, connecting to the wall outlet or adjusting the projector.
- To prevent injury, take note of the weight of the projector. Minimum 2 persons are needed to carry the projector.
- To prevent injury, ensure that the lens and all covers are correctly installed. See installation procedures.
- Warning: high intensity light beam. NEVER look into the lens ! High luminance could result in damage to the eye.
- **Warning: extremely high brightness lamps:** This projector uses extremely high brightness lamps. Never attempt to look directly into the lens or at the lamp. If the projection distance is less than 6 meter, any person needs to be at least 4 meters away from the projected image. Avoid close range reflection of the projected image on any reflecting surface (such as glass, metal, ...) . When operating the projector, we strongly recommend wearing suitable safety glasses.
- Before attempting to remove any of the projector's covers, you must turn off the projector and disconnect from the wall outlet.
- When required to switch off the projector, to access parts inside, always disconnect the power cord from the power net.
- The power input at the projector side is considered as the disconnect device. When required to switch off the projector, to access parts inside, always disconnect the power cord at the projector side. In case the power input at the projector side is not accessible (e.g. ceiling mount), the socket outlet supplying the projector shall be installed nearby the projector and be easily accessible, or a readily accessible general disconnect device shall be incorporated in the fixed wiring.
- Do not place this equipment on an unstable cart, stand, or table. The product may fall, causing serious damage to it

and possible injury to the user.

- It is hazardous to operate without lens or shield. Lenses, shields or ultra violet screens shall be changed if they have become visibly damaged to such an extent that their effectiveness is impaired. For example by cracks or deep scratches.
- **Warning: Protection from ultraviolet radiation:** Do not look directly in the light beam. The lamp contained in this product is an intense source of light and heat. One component of the light emitted from this lamp is ultraviolet light. Potential eye and
 skin hazards are present when the lamp is energized due to ultraviolet radiation. Avoid unnecessary exposure. Protect yourself and your employees by making them aware of the hazards and how to protect themselves. Protecting the skin can be accomplished by wearing tightly woven garments and gloves. Protecting the eyes from UV can be accomplished by wearing safety glasses that are designed to provide UV protection. In addition to the UV, the visible light from the lamp is intense and should also be considered when choosing protective eye wear.
- **Exposure to UV radiation:** Some medications are known to make individuals extra sensitive to UV radiation. The American Conference of Governmental Industrial Hygienists (ACGIH) recommends occupational UV exposure for an-8 hour day to be less than 0,1 micro-watts per square centimeters of effective UV radiation. An evaluation of the workplace is advised to assure employees are not exposed to cumulative radiation levels exceeding these government guidelines. The exposer of this UV radiation is allowed for only 1 hour per day for maintenance and service persons.
- **Mercury Vapor Warnings:** Keep the following warnings in mind when using the projector. The lamp used in the projector contains mercury. In case of a lamp rupture, explosion there will be a mercury vapor emission. In order to minimize the potential risk of inhaling mercury vapors:
 - Ensure the projector is installed only in ventilated rooms.
 - Replace the lamp module before the end of its operational life.
 - Promptly ventilate the room after a lamp rupture, explosion has occurred, evacuate the room (particularly in case of a pregnant woman).
 - Seek medical attention if unusual health conditions occur after a lamp rupture, explosion, such as headache, fatigue, shortness of breath, chest-tightening coughing or nausea.

To prevent fire hazard

- Do not place flammable or combustible materials near the projector!
- Barco large screen projection products are designed and manufactured to meet the most stringent safety regulations. This projector radiates heat on its external surfaces and from ventilation ducts during normal operation, which is both normal and safe. Exposing flammable or combustible materials into close proximity of this projector could result in the spontaneous ignition of that material, resulting in a fire. For this reason, it is absolutely necessary to leave an "exclusion zone" around all external surfaces of the projector whereby no flammable or combustible materials are present. The exclusion zone must be not less than 50 cm (20") for all DLP projectors. The exclusion zone on the lens side must be at least 5 m. Do not cover the projector or the lens with any material while the projector is in operation. Keep flammable and combustible materials away from the projector at all times. Mount the projector in a well ventilated area away from sources of ignition and out of direct sun light. Never expose the projector to rain or moisture. In the event of fire, use sand, CO_2 or dry powder fire extinguishers. Never use water on an electrical fire. Always have service performed on this projector by authorized Barco service personnel. Always insist on genuine Barco replacement parts. Never use non-Barco replacement parts as they may degrade the safety of this projector.
- Slots and openings in this equipment are provided for ventilation. To ensure reliable operation of the projector and to protect it from overheating, these openings must not be blocked or covered. The openings should never be blocked by placing the projector too close to walls, or other similar surface. This projector should never be placed near or over a radiator or heat register. This projector should not be placed in a built-in installation or enclosure unless proper ventilation is provided.
- Projection rooms must be well ventilated or cooled in order to avoid build up of heat.
- Let the projector cool down completely before storing. Remove cord from the projector when storing.
- Heat sensitive materials should not be placed in the path of the exhausted air or on the lamp house.

To prevent projector damage

- This projector has been designed for use with a specific lamp (house) type. See installation instructions for its correct type.
- The air filters of the projector must be cleaned or replaced on regular base (a "clean" booth would be monthly-minimum).Neglecting this could result in disrupting the air flow inside the projector, causing overheating. Overheating may lead to the projector shutting down during operation.
- The projector must always be installed in a manner which ensures free flow of air into its air inlets and unimpeded evacuation of the hot air from its cooling system.
- In order to ensure that correct airflow is maintained, and that the projector complies with Electromagnetic Compatibility (EMC)requirements, it should always be operated with all of it's covers in place.
- Slots and openings in the cabinet are provided for ventilation. To ensure reliable operation of the product and to protect it from overheating, these openings must not be blocked or covered. The openings should never be blocked by placing the product on a bed, sofa, rug, or other similar surface. This product should never be placed near or over a radiator or heat register. The device should not be placed in a built-in installation or enclosure unless proper ventilation is provided.

- Ensure that nothing can be spilled on, or dropped inside the projector. If this does happen, switch off and unplug the mains supply immediately. Do not operate the projector again until it has been checked by qualified service personnel.
- Do not block the projector cooling fans or free air movement around the projector. Loose papers or other objects may not be nearer to the projector than 30 cm (12") on any side.
- Do not use this equipment near water.
- **Special care for Laser Beams:** Special care should be used when DLP projectors are used in the same room as laser equipment. Direct or indirect hitting of a laser beam on to the lens can severely damage the Digital Mirror Devices TM in which case there is a loss of warranty.
- Never place the projector in direct sun light. Sun light on the lens can severely damage the Digital Mirror Devices TM in which case there is a loss of warranty.
- Save the original shipping carton and packing material. They will come in handy if you ever have to ship your equipment. For maximum protection, repack your set as it was originally packed at the factory.
- Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning. Never use strong solvents, such as thinner or benzine, or abrasive cleaners, since these will damage the cabinet. Stubborn stains may be removed with a cloth lightly dampened with mild detergent solution.
- To ensure the highest optical performance and resolution, the projection lenses are specially treated with an anti-reflective coating, therefore, avoid touching the lens. To remove dust on the lens, use a soft dry cloth. Do not use a damp cloth, detergent solution, or thinner.
- Rated maximum ambient temperature, t a= 40 °C (104 °F).
- The lamp house shall be replaced if it has become damaged or thermally deformed.

On servicing

- Do not attempt to service this product yourself, as opening or removing covers may expose you to dangerous voltage potentials and risk of electric shock.
- Refer all servicing to qualified service personnel.
- Attempts to alter the factory-set internal controls or to change other control settings not specially discussed in this manual can lead to permanent damage to the projector and cancellation of the warranty.
- Unplug this product from the wall outlet and refer servicing to qualified service technicians under the following conditions:
  - When the power cord or plug is damaged or frayed.
  - If liquid has been spilled into the equipment.
  - If the product has been exposed to rain or water.
  - If the product does not operate normally when the operating instructions are followed. Adjust only those controls that are covered by the operating instructions since improper adjustment of the other controls may result in damage and will often require extensive work by a qualified technician to restore the product to normal operation.
  - If the product has been dropped or the cabinet has been damaged.
  - If the product exhibits a distinct change in performance, indicating a need for service.
- Replacement parts: When replacement parts are required, be sure the service technician has used original Barco replacement parts or authorized replacement parts which have the same characteristics as the Barco original part. Unauthorized substitu- tions may result in degraded performance and reliability, fire, electric shock or other hazards. Unauthorized substitutions may void warranty.
- Safety check: Upon completion of any service or repairs to this projector, ask the service technician to perform safety checks to determine that the product is in proper operating condition.
- Possible explosion hazard: Always keep in mind the caution below:

CAUTION: Do not touch a lamp during operation and right after it is turned off as it is extremely hot. Lamp contains mercury. It's brokeage might cause mercury or broken glass pieces to folow out of lamp housing. To avoid exposure the risk of mercury poisoning. Don't drop, hit, force or scratch while handing a lamp.

To prevent battery explosion

- Danger of explosion if battery is incorrectly installed.
- Replace only with the same or equivalent type recommended by the manufacturer.
- For disposal of used batteries, always consult federal, state, local and provincial hazardous waste disposal rules and regulations to ensure proper disposal.
- battery type: size-AAA (R03). Only Carbon-Zinc or Alkaline-Manganese Dioxide type batteries should be used.

2. GENERAL

About this chapter

Read this chapter before installing your RLM W14 projector. It contains important information concerning installation requirements for the RLM W14 projector, such as minimum and maximum allowed ambient temperature, humidity conditions, required safety area around the installed projector, required power net, etc.

Furthermore, careful consideration of things such as image size, ambient light level, projector placement and type of screen to use are critical to the optimum use of the projection system.

Overview

- Installation requirements
- Unpacking the projector
- Initial inspection
- RLM W14 flight case
- Projector configurations
- Projector air inlets and outlets
- Installation process overview

> **WARNING:** Barco provides a guarantee relating to perfect manufacturing as part of the legally stipulated terms of guar- antee. Observing the specification mentioned in this chapter is critical for projector performance. Neglecting this can result in loss of warranty.

2.1 Installation requirements

Environment conditions

Table below summarizes the physical environment in which the RLM W14 projector may be safely operated or stored.

Environment	Operating	Non-Operating
Ambient Temperature	10 °C (50 °F) to 40 °C (104 °F)	-15°C (5°F) to 60°C (140°F)
Humidity	5% to 85% RH Non-condensed	5% to 95% RH Non-Condensed
Altitude	-60 (-197Ft) to 3000m (9843Ft)	-60 (-197Ft) to 10000m (32810Ft)

> Let the projector acclimatize after unpacking. Neglecting this may result in a startup failure of the Light Pro- cessor Unit.

Cooling requirements

The projector is fan cooled and must be installed with sufficient space around the projector head, minimum 30 cm (12 inch) to ensure sufficient air flow. It should be used in an area where the ambient temperature, as measured at the projector air inlet , does not exceed +40°C (+104°F).

Clean air environment

A projector must always be mounted in a manner which ensures the free flow of clean air into the projectors ventilation inlets. For installations in environments where the projector is subject to airborne contaminants such as that produced by smoke machines or similar (these deposit a thin layer of greasy residue upon the projectors internal optics and imaging electronic surfaces, degrading performance), then it is highly advisable and desirable to have this contamination removed prior to it reaching the projectors clean air supply. Devices or structures to extract or shield contaminated air well away from the projector are a prerequisite, if this is not a feasible solution then measures to relocate the projector to a clean air environment should be considered.

Only ever use the manufacturer's recommended cleaning kit which has been specifically designed for cleaning optical parts, never use industrial strength cleaners on the projector's optics as these will degrade optical coatings and damage sensitive optoelectronics components. Failure to take suitable precautions to protect the projector from the effects of persistent and prolonged air contam- inants will culminate in extensive and irreversible ingrained optical damage. At this stage cleaning of the internal optical units will be noneffective and impracticable. Damage of this nature is under no circumstances covered under the manufacturer's warranty and may deem the warranty null and void. In such a case the client shall be held solely responsible for all costs incurred during any repair. It is the clients responsibility to ensure at all times that the projector is protected from the harmful effects of hostile airborne particles in the environment of the projector. The manufacturer reserves the right to refuse repair if a projector has been subject to knowingly neglect, abandon or improper use.

Main Power requirements

The RLM W14 projector operates from a nominal mono phase power net with a separate earth ground PE.

Projector	Power requirements
RLM W14	AC INPUT 100-240V 9.2A 50/60Hz

The power cord required to connect the projector with the power net is delivered with the projector.

Projector weight

Do not underestimate the weight of the RLM W14 projector. The projector weights about ±37 kg (±82.7lb.) without lens. Be sure that the pedestal or ceiling mount on which the projector has to be installed is capable of handling five (5) times the complete load of the system.

2.2 Unpacking the projector

1. Remove the tape around the carton box, then open the box.
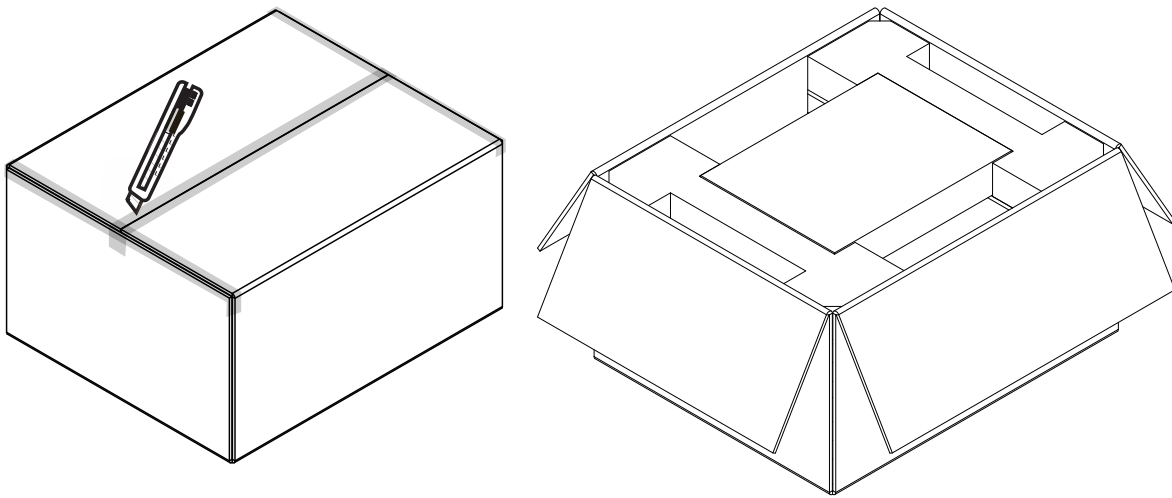
2. Take out the foam upper the projector.

3. Take out the projector.

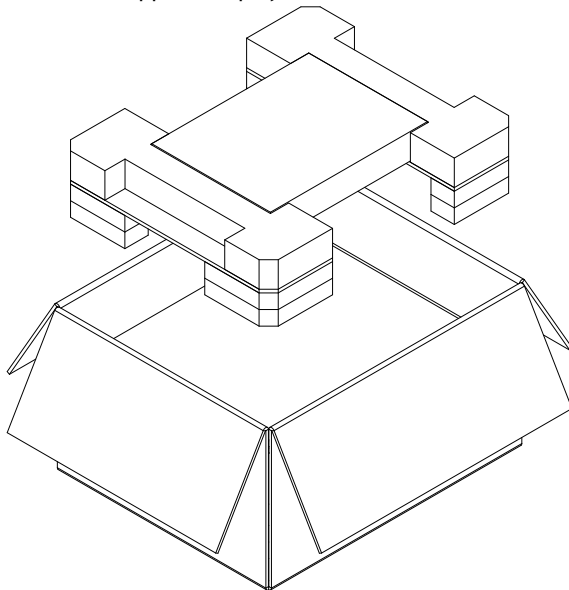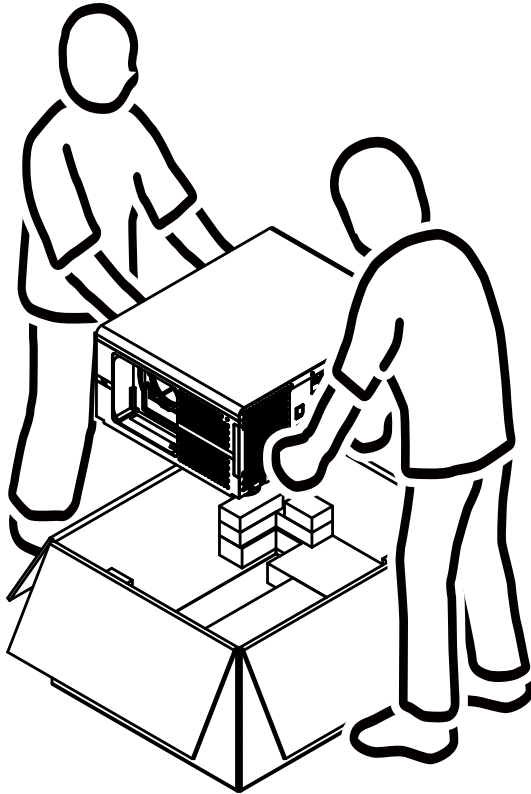|	After unpacking let the projector acclimatizes to a room temperature higher then 10°C (50°F) and lower then 40°C (104°F). Neglecting this may result in a start up failure of the Light Processor Unit.

	Save the original shipping carton and packing material, they will be necessary if you ever have to ship your projector. For maximum protection, repack your projector as it was originally packed at the factory.

	The lens is delivered in a separate box.

2.3 Initial inspection

General

Before shipment, the projector was inspected and found to be free of mechanical and electrical defects. As soon as the projector is unpacked, inspect for any damage that may have occurred in transit. Save all packing material until the inspection is completed. If damage is found, file claim with carrier immediately. The Barco Sales and Service office should be notified as soon as possible.

Box content

After unpacking the projector it is recommended to check if all following items where included:

- Three power cords
- One DVI-D to HDMI cable
- CD (Contents has this installation manual)
- One Safety manual
- One remote control unit (RCU)
- Two AAA size batteries for the RCU

	Two lamps are mounted inside the lamp house at delivery. The projector lenses are not included in the package of the projector.

Mechanical check

This check should confirm that there are no broken knobs or connectors, that the cabinet and panel surfaces are free of dents and scratches, and that the operating panel is not scratched or cracked. The Barco Sales and Service office should be notified as soon as possible if this is not the case.

2.4 Projector configurations

The different configurations

Depending on the installation the projector can be mounted in different ways, the different configurations are:

1. Front / Table (F/T)

2. Front / Ceiling (F/C) (upside down)

3. Front / Ceiling (F/C) (table position)

4. Rear / Table (R/T)

5. Rear / Ceiling (R/C) (upside down)

6. Rear / Ceiling (R/C) (table position)

Front projection

The projector is installed, either in a table mount or ceiling mount configuration, at the same side of the screen as the audience.
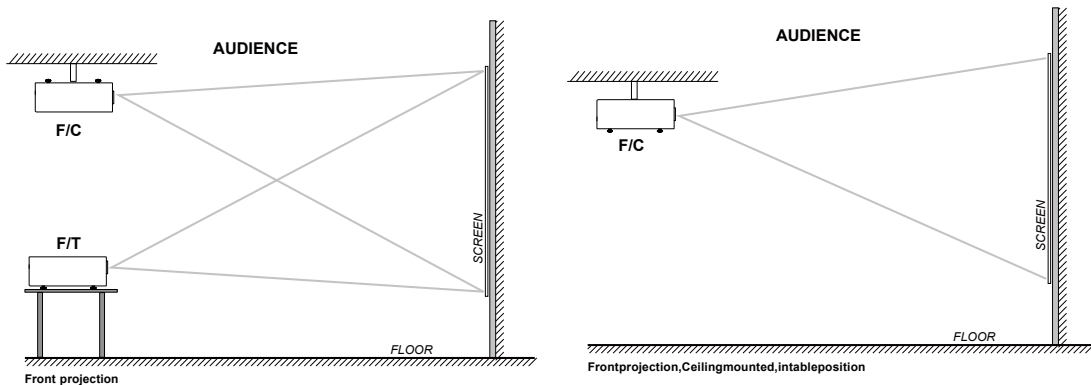
Rear projection

The projector is installed, either in a table mount or ceiling mount configuration, at the other side of the screen opposite the audience.

Positioning the projector

Positioning projector

The projector should be installed at right angles (horizontally and vertically) to the screen at a distance PD. Note the distance (A) between lens centre and table surface is slightly variable. This distance (A) is nominal 14 cm in case all feet are turned in completely and the vertical lens shift is set to zero (0).

On axis / off axis projection
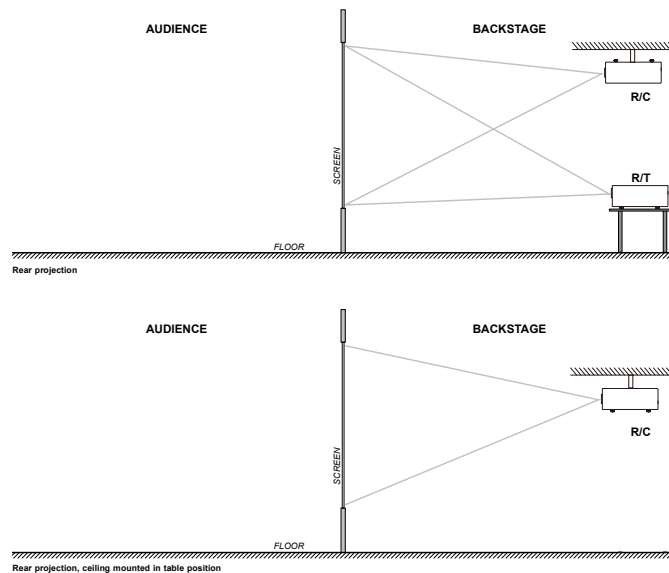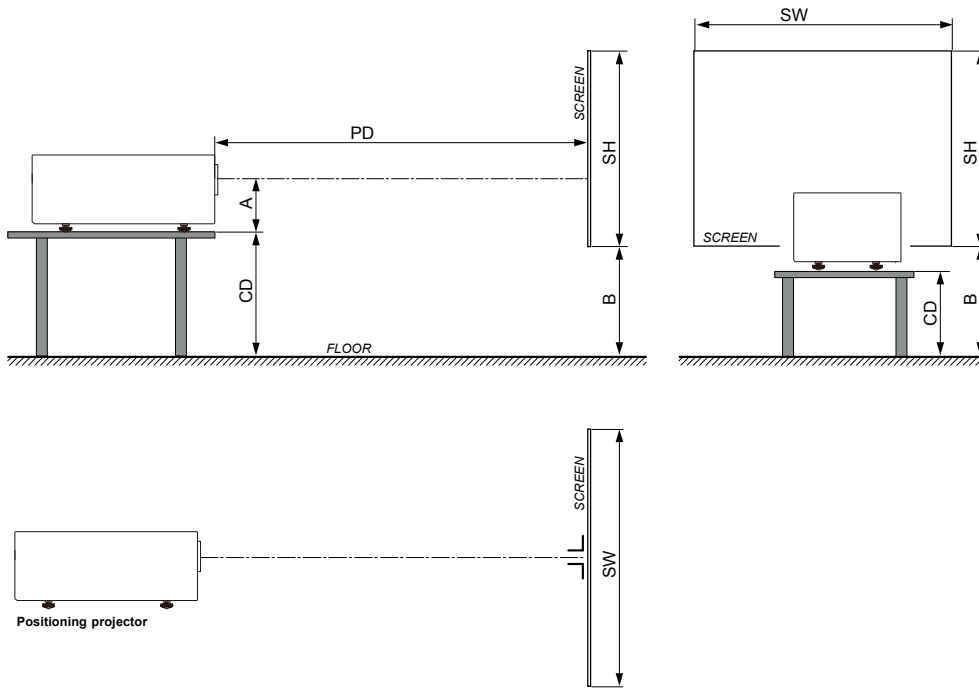
The position of the projector with reference to the screen may also be different depending on the installation. Basically the projector can be positioned in On-Axis or Off-Axis configuration. On-Axis configuration means that the projector is positioned so as to have the centre of the lens coinciding with the centre of the screen. Off-Axis projection is obtained by shifting the lens up, down, left or right. Several parameters can be calculated determining the position in any installation.

Formula to calculate the distance CD for On-Axis projection: $CD = SH/2 + B - A$

Shift range

The lens can be shifted with respect to the DMD (P) which result in a shifted image on the screen (Off-Axis). A 100% shift means that the centre point of the projected image is shifted by half the screen size. In other words, the centre point of the projected image falls together with the outline of the image in an On-Axis projection. Due to mechanical and optical limitations it's recommended to keep the shift values within the field of view (F) as illustrated below. Within these shift ranges the projector and lens perform excellently. Configuring the projector outside these shift ranges will result in a slight decline of image quality.
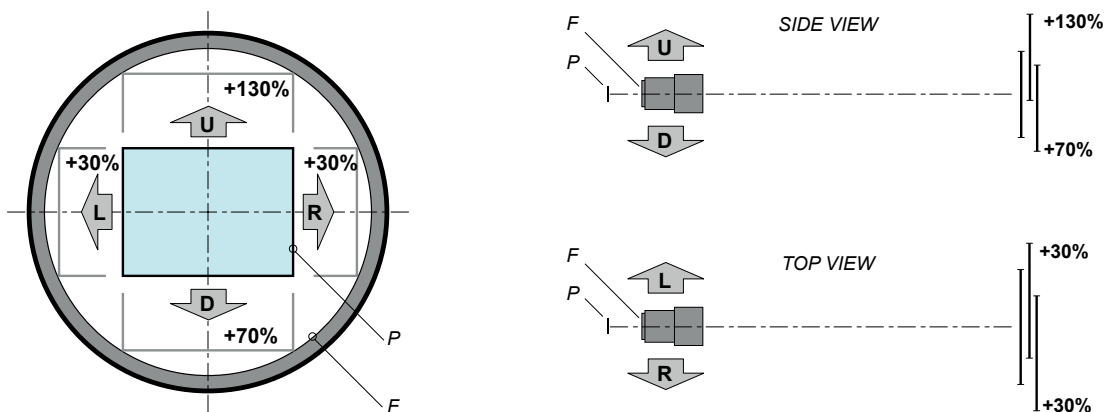
Vertical and horizontal shift range

P   DMD.
F   Field of view.

It is mechanical possible to shift outside the recommended field of view, but it will result in a decline of image quality depending on the used lens and the zoom position of the used lens. Furthermore, shifting too much in both directions will result in a blurred image corner.

Best image quality is projected in the On-Axis configuration.

Horizontal and vertical projector tilt ranges

Avoid to reduce the usage of lamp life. Suggest the projector rotated and mounted vertical angle not > ±15°.

Side to side tilt, however, must not exceed ±10°. This limit ensures that the lamp in the projector operates properly and safely.

A   Tilting allowed without problems
B   No tilting allowed in this area
C   No tilting allowed in this area
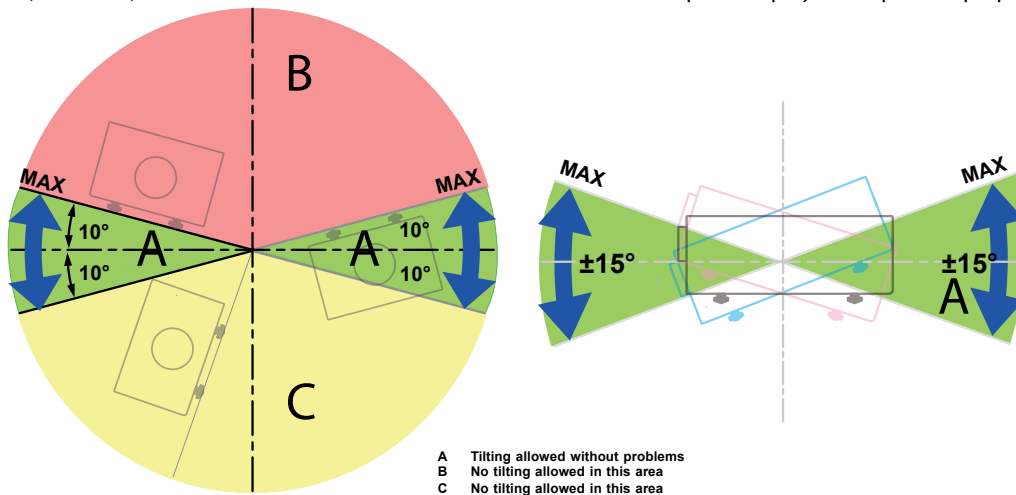
2.5 Lens Selection

Procedure:

1. Determine the required screen width(SW).
2. Determine the approximate position of the projector in the room.
3. Start up the Lens Calculator on the Barco website: http://www.barco.com/en/tools/lenscalculator to determine the possible lenses for your configuration. As a result the Lens Calculator window opens.

The Lens Calculator can also be used to determine the position of the projector when the lens type and screen width is known.

Due to lens tolerances the results of calculated values may be different from measured values. These difference may vary +/-5%

2.6 Projector air inlets and outlets

Ventilation inlet:

The internal cooling fan draws cool air from the ventilation inlet into the projector.

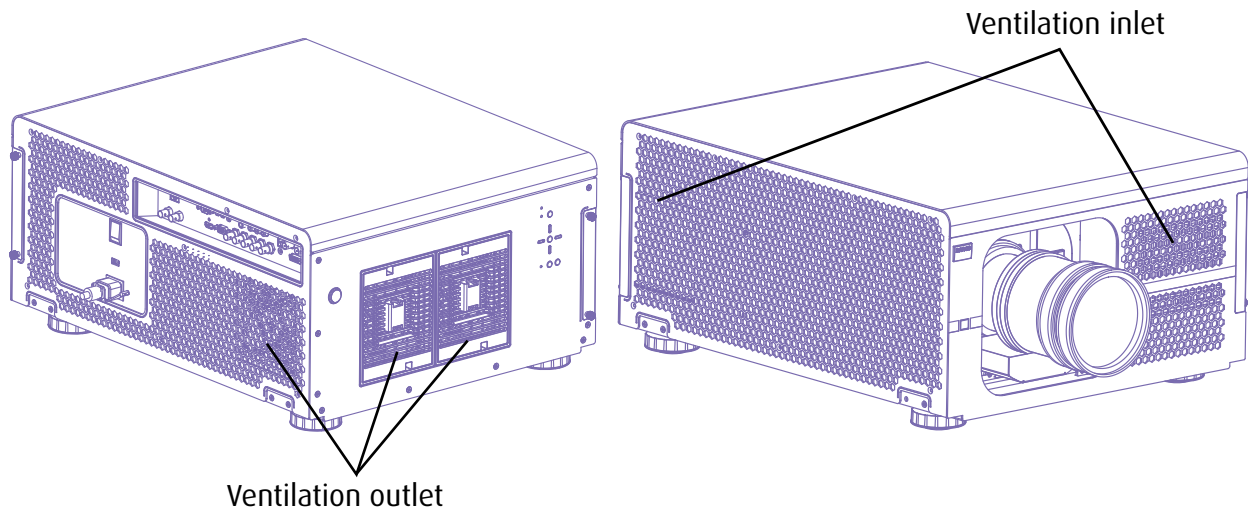**Ventilation outlet:**

The hot air generated inside the projector is dispersed through the ventilation slot. Make sure the ventilation slot is free from obstruction.

Ventilation inlet

Ventilation outlet

2.7 Installation process overview

Quick setup

The following steps describe briefly how to setup your RLM W14 projector in a table mount front projection. Note that each step refers to a corresponding procedure, which is more detailed and illustrated.

4. Install the batteries of the remote control. See page 22: 4.1 Remote control unit (RCU)

5. Place the projector on a solid table in front of the screen at the expected throw distance. Adjust the feet to ensure that the projector is installed at right angles (horizontally and vertically) with the screen. See page 31: 4.6 Alignment of a table mounted projector and page 35: 5.7 Adjusting the lens by horizontal and vertical lens shift

6. Connect the projector with the local power net. See page 30: 4.5 Connecting the projector with the power net

7. Select and install an appropriate lens, which covers the throw ratio (= screen size / projector screen distance). See page 9: Positioning the projector

8. Switch ON the projector. See page 30: 4.5 Connecting the projector with the power net

9. Connect your source to the appropriate input module. See page 13: 3.3 Input and Communication

10. Zoom and shift the lens until the image is properly projected on the screen, Do this by using the "ZOOM" and "FOCUS" key on the remote control unit or on the local keypad. If necessary, level the projector from side to side by turning the adjustable feet in or out. See page 28: Lens zoom.

3. PROJECTOR PARTS AND FUNCTIONS

Overview
- Projector front view
- Projector Rear view
- Input and Communication
- Status lights of LED
- Connecting the projector to other devices

3.1 Projector front view

Ventilation slot
The hot air generated inside the projector is dispersed through the ventilation slot. Make sure the ventilation slot is free from obstruction.

Ventilation Inlet

Infrared sensor

Lens

Adjustable foot

3.2 Projector Rear view

Power switch
I -> ON
O -> OFF

Power inlet

Ventilation outlet
The internal cooling fan draws hot air vis the ventilation outlet to the projector.

Adjustable foot
Adjust the height and angle of the projector with the adjustable foot

Projector Keypad

Lamp 1 & Lamp 2

Infrared receiver

ON

ERROR

MENU

MENU
Displays or hides the OSD adjustment screen

Enter
The enter button selects a item when in the menu.

When not in the menu the enter button will activate the lens adjust function.

▲ ▼ ◀ ▶ *bottons*
Use these buttons to scroll, configure or adjust items on the OSD or toggle between different images.

STBY

STBY INPUTS
⏻

INPUT
Used to toggle between different input signal source

STBY
Use this button to start up or shut down the projector . keep pressing stby button for 3 sec to switch off.

3.3 Input and Communication

. HDBaseT

Supports Full HD uncompressed video transmission from image devices compatible with HDBaseT. Audio and network are not supported. For network connection refer to Page 14 "6. 10/100 BASE-T"

2. RS232

RS232 input

The communication interface of the RLM W14 projector supports RS232 serial communication.

You can use the RS232 input to connect a local PC to your RLM W14 projector. By this way you can configure and control your RLM W14 projector from your local PC.

Advantages of using RS232 serial communication:

- easy adjustment of the projector via PC (or MAC).
- wide range of control possibilities.
- sending data to the projector (update).

RS232 input (Sub-D) port	
PIN	Signal
1	(No connection)
2	RD
3	TD
4	(No connection)
5	Ground
6	(No connection)
7	RTS
8	CTS
9	(No connection)

RS232

An Electronic Industries Association (EIA) serial digital interface standard specifying the characteristics of the commu- nication path between two devices using either D-SUB 9 pins or D-SUB 25 pins connectors. This standard is used for relatively short-range communications and does not specify balanced control lines. RS-232 is a serial control standard with a set number of conductors, data rate, word length and type of connector to be used. The standard specifies com- ponent connection standards with regard to computer interface. It is also called RS-232-C, which is the third version of the RS-232 standard, and is functionally identical to the CCITT V.24 standard. Logical '0' is > + 3V, Logical '1' is < -

3V. The range between -3V an d +3V is the transition zone.

3. 12V TRIGGER

12 V output, maximum 200mA, available when projector is not in stand by.

4. IR EXT.

Receives input signal from compatible Niles or Xantech IR repeater systems.

5. YUV1

Standard and high definition (480i/480p/576i/576p/720p/1080i/1080p) component input, connects to DVD/HD-DVD/BD player, HD set-top-box or other SD/HD input source.Also connects to RGB input from RGBS input source.

6. 10/100 BASE-T

Ethernet port
The projector can be connected to a LAN (local area network) using the Ethernet port on the communication interface. Once connected to the LAN, users are capable of accessing the projector from any location, inside or outside (if allowed) their company network using the control software: Projector Toolset. This toolset locates the projector on the network in case there is a DHCP server or the user can insert the correct IP-address of the projector to access the projector. Once accessed, it is possible to check and manipulate all the projector settings. Remote diagnostics, control and monitoring of the projector can then become a daily and very simple operation. The network connectivity permits to detect potential errors and consequently improve the time to servicing.

> The connector used for the Ethernet ports (E) are of rugged Neutrik EtherCon RJ45 type, which is compatible with standard RJ45 cable connector. Straight (most common) as well as cross linked network cables can be used.

10/100 BASE-T - RJ45 port	
PIN	Description
1	TXD+
2	TXD-
3	RXD+
4	-
5	-
6	RXD-
7	-
8	-

7. SYNC IN ,OUT

The 3D Sync in signal is generated from the 3D source to make sure the left/right eye content is synchronized to the user and the projector.

8. SDI/HDSDI/3G

Serial digital interface. use BNC connects input or output the image.

9. HDMI

HDCP compatible digital image input; connects to sources using HDMI or DVI.

10.VGA

Standard 15-pin VGA connection socket to connect to RGB, high-definition component input or PC. The projector will automatically detect the resolution of the input signal.
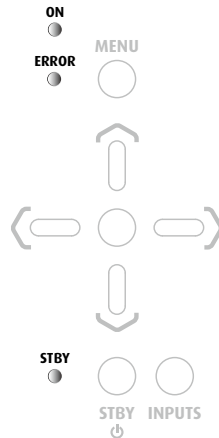
11. RGBHV/YUV2

Optional multi purpose input which can be inserted in the free slots.

RS232 input (Sub-D) port					
Input Signal	G/Y	B/Pb	R/Pr	H	V
RGBHV	G	B	R	H	V
Composite Video	Y	Pb	Pr	-	-

12. Stereo DVI

Use this DVI dual link to connect to a stereo 3D source - it is usually a computer with 3D Graphics card and 3D applications.

3.4 Status lights of LED

STAND BY

Turns blue	Indicates that the projector is in standby mode; this also means the p rojector has not been turned on by pressing the SOFT POWER button but has been connected to power.
The indicator is off	This indicates that the projector has either been turned on and is working normally or the projector is not connected to power.

ON

Turns green	This indicates that the projector has been turned on and is working normally.
Flashes in green	This indicates that the projector is currently warming up or cooling down and will not respond to button operations.
The indicator is off	This indicates that the projector is currently in stand by mode.

ERROR

Flashes once in red	The projector lamp is faulty; check to see if the lamp is damaged or if it hasn't been properly installed.
Flashes twice in red	The lamp cover is not properly replaced.
Flashes three times in red	The cooling fan inside the projector is not working; seek assistance from a qualified service personnel.
Flashes four times in red	The projector temperature is too high; try cleaning the ventilator slots or unplugging the power cord to resolve the issue.
Flashes five times in red	The projector filter might not have been inserted properly; check the ventilation slot and make sure the filter has been properly replaced and inserted.

Warning

Flashes once in green and red: The lamp is approaching the end of life. It should be replaced with a new lamp.

| Status	Blue (Standby)	Green (Power)	Red (Issue)
1. Standby	■		
2. Lamp is approaching end of life		■ repeat	■ repeat
3. Cooling / Warm up		■ repeat	
4. Power on / Normal		■	
5. Lamp fail			■ repeat
6. Lamp door open			■ repeat
7. Fan fail			■ repeat
8. Over Temperature			■ repeat
9. System Error			■

The time period of each step in the above LED blinking pattern is 500 milliseconds, e.g., for"Cooling / Warm up"state, the green LED will ON for 500 milliseconds, and then OFF 500 milliseconds, and then repeat the above LED pattern.

3.5 Connecting the projector to devices

HDBaseT

Supports Full HD uncompressed video transmission from image devices compatible with HDBaseT. Audio and network are not supported. For network connection refer to Page 14 "6. 10/100 BASE-T"

Hi-Def Source

HDBaseT
Transmitter
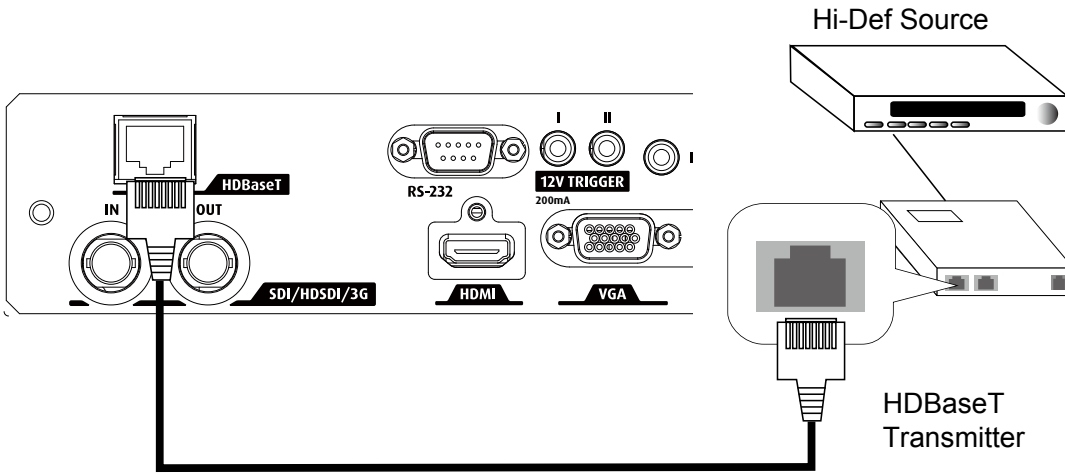
HDMI connection

Signals from image source offer the best projection image quality when sent through HDMI. Therefore, try to use input devices with HDMI output as the source of image.

HDMI/DVI input source
(BD/HD-DVD/DVD player, HD set-top-box,
gaming consoles and so forth)
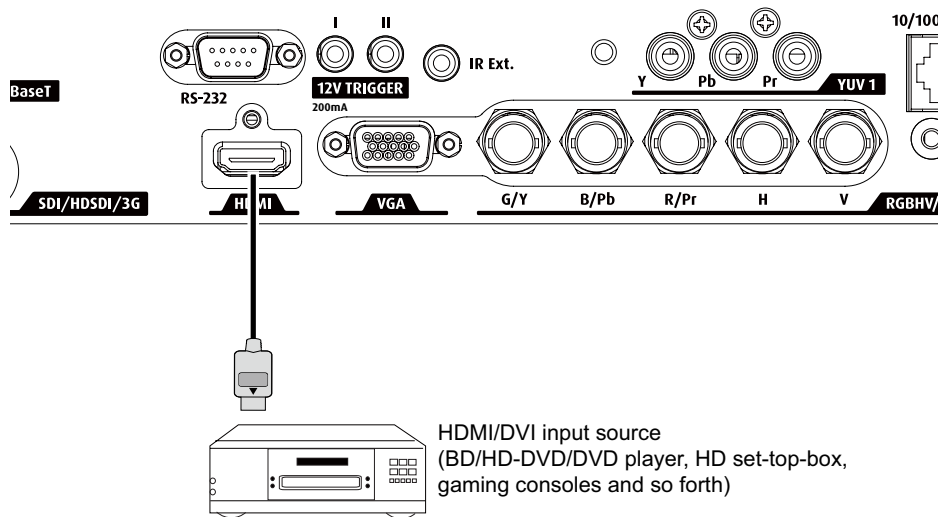
12V Trigger connection

If your home theatre system includes a projector screen, screen cover or other 12V Trigger equipment, please connect such device/equipment to the projector's 12V Trigger output as illustrated.After you have done so, Your screen will lower automatically whenever you turn on your projector for your convenience.
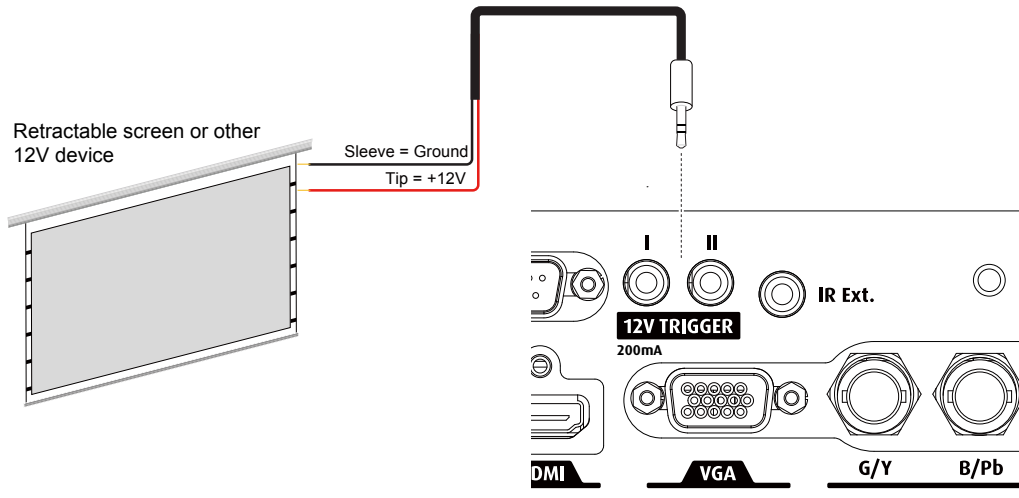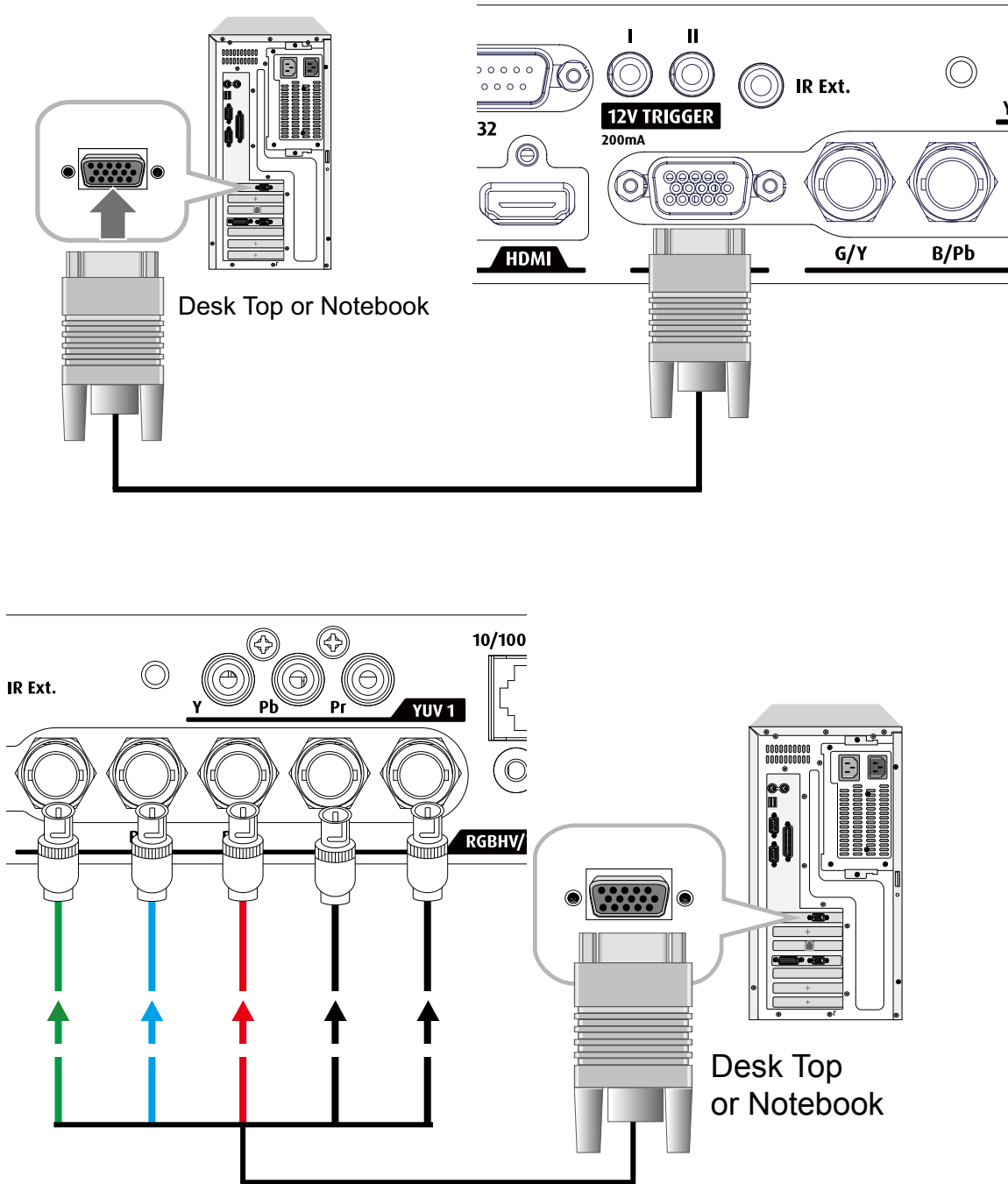

RGBs connection

f the source equipment uses composite image synchronized connectors to output VGA, please connect the green, blue and red connectors to the Y, Pb, Pr jacks at the COMPONENT1/SCART inputs and the synchronized output to the VIDEO jack.
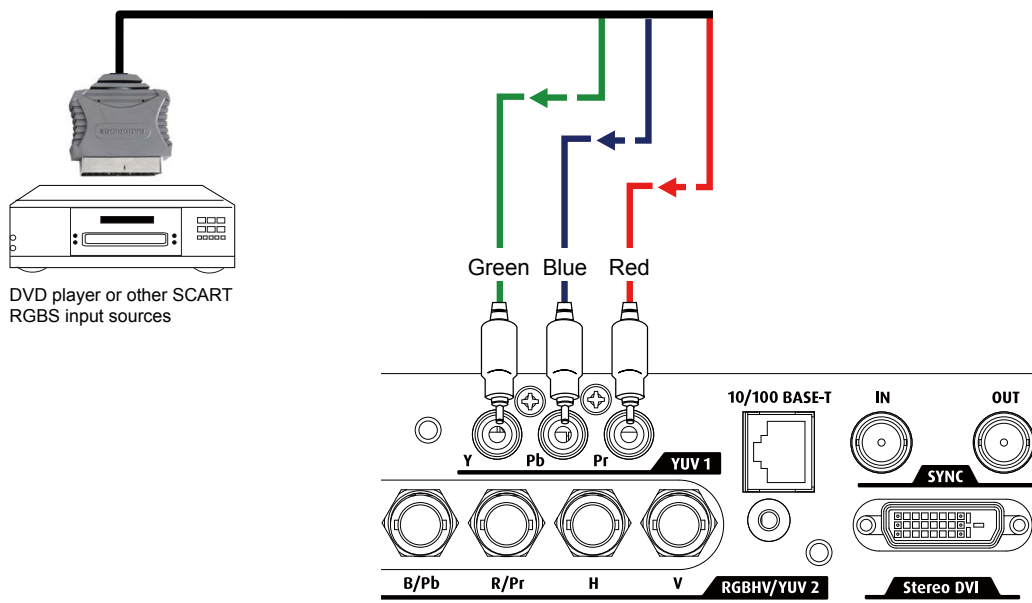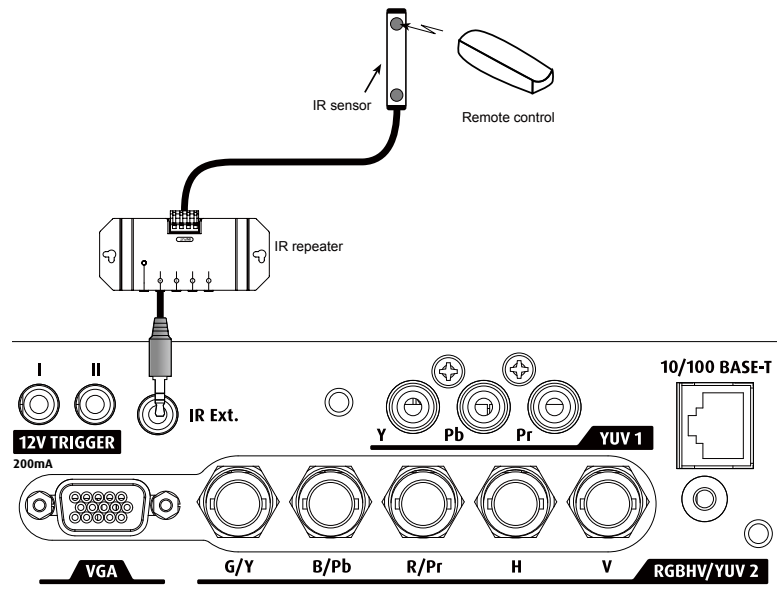
VGA connection

Connect your PC or other devices with VGAoutput to the VGAinput connectors on the projector to be used as the source of image input.

Desk Top or Notebook

Desk Top or Notebook

IR INPUT connection

If the projector is unable to pick up the IR signals from the remote controle due to distance or obstacles (i.e. wall or cabinet doors), you can connect an external IR repeater to the projector's IR INPUT jack to extend the effective signal reception range.
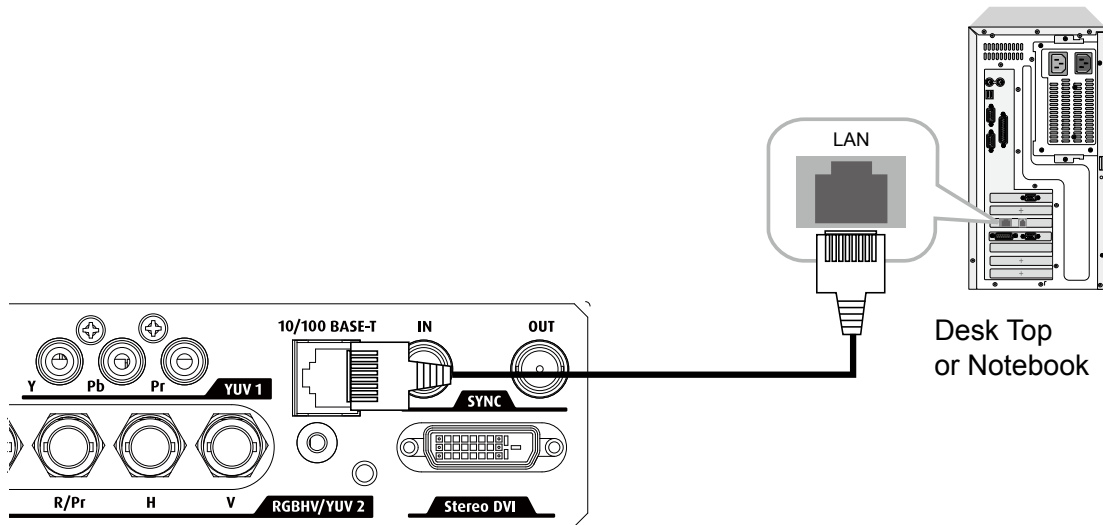

COMPONENT connection

Take the 3/5 cabled RGB component video connectors from the source equipment to the projector's COMPONENT1 SCART or COMPONENT2 jacks.
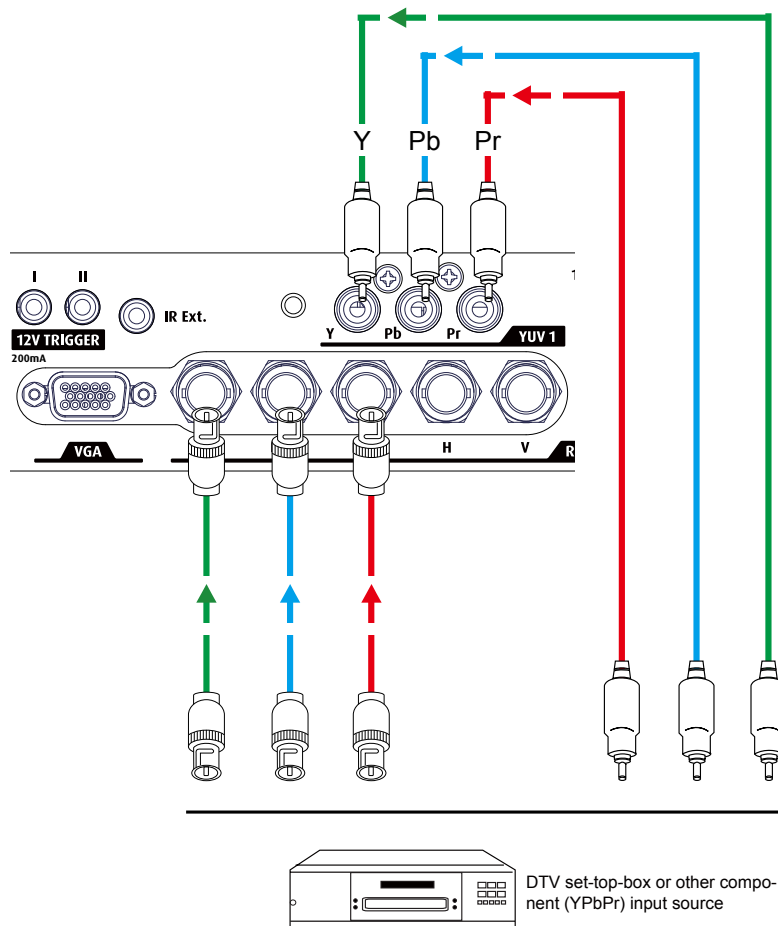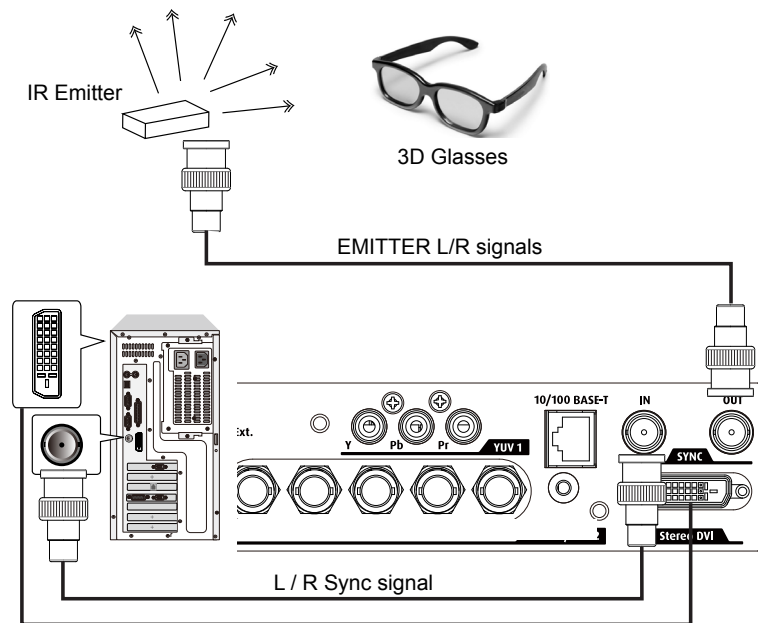
10/100 BASE-T

Connects the projector to your PC via network to have direct control of the projector from the PC.

LAN

Desk Top
or Notebook

Stereo DVI

Connect the Stereo DVI to a stereo 3D source - it is usually a computer with 3D Graphics card and 3D applications.

IR Emitter

3D Glasses

EMITTER L/R signals

L / R Sync signal

3D mode

There are few ways to go to the 3D mode
- OSD menu: Go to Main Menu "Input > Input Selection", and select STEREO DVI
- Remote control: Press hot key "5" to go to STEREO DVI directly (factory default, not suitable for user-defined shortcuts)
- Network Webpage: Go to "Source/general" > "Source" and select STEREO DVI
- RS232 Commands : Use " Input.sel = 1-8" to select any other source that is available.

> There is no osd available when using the stereo dvi input. The projector needs to be controlled by projector toolset web browser.

2D mode

Please note that OSD menu is not available in 3D mode. The ways to switch back to 2D mode are:
- Remote control: Press any of the input key 1-4 will switch back to 2D mode.
  (factory default, not suitable for user-defined shortcuts)
- Network Webpage: Go to "Source/general" > "Source" and select any other source that are available.
- RS232 Commands: Use " Input.sel = 1-8" to select any other source that are available.

3D with a Barco RLM W14

1. You need:
   RLM W14 + ImagePRO II with option "dual output card. 3rd party IR Transmitter and 3D glasses.

2. Connection:
   Connect the DVI out ImagePRO II to DVI connector (3D) of RLM W14.
   This can only be done with a full dual link DVI cable, not with a HDMI-DVI cable or single link DVI cable.
   There is no need to connect the projector's sync in.
   Connect the sync out of the projector (BNC) to the 3th party IR emitter box.

3. Configure the Output
   Switch the ImagePRO II in 3D (menu system/mode) mode. Resolution: 1920x1200@120Hz or 1920x1200@100Hz (do not configure in another format), 3D mode sequential (default mode).
   Test with test pattern 3D 16 x 16 grid. Close one eye and then the other to check the 3D mode and adjust left eye and right eye if required.

4. Configure the input
   Observe that the menu 3D appears in "input/processing" and only for digital sources.
   In the menu "processing", choose the correct type of 3D:

   Off (default setting = no 3D),
   "Side", "Top/bottom",
   "sequential",
   "Left/right" (dual stream SDI 1 and 2 or twin DVI and HDMI)
   or
   "Frame packing" (specific for HDMI) is used only by Blueray players. Some Set-Top boxes can also use this format.

Do remember to adjust the HDCP for input and output of the ImagePRO II with a Blu - Ray or another source HDCP DVI output.

Dual HD-SDI

For an input in left and right stream with dual HDSDI select the input "nr 5" SDI and select in the input menu input/processing set the 3D Left/right. At that moment input SDI 5 and SDI 6 both get active. Check at the bottom of the "L/R status" if ok in the menu (if "N/A" or "invalid" there is no input with dual stream detected).
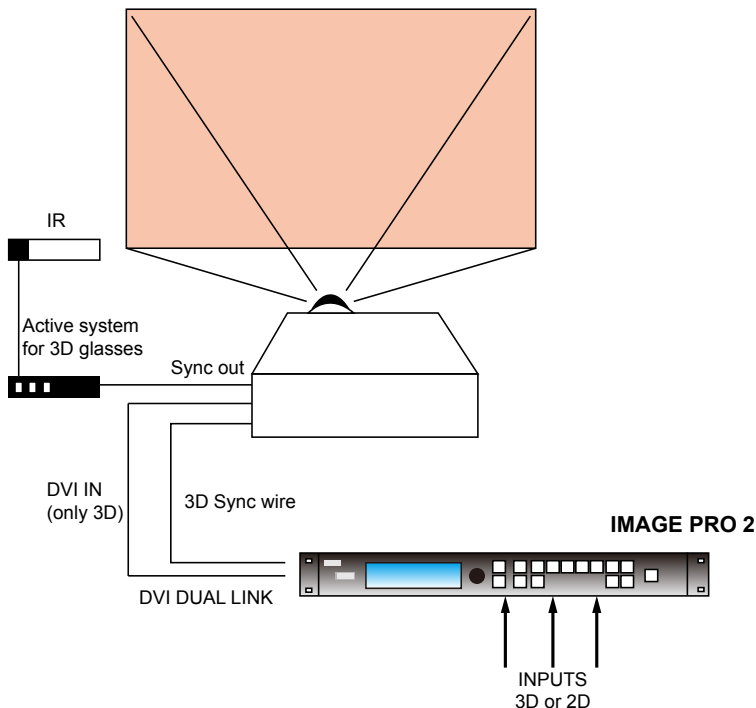
4. PHYSICAL INSTALLATION

About this projector

This chapter describes how the mechanical set up of the projector has to be done and how to realize the electrical connections.
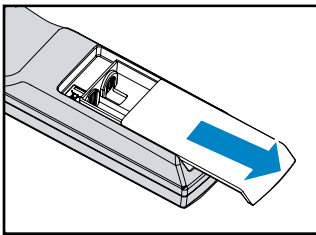
Overview

- Remote control unit (RCU)
- Lenses
- Connecting the projector with the power net
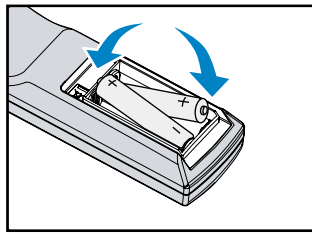- Alignment of a table mounted projector
- Mounting the ceiling mount
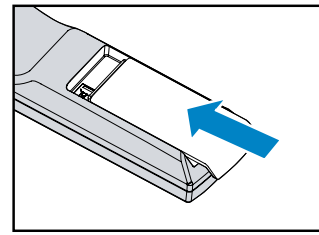
4.1 Remote control unit (RCU)

Introduction

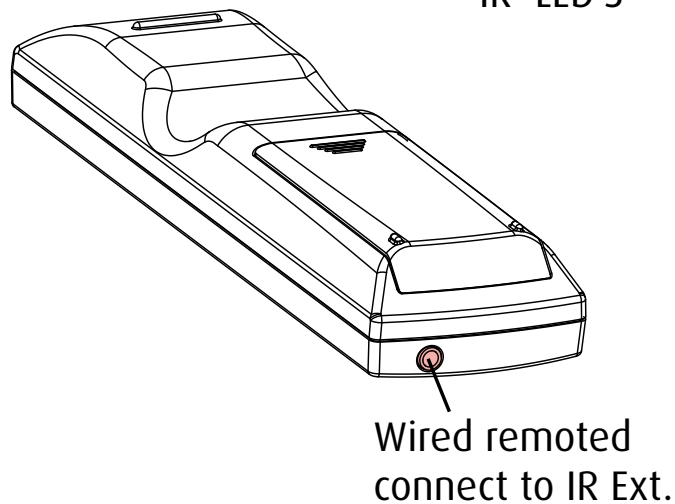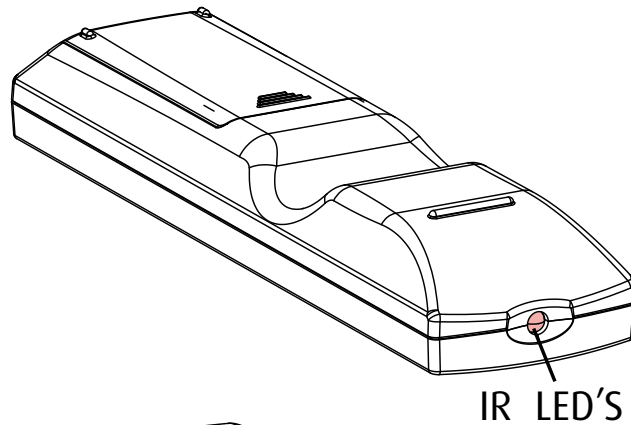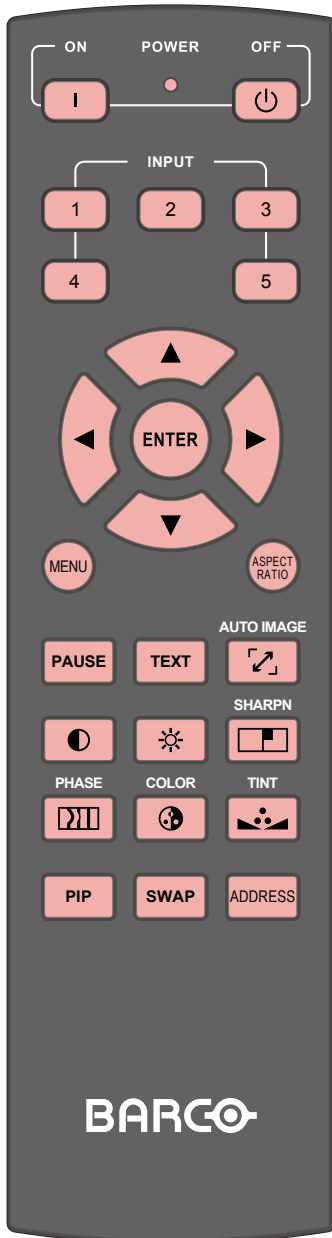| Remove the cover by sliding it in the direction indicated by the arrow.	Insert two new AAA batteries (observe the polarity).	Replace the cover.

 → →

Notes for the Remote control unit

- Be sure to insert the batteries in the corresponding orientations to match the polarities.
- Do not mix new batteries with used batteries as it would shorten the life of new batteries or cause leakage.
- Only used AAA batteries as instructed; do not attempt to insert different types of batteries into the remote control.
- If the remote is going to be unused for long periods of time, be sure to remove the batteries to prevent leakage, which could damage the remote control.
- The liquid contents in the batteries is harmful to the skin; do not touch the leakage with your bare hands directly. When installing fresh batteries, be sure to clean up the leakage thoroughly.
- Under most circumstances, you only need to point the remote control towards the screen and the IR signal would be reflected off the screen and picked up by the IR sensor on the projector.But under specific circumstances, the projector may fail to receive signals from the remote control due to environmental factors.When this happens, orient the remote control at the projector and try again.
- If the range of effective remote control signal reception decreases or if the remote control stops working, replace the batteries.
- If the infrared receiver is exposed to fluorescent lamp or strong sunlight, the remote control may not operate normally.
- Refer to the regulations enforced by your local government on the disposal of used batteries; improper disposal could damage the environment.
- The battery life of remote control will be reduced when used wired IR remote control.
- battery type R03. Only Carbon-Zinc or Alkaline-Manganese Dioxide type batteries should be used.

Remote Control overview

IR LED'S

Wired remoted
connect to IR Ext.

Basic Remote Command result	RCU action		Remark
start the projector	press "on"	I	
turn off the projector	press "off"	⏻	
select different image source	press "1, 2, 3, 4 or 5"	1 2 3 4 5	These buttons on the remote control are the hotkeys for different image source. By factory default, these are: Button 1=HDMI Button 2=HDBaseT Button 3=VGA Button 4=RGBHV/YUV2 Button 5=Stereo DVI
show main menu on screen	press "menu"	MENU	
	press "menu"	MENU	

Basic Remote Command result	RCU action		Remark
return to previous menu without selecting	press "menu"	MENU	
move through menu	press "arrow keys"		
select button	press "enter"	ENTER	The enter button selects a item when in the menu. When not in the menu the enter button will activate the lens adjust function.
select and return to previous menu	press "enter"	ENTER	
Picture Freeze	press "left arrow key"x2	◀	1. Press ◀◀ (only available when an active signal is displayed) 2. The picture is frozen and appear II at top right screen 8 seconds then II disappear. 3. Press any button on remote control. Symbol II appear on screen again. 4. Press ◀◀ to unfreeze the picture. 5. Freeze function is only on the main-window, not on PIP
adjust aspect ratio	press "aspect ratio"	ASPECT RATIO	
halt projection temporarily	press "pause"	PAUSE	The pause button will have a picture mute with shutter close
operate the OSD menu normally or not	press "text"	TEXT	When text is set to on, user can operate the OSD menu normally. If set to Off, only can use ON, OFF, 1~5, SWAP, PIP and PAUSE these function
resync the image	press "auto image"		This function also apply to PIP input
increase or descrease image contrast	press "contrast"		
increase or descrease image brightness	press "brightness"		
adjust image sharpness	press "sharpness"		
adjust image phase	press "phase"		When the image flicker, doubles, distorts or appeare wavy, use this function to adjust
adjust image color saturation	press "color"		
	press "tint"		This function not availavle for this model
display or hide pip	press "PIP"	PIP	
swap the input source of PIP	press "swap"	SWAP	
change receiving address of the remote control	press "address"	ADDRESS	*only 2 address are possible* Press and hold the ENTER until the remote control panel flash once(approximately 5 seconds) to change the receiving address of the remote control. if you use one remote control to perate 2 different projectors. You can assign different address for the 2 projectors so that when you operate projector A, projector B will not be affected.

Range of effective remote control signal reception

The diagram below illustrates the range of effective remote control signal reception.
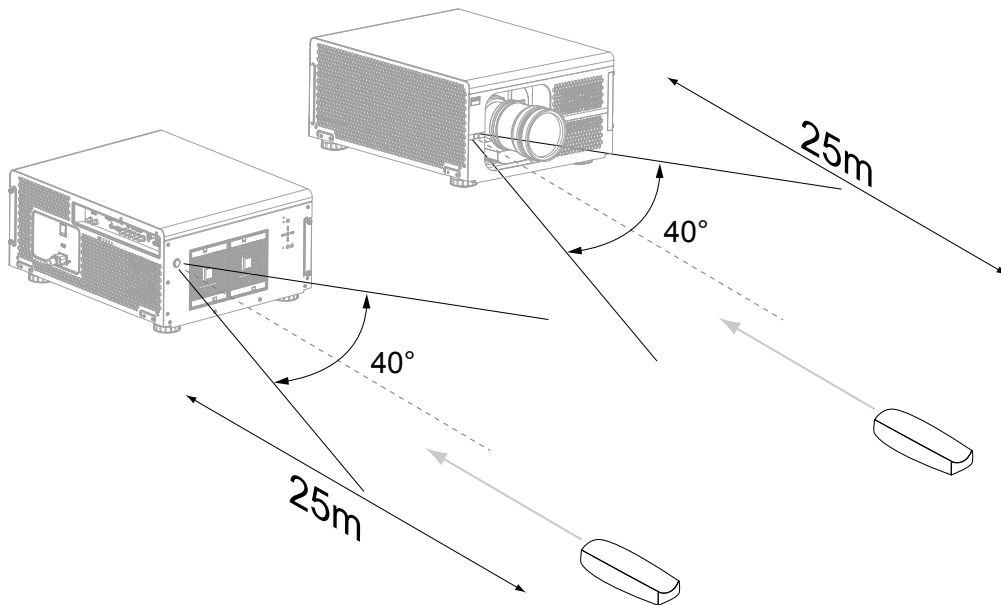
Avoid placing the remote control at places of high temperature or humidity as it could cause the remote control to malfunction.

4.2 Lenses

Available lenses for the RLM W14 projector projector

- R9862000-TLD+ (0.73:1)
- R9801414-TLD+ (0.8 - 1.16:1)
- R9840776-TLD+ (1.2:1)
- R9862010-TLD+ (1.5 - 2.0:1)
- R9862020-TLD+ (2.0 - 2.8:1)
- R9862030-TLD+ (2.8 - 4.5:1)
- R9862040-TLD+ (4.5 - 7:5:1)
- R9829997-TLD+ (7.5 - 11.2)
- R9862005-TLD+ Ultra (1.25-1.6)

Projection lenses are optional accessories. Please contact your local dealer to acquire the projection lens that suits your need most.

4.3 How to Mount the cable

The lens safety cable must be used in any circumstances to protect a mounted lens in the lens holder.

1. Paste four cable clips on the lens as illustrated (reference 1). Orient the open side of the clips towards the front of the lens.
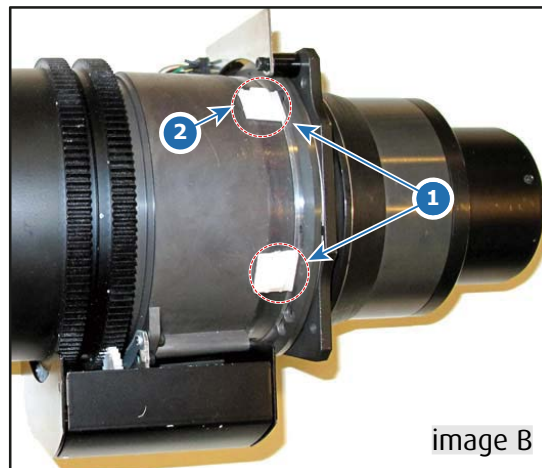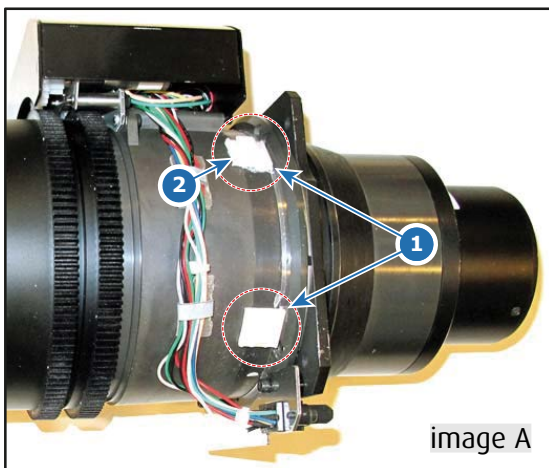
image A

image B

2. Snap the first loop end of the safety cable into one of the following clips and let the loop end point downwards.
   a) Configuration A: Use the upper clip on the side of the cable bundle (reference image A).
   b) Configuration B: Use the upper clip on the non-wired side (reference image B).

3. Slide the rest of the cable around the lens counterclockwise. Click the cable into every clip it passes in this loop.

   Note: Make sure the cable passes between the lens and the cable bundle.

4. Slide the cable through the loop end at the beginning of the cable.
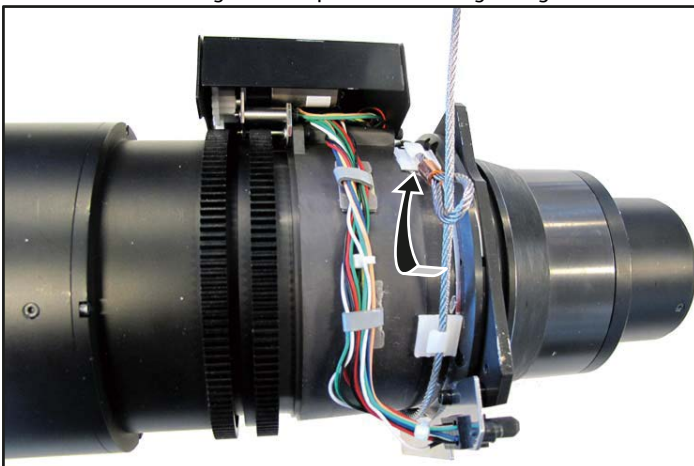
5. Install a U-bolt on the lens holder, with the open ends oriented outwards (reference 3). Make sure that both a part of the loop end and the outgoing part of the safety cable are placed in the enclosure.
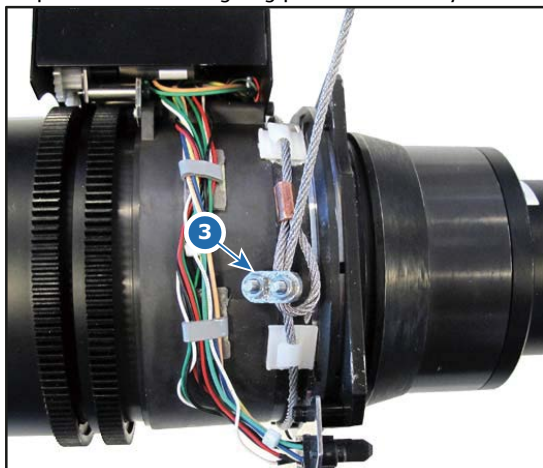
6. Close the U-bolt and tighten it.

    Note: Make sure the safety cable is tightened around the lens before tightening the U-bolt nuts.

7. Place the shackle through the free loop end of the safety cable.

4.4 Installing the lens with safety cable on an RLM projector

> This procedure assumes you know how to install a lens into the projector. If not, refer to the installation manual of the projector.

How to install on RLM projectors

1. Place the lens in the lens holder, using the lens locking mechanism.

    Caution: Always make sure the lens is really secured by trying to pull the lens out of the lens holder.

2. Snap the shackle through the fixation ring near the lens opening.

3. Secure the shackle by screwing the safety ring of the shackle over the open end.

How to remove the lens

1. Follow the drawing to press the button

2. Press down the lever to release the lens

3. Pull out the lens.
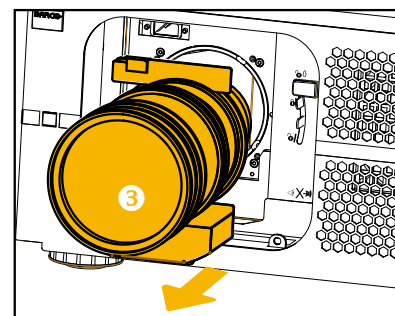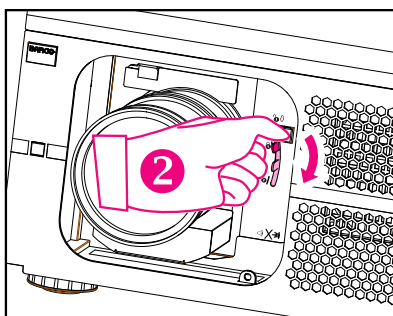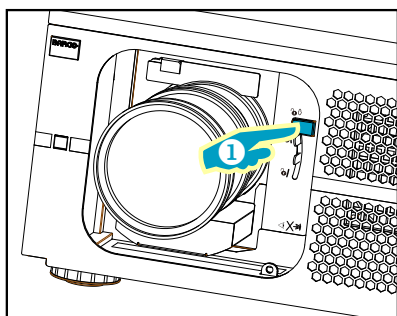
Make sure to hold the lens lever fully when install the lens (or remove the lens)
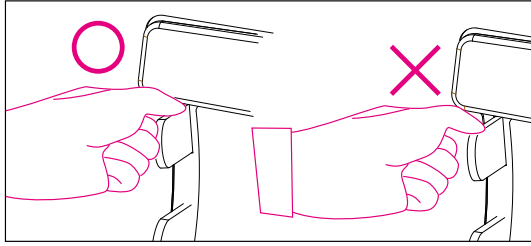
CAUTION: Never transport the projector with a Lens mounted in the Lens Holder. Always remove the Lens before transporting the projector. Neglecting this can damage the Lens Holder and Prism.

It's recommended to place the Lens caps of the original Lens packaging, back on both sides of the removed Lens to protect the optics of the Lens.

Lens focus

Press the button (MENU) on the remote control or **MENU** on the projector panel, Choose OSD -> LENS FOCUS , then use the ◄► buttons to adjust the lens' focus (clarity).

LENS FOCUS: To adjust the lens focus with the RCU press "enter" when the OSD is not active.

Lens zoom

Press the button (MENU) on the remote control or **MENU** on the projector panel, Choose OSD -> LENS ZOOM , then use the ▲ ▼ buttons to adjust the size of the image that is projected onto the screen.

Original image size   Zoom out   Zoom in

LENS ZOOM: To adjust the lens zoom with the RCU press "enter" when the OSD is not active

Lens Shift

In addition to using the adjustable feet to adjust projection angle, you can also use the Lens Shift function to adjust the projected image.

- Moving the lens vertically
  The distance of vertical lens movement is +100% , -30% of half the screen height in both directions.For instance, if you are using a 80" × 50" screen, you will be able to move the image upwards no more than 27.5'' or downwards no more than 17.5''.
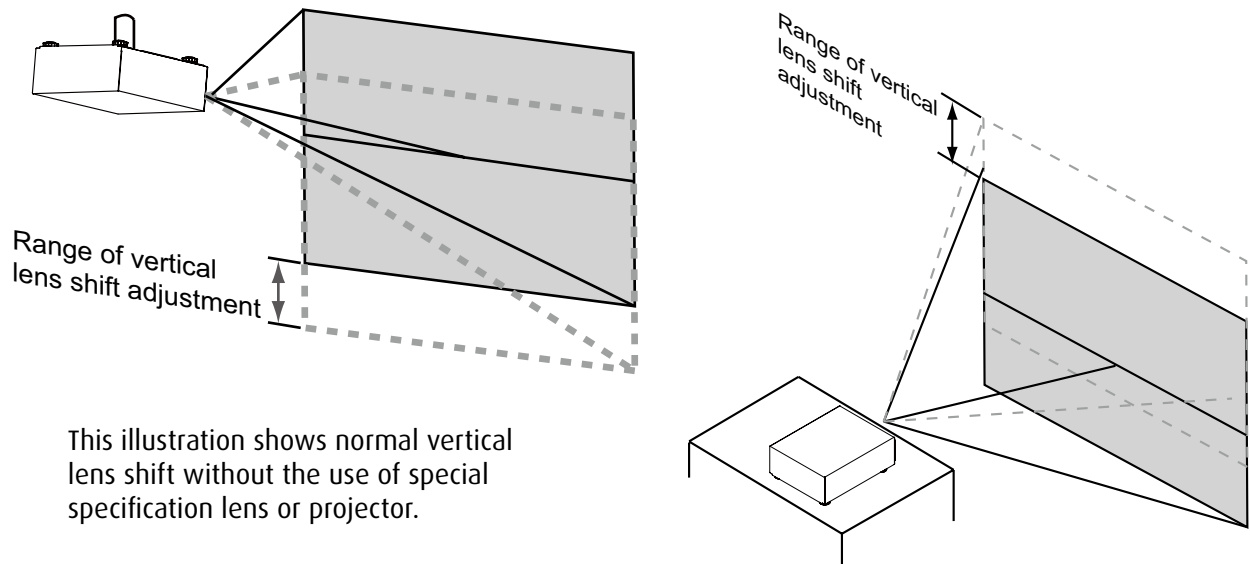
This illustration shows normal vertical lens shift without the use of special specification lens or projector.

Please make sure the center of lens is retangular to the center of the screen.

- Moving the lens horizontally
  The distance of horizontal lens movement is 30% of half the screen width in both directions. For instance, if you are using a 80" × 50" screen, you will be able to move the image left or right by no more than 12".
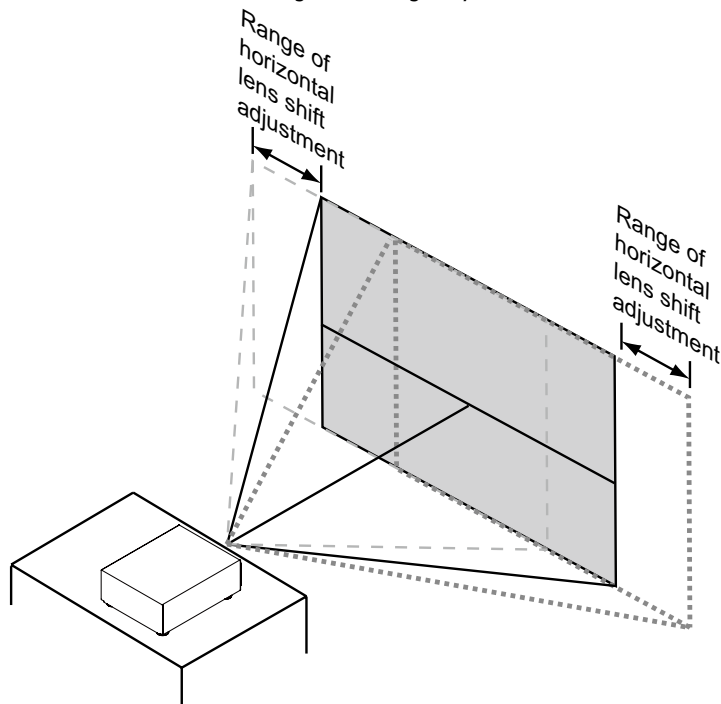
This illustration shows normal horizontal lens shift without the use of special specification lens or projector.

4.5 Connecting the projector with the power net

CAUTION: Use only the power cord provided with the projector.

1. Ensure that the power switch stands in the '0' (OFF) position (1).
2. Tear off the warning label (2)
3. Connect the female side of the power cord with the power input socket of the projector (3).
4. Secure the power plug by locking the plug holder clamp (4).
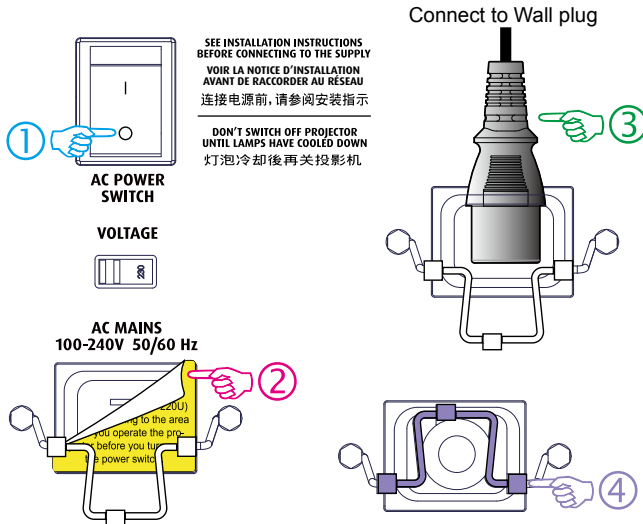
5. Connect the male side of the power cord to the local power net.
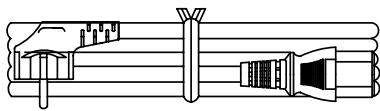
| For Europe and Korea | For USA | For China |
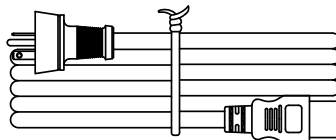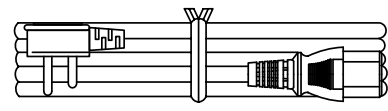
Caution: Ensure that the power net meets the power requirements of the projector.

WARNING: Do not attempt operation if the AC supply and cord are not within the specified voltage and power range.

> ⚠️ **CAUTION**: Once the projector is switched to standby, the lamp cooling fans will continue to run for approximately five minutes to ensure that the projector and lamp have sufficiently cooled, at which point the fans will automatically decrease to standby. To avoid thermal stress that can lead to premature lamp failure, never unplug the power cord while the lamp cooling fans are running. Never unplug the power cord to power down the projector, first switch off the power switch and then unplug the power cord.

4.6 Alignment of a table mounted projector

How to align the projector

1. Place the projector in the desired location. Take into account the zoom range of the used lens and the size of the screen.
2. Project one of the internal hatch patterns on the screen.
3. Turn the adjustable feet in or out until the projected hatch pattern has a perfect rectangle shape and is leveled.
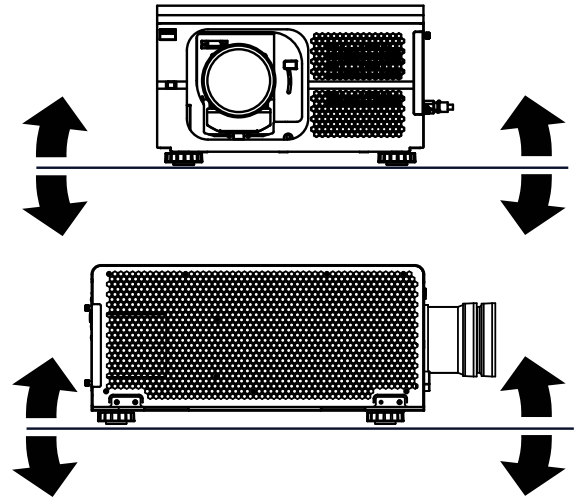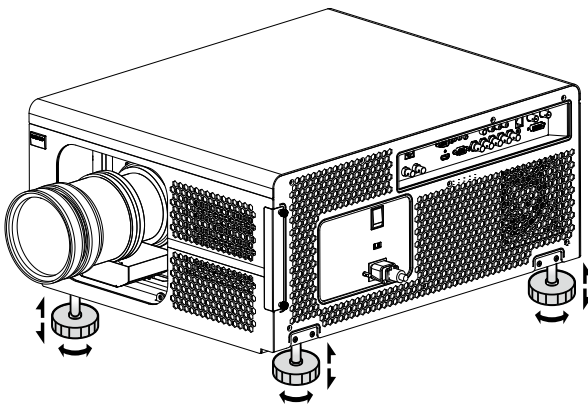
When this is achieved, the projector is set horizontal and vertical at right angles to the screen.

Angle adjustment

Angle adjustment
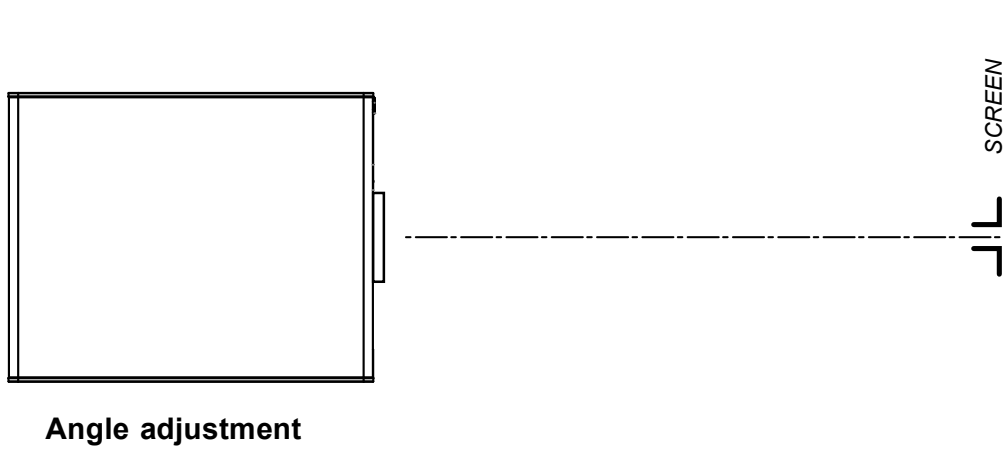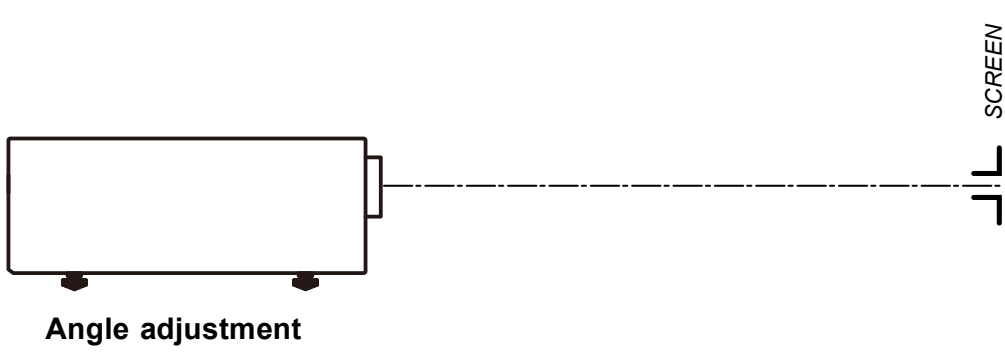
4.7 Mounting the Ceiling mount

Necessary tools

Open wrench 17 mm

How to mount

1. Turn the projector upside down.
2. Adjustment knob to the back of the projector. Make sure that the mounting holes matches the holes in the projector.
3. Insert a bolt in each corner and turn in these bolts.

Mounting bracket screw
3 holes of M8*15

Mounting bracket screw
6 holes of M6*15

M8x15
3 screws

M8x40
3 bolts
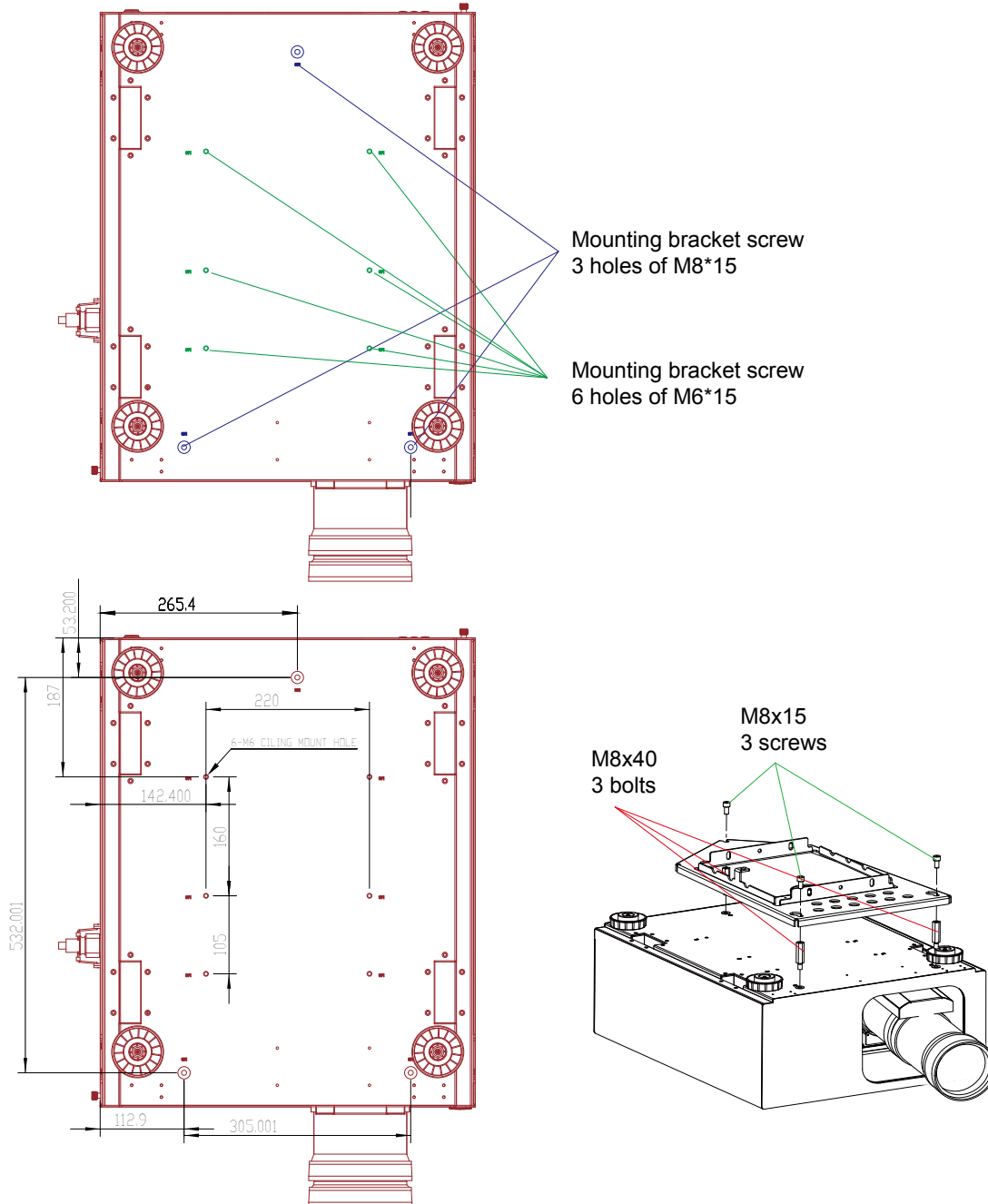
Ceiling Mount Order Info:
1. R9849999-Ceiling mount
2. R9841260-Short Pulley 400mm to 765mm
3. R9841261-Long Pulley 800mm to 1165mm

Note: Two holepatterns are available for ceiling mounting: ⭕ M6x15(6pcs) or ▢ M8x15(3pcs)

Please check your support system for compatability.

5. GETTING STARTED

Overview

- RCU & Local keypad
- Power on projector
- Switching to standby
- Power off projector
- Range of effective remote control signal reception
- Source selection
- Changing OSD language
- Adjusting the lens by horizontal and vertical lens shift

5.1 RCU & Local keypad

How controlling the projector ?

The projector can be controlled by the local keypad or by the remote control unit.

Location of the local keypad ?

The local keypad is located on the input side of the projector.

Remote control functions.

This remote control includes a battery powered infrared (IR) transmitter that allows the user to control the projector remotely. This remote control is used for source selection, control, adaptation and set up.

5.2 Power on projector

How to power on.

Press the power switch at the back of the projector to switch on this projector.

AC POWER SWITCH

- When '0' is pressed, the projector is switched off.
- When '1' is pressed, the projector is switched on.
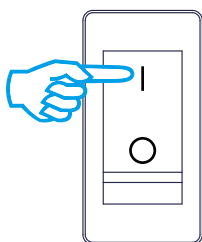
The projector starts up in standby.

The start up screen is displayed on the screen and when fully started up, it changes to the overview screen.

When the projector is turned off, it is required to wait for at least 90 seconds to re-start the projector to complete the cooling of lamp.

Starting image projection via the standby key.

Press ᔆᵀᴮʸ key once on the local keypad or ⏻ on the remote control.

5.3 Switching to standby

How to switch to standby

1. Press Power button on keypad or remote control for 3 seconds for projector to go into standby.
2. Wait until the projector completes the cooling process – at least 3~5 minutes.
3. Please do not press any key on the keypad or remote control before the projector goes into standby mode.

	All custom settings are written to the internal backup device. A message 'Saving data …' indicates this process. Never switch off the projector while this message is displayed.

	When switching to standby, an after cooling process will start to cool down the projector. The after cool time depends on the temperature inside the projector and can vary from 30 second to 5 minutes.

5.4 Power off projector

How to power off

1. Press Power button on keypad or remote control for 3 seconds for projector to go into standby.
2. Wait until the projector completes the cooling process – at least 3~5 minutes.
3. Switch off the projector with the power switch to ' 0"

	CAUTION: Never switch off the projector while the message 'Saving data … ' is displayed !

5.5 Source selection

Press No. 1-5 on the remote control to activate the input source that define in control OSD Or press ⬤ INPUTS on the keypad to select the input source.

5.6 Changing OSD language

By factory default, the OSD menu of the projector is displayed in English. If you want to change default language. Press the **MENU** on Remote control or keypad, then go to Control -> Languages to select the language that you want.

BARCO RLM W14							
INPUT	IMAGE	LAYOUT	LAMPS	ALIGNMENT	CONTROL	SERVICE	

Language	IR Address	<	1	>
■ English	Eco Network Power	<	Off	>
Français	Network		Enter	
Español	Menu Position	<	Center	>
Deutsch	Start Up Logo	<	On	>
Português	Start Up Chime	<	On	>
简体中文	Button 1		Enter	
繁體中文	Button 2		Enter	
日本語	Button 3		Enter	
한국어	Button 4		Enter	
	Button 5		Enter	
	Trigger 1	<	Auto	>
	Trigger 2	<	16:9	>
	Auto Source	<	On	>
	Language		Enter	

5.7 Adjusting the lens by horizontal and vertical lens shift

There has 2 methods to adjust the lens horizontal and vertical shift. Refer to below message.

- Press the **MENU** button on the remote control and choose Alignment → Lens Control; then use the ▼▲ ◄ ► buttons to adjust the horizontal or vertical position of the lens.

📄 When the OSD is not active, press enter to activate lens adjust

---

- Press the **ENTER** button on the remote control to access Lens Control adjustment screen before pressing **ENTER** once again to access the menu and use the ▼▲►◄ buttons to adjust the horizontal or vertical position of the lens.

Press ENTER once to adjust zoom and focus
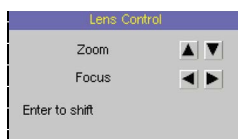
Press ENTER again to adjust vertical and horizontal lens shift
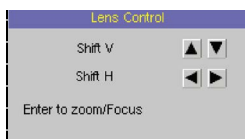
Press ENTER once to adjust zoom and focus with cross line
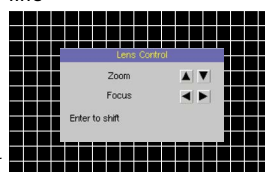
Press ENTER once to Adjust Lines shift with cross line

Lens Control	
Zoom	▲ ▼
Focus	◄ ►
Enter to shift	

→ Enter

Lens Control	
Shift V	▲ ▼
Shift H	◄ ►
Enter to zoom/Focus	

→ Enter

Lens Control	
Zoom	▲ ▼
Focus	◄ ►
Enter to shift	

→ Enter

Lens Control	
Shift V	▲ ▼
Shift H	◄ ►
Enter to zoom/Focus	

Enter
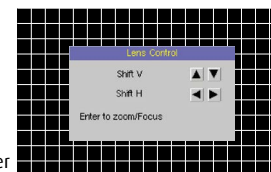
6. OSD MENU

Overview

The OSD menu is to control and align the projector, the following functions can be done:

- OSD introduction.
- Input setup: different Input settings can be adjusted such as specific input slot settings, locking, native resolution and no signal settings.
- Image adjustment: these adjustments are organized per image source and contain the aspect ratio, timings and image settings.
- Layout adjustment: set up of the main window and the picture in picture window.
- Lamp: manage the lamp mode, the lamp use, lamp type and history
- Alignment: groups all controls necessary during the setup of the projector onto a screen.
- Control: contains the accessibility settings of the projector, such as address and communication setup.
- Service: contains information about how the projector is performing. This information will be useful when calling for a service intervention.

BARCO RLM W14						
INPUT	IMAGE	LAYOUT	LAMPS	ALIGNMENT	CONTROL	SERVICE
Input Selection		Enter				
Input Configuration	<	Auto	>			
Input Locking	<	Auto	>			
Auto Power Off	<	Off	>			
Auto Power On	<	Off	>			
No Signal	<	Logo	>			
Auto Image Adjust	<	Always	>			

6.1 How to navigate in the OSD menu structure?

Once in the OSD menu structure, use the ▲ or ▼ key on the remote control or on the local keypad to scroll through the items in the displayed menu. The selected item will get a background color. To activate a selected submenu or function, press

⇠◦⇢ on the remote or ENTER on the projector.

When on a submenu, to return one step to the parent menu, press ◄ . To escape the menu structure when on a menu, press MENU.

How to make an OSD adjustment?

With the remote control or the local keypad navigate through the OSD menu structure until the desired item is selected. Press

the ▲ or ▼ key until the desired item is reached. Press ⇠◦⇢ or ENTER to finalize the adjustment.

With the local keypad or remote control, press the ▲ or ▼ key until the desired value (setup) is reached. Press EXIT to finalize the adjustment.

Direct adjustment within the menu:

BARCO RLM W14						
INPUT	IMAGE	LAYOUT	LAMPS	ALIGNMENT	CONTROL	SERVICE
	Contrast		< 100 >			
	Brightness		< 100 >			
	Sharpness		< 0 >			
	Noise Reduction		< 0 >			
	Color Temperature		< Native >			
	Input Balance		Enter			
	Aspect Ratio		< Native >			
	Timings		Enter			
	Auto Image		Execute			

Use the ◄ or ► key to directly adjust the current value.

or, Via bar scale adjustment :

Once an item is selected, press   or ENTER to open the bar scale menu.

Contrast		100

Use the ◄ or ► key to adjust the current value. The bar scale will move accordingly.

Press ⇠◦⇢ or ENTER to finalize the adjustment. or,

When the bar scale is displayed, via direct input. Press ⇠◦⇢ or ENTER to activate the input field.

6.2 OSD menu memory

Each menu with sub menus, remembers its last selected sub item even when leaving the menu structure and that as long as the projector is running. When restarting the projector from stand-by, the menu memory is reset.

After re-opening the main menu and selecting an item, the previous selected sub item of that selected item is highlighted and can be opened just by pressing ⇠◦⇢ or ENTER.

7. INPUT

Overview

- Input menu overview
- Input Selection
- Input Locking
- Auto Power Off
- Auto Power On
- No Signal
- Auto Image Adjust

7.1 Input menu overview

INPUT	Input Selection	HDMI HDBaseT RGB D-15 YUV1 RGBHV/YUV2 SDI/HDSDI/3G Stereo DVI
	Input Configuration	Auto YUV HD YUV STD RGB-PC RGB-Video
	Input Locking	Auto 48Hz 50Hz 60Hz
	Auto Power Off	On Off
	Auto Power ON	On Off
	No Signal	Logo Blue Black White
	Auto Image Adjust	Off Auto Always

Each input module must be configured before these module can be used. This configuration is necessary so that the projector knows which type of signal is connected to its input.

BARCO RLM W14

INPUT	IMAGE	LAYOUT	LAMPS	ALIGNMENT	CONTROL	SERVICE

Input Selection		Enter	
Input Configuration	<	RGB-Video	>
Input Locking	<	60Hz	>
Auto Power Off	<	Off	>
Auto Power On	<	On	>
No Signal	<	Logo	>
Auto Image Adjust	<	Always	>

7.2 Input Selection

Use this function to specify the source of image connected to the rear of the projector. For instance, if you have connected your PC as the video input source, you can choose RGB D-15(RGB-HV/SOG) to be the input for image projection. Options of input available on the projector include: **HDMI1, HDMI2, RGB D-15(RGB-HV/SOG), YUV1(RGB-S), YUV2(RGBHV/ YUV2), SDI/HDSDI/3G, Stereo DVI.**

7.3 Input Configuration

Select Input Configuration from the OSD menu to choose the Custom Color Space of the source signal for HDMI, VGA, and component connections.

The default setting, Auto, functions as follows:

AUTO

The Auto setting determines the correct color space to use.

YUV HD

For component SDTV and EDTV resolutions, YUV STD is used. For other component video resolutions, YUV HD is used.

YUV STD

YUV STD is used for SDTV and EDTV sources, and YUV HD for all other sources.

RGB-PC

uses RGB color space and sets black at 0,0,0 RGB and white at 255,255,255 RGB.

RGB-Video

uses RGB color space and sets black at 16,16,16 RGB and white at 235,235,235.

7.4 Input Locking

What is possible?

The output signal can be locked on an internal sync signal or on the sync signal of one of the input sources. Or it can follow the input of the Main window or Pip window. When locked to the corresponding input sync, the output will be shown without movement artifacts. With locking to a specific input, a set of projectors can be kept in sync, no matter what input image is shown.

Use this function to specify the frequency of the image input signal. You can let the projector determine the optimal projection frequency or force the projector to project image at the frequency you specify.

Auto

The preset value for this function is **Auto**. If you specify vertical refresh frequency from the input device to be between 48~62Hz, the projector will automatically lock the frequency of the input signal so that both signal input and output will be refreshed at the same frequency in order to achieve optimal image output. If the frequency of the input signal falls between 24~31Hz, the projector will automatically double the vertical refresh frequency. If the frequency of the input signal falls between 31~48Hz or exceeds 62Hz, the projector will automatically set the frequency to 60Hz.

48Hz, 50Hz, 60Hz

Choose this option to set image output frequency at 48Hz, 50Hz or 60Hz

If you enable PIP, the projector will automatically synchronize the frequency of the PIP input signal with the main input signal.

7.5 Auto Power Off

The default value is OFF. If you set it to ON, the projector will automatically shut down after 20 minutes without input signal.

7.6 Auto Power ON

The default value is Off.If you set it to ON, the projector will automatically start up when it is connected to AC power. If you plug the projector's power cord into an AC socket with a switch, you can use this function to start up the projector using the socket's switch instead of the remote. If you do not need this function, please set it to Off.

7.7 No Signal

When no signal is available at the selected input, the output can be set to blue or black or a personal defined logo can be displayed or the projector can shutdown after a certain time or auto dimming can be started.

There have Logo, Blue, Black and White can choose.

7.8 Auto Image Adjust

You can configure the Auto Image Adjust function to one of the following three modes:

Off =NEVER

Auto =When not done before(or when done first time)

Always =When new source selected or new source connected.

8. IMAGE

Overview
- Image menu overview
- Contrast
- Brightness
- Sharpness
- Noise Reduction
- Color Temperature
- Input Balance
- Aspect Ratio
- Timings
- Auto Image

8.1 Image menu overview

IMAGE	Contrast	0~200
	Brightness	0~200
	Sharpness	0~200
	Noise Reduction	0~200
	Color Temperature	3200K 5400K 6500K 9300K Native

	Input Balance	Black Balance Offset
		   Red Offset
		   Green Offset
		   Blue Offset
		White Balance
		   Red Gain
		   Green Gain
		   Blue Gain

	Aspect Ratio	5:4 4:3 16:10 16:9 1.88 2.35 Letterbox Native Unscaled
	Timings	H Total H Start H Phase V Start
	Auto Image	Execute

Depending on the type of the connected source, some settings are grayed out

8.2 Contrast

The contrast function is used to adjust the contrast between the light and the dark areas of the displayed image. It applies a gain to the red, green and blue signals.

Contrast adjustment can be done with the Contrast key on the RCU or via the menu structure.

The following image illustrates the results of direct contrast adjustment using a random image:

◀ Lowered contrast   Original image   Enhanced contrast ▶

8.3 Brightness

The brightness function is used to adjust the black level in the input picture. It adds or subtracts an offset, or bias in to the red, green and blue signals.

Brightness adjustment can be done with the Brightness key on the RCU or via the menu structure.

It is recommended that you adjust the image to the following status:

- The darkest black bar of the image should disappear into the background.
- The dark gray area should be barely visible.
- The light gray area should be clearly visible.
- The white area should appear real and mellow.
- The image should only display black, gray and white (with no other colors).

Contrast and Brightness are interrelated options that affect one another; when you adjust one of them, you might have to fine tune other settings to get the best projection results.

The following image illustrates the results of direct brightness adjustment using a random image:

◀ Reduced brightness   Original image   Enhanced brightness ▶

8.4 Sharpness

The adjustment of sharpness primarily changes the value of high frequency detail. You can connect the projector to an external image source to display an image resembling the one shown below to adjust the image sharpness.
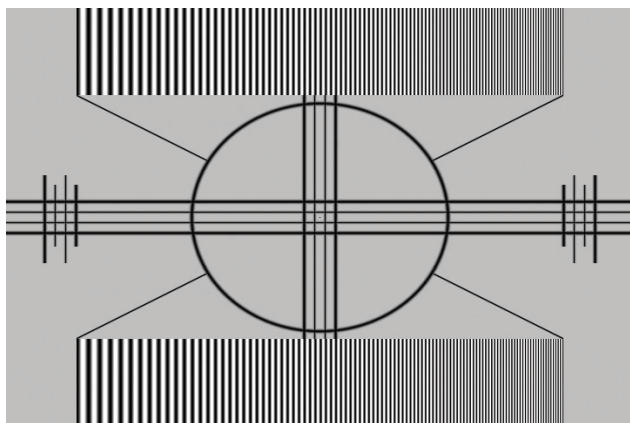
The following image illustrates the results of direct sharpness adjustment using a random image:

◀ Reduced sharpness   Original image   Enhancedsharpness ▶

8.5 Noise Reduction

Use ◀▶ to adjust the noise of the projected image. This function is suitable for the elimination of image noise from interleaving SD input.Generally speaking, reducing image noise will lower the value of high frequency detail and make the image appear more mellow.

$\rightarrow$

noise reduction

8.6 Color Temperature

You can choose from **3200K, 5400K, 6500K, 9300K and Native**.

Color temperature refers to the change in light color under different energies that is perceived by the naked eye.The change of

color temperature from low to high for visible light goes from orange red → white → blue

The projector's default color temperature is set at 6500K and it is suitable for most situations.As color temperature rises, the image will appear to be more blue; as it decreases, the image will appear redder.When you choose "Native", the projector will disable the white adjustment function of the input device.

8.7 Input Balance

Regardless of the change in ambient light, the human eye is equipped with an automatic adjustment mechanism that makes a white object appears white and black object black.However, since no machine has such an incredible innate feature, you may need to make certain adjustments to the projector's settings when the ambient light changes so that the image will appear closer to the actual colors.
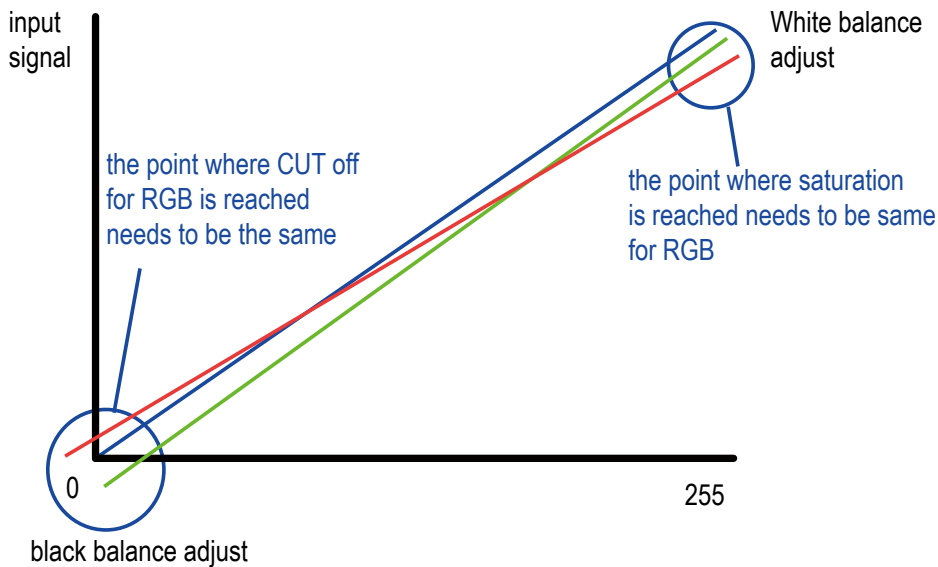
Offset

This refers to the control of color imbalance in the darker areas of the projected image.It is recommended that you use an external test image with many areas of dark and gray colors (i.e. an image of 30IRE-window). If you notice minimal amount of red, green or blue in the gray areas, adjust the offset of the corresponding color accordingly.This function will shift the entire color spectrum for the whole image and change its brightness.

Gain

This refers to the control of color imbalance in the brighter areas of the projected image.It is recommended that you use an external test image with many areas of white (i.e. an image of 80IRE-window). If you notice minimal amount of red, green or blue in the gray areas, lower the gain of the corresponding color accordingly.This function is used to increase or decrease the range of color input for the entire image.

Generally speaking, as gain increases, the contrast of the image will become lower.By increasing the offset, the image brightness will become lower.

Black Balance Offset

This function involves the adjustment of the following red, green and blue offsets. The text itself is decorative.

- Red Offset
  Press ◀ ▶ to adjust the offset of red in dark scales.
- Green Offset
  Press ◀ ▶ to adjust the offset of green in dark scales.
- Blue Offset
  Press ◀ ▶ to adjust the offset of blue in dark scales.

White Balance

This function involves the adjustment of the following red, green and blue gains. The text itself is decorative.

- Red Gain
  Press ◀ ▶ to adjust the gain of red in bright scales.
- Green Gain
  Press ◀ ▶ to adjust the gain of green in bright scales.
- Green Gain
  Press ◀ ▶ to adjust the gain of blue in bright scales.

8.8 Aspect Ratio

Relation between the horizontal & vertical dimension in which the window will be displayed, e.g. 4 by 3 or 16 by 9. Can also be expressed as a decimal number, such as 1.77. The larger the ratio or decimal, the wider the image (or the less the image is squared).

The aspect ratio setting forces the projector to project an image using a defined aspect ratio.

Aspect ratio	Description
5:4	Workstation format
4:3	Standard television format
16:10	Wide screen cinema format (WUXGA format)
16:9	Wide screen television format / anamorphic format
1.88	Digital cinema 2K aspect ratio
2.35	Film format
Letterbox	1.33:1
Native	Scale image to fit screen
Unscaled	Unscaled format

The projector's full image size is 16:10 (1920×1200 dots).The following diagram illustrates the difference in various aspect ratio settings:

Native input 4:3	Output aspect ratio 5:4	Output aspect ratio 4:3	Output aspect ratio 16:9

Output aspect ratio 1.88	Output aspect ratio 2.35	Output aspect ratio Letterbox	Output aspect ratio Native
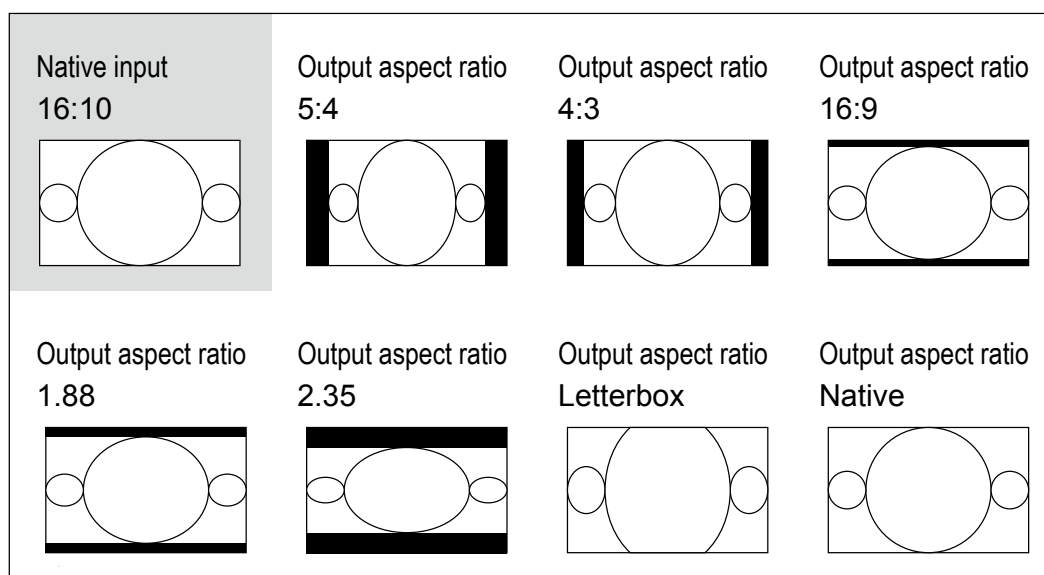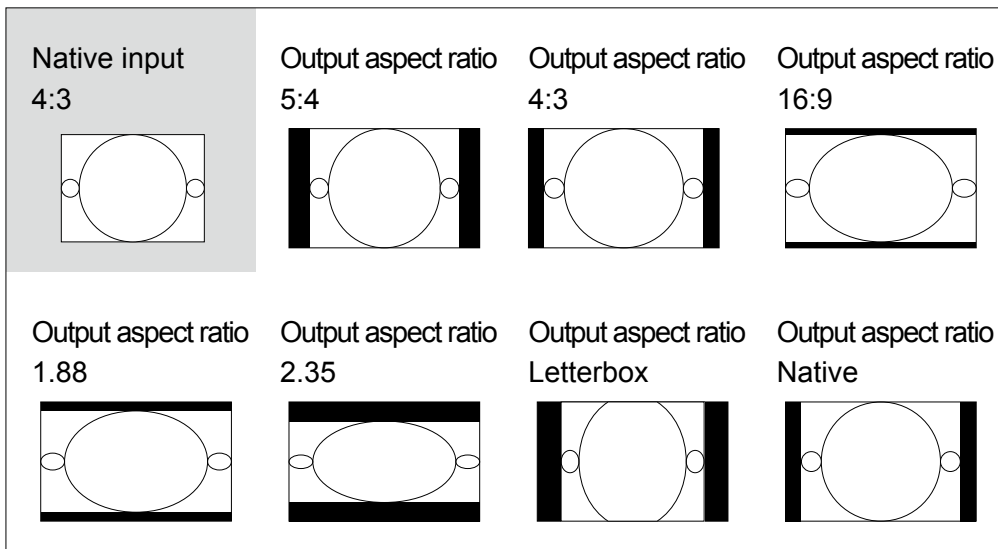
Cropped portion of the image

📄 that when used for commercial purposes, including: projection of image in movie theatres, hotels, cafeteria and other public venues, compression or extension of image achieved through the change of aspect ratio may constitute copyright infringement to the rightful owner of the image. Please do so at your own discretion.

8.9 Timings

H Total

Press ◄ ► to adjust the horizontal total.
Use this function to adjust the clock frequency of pixel sampling (horizontal pixel frequency of the analog input source generated by the ADC). If you notice flickering or verticle lines in the image, it means that the pixel sampling frequency is insufficient. You can use this function to adjust the frequency to achieve consistent image quality.
The following image is an example of test image from an external signal source:

➡

Adjust image quality by changing the value of horizontal total to smoothen the image.

📄 In order to adjust timings the pattern should be used is pixel (on/off)

📄 H total only available with analog data sources

H Start

Use ◄► to adjust the projected image's horizontal position.
If the projected image is not at the center of the screen (i.e. shifted to right or left) and ends up being cropped, use this function to adjust the image's horizontal position.The following image is an example of test image from an external signal source:
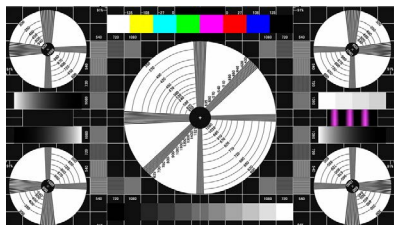
Native picture   Skewed left   Skewed right
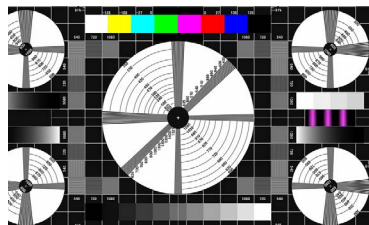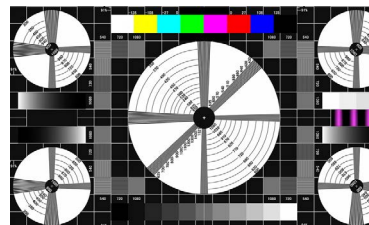
H Phase

Use ◄► to adjust the projected image's phase.
Use this function to adjust the phase of pixel sampling clock (relative to input signal). Should the image still flicker or show noise (i.e. edges on texts) after optimization, adjust phase accordingly.

Phase only available with analog data sources

V Start

Use ◄► to adjust the projected image's vertical position.
If the projected image is not at the center of the screen (i.e. shifted up or down) and ends up being cropped, use this function to adjust the image's vertical position.The following image is an example of test image from an external signal source:
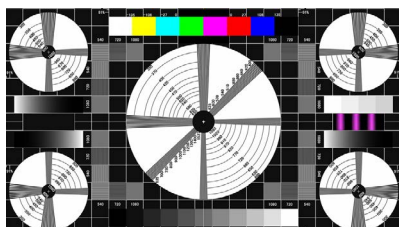
Native picture   Skewed down   Skewed Up
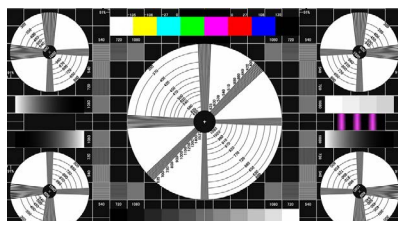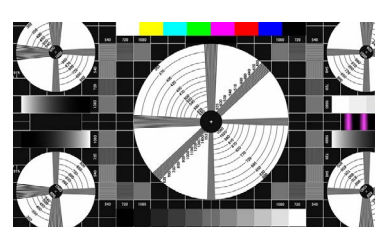
It is recommended that when adjusting the image, the horizontal total should be adjusted before the horizontal phase. However, if the image still flickers even after you have adjusted both, try lowering the image noise.

8.10 Auto Image

When Auto Image was selected in the OSD menu, press **OK** to execute the automatic image adjustment function.

By executing this function, the projector will resync the image. Use this function when the image source is unstable or when you notice deterioration in image quality and the projector will automatically adjust the image size, phase and timing. (The adjustment also applies to PIP input source).

This function is identical to the [⟋] button on the remote control. You can simply use the hot key on the remote control to execute this function.

9. LAYOUT

Overview

- Layout menu overview
- Zoom
- Main Select
- PIP Select
- PIP Position
- PIP

9.1 Layout menu overview

LAYOUT	Zoom	Off Crop Zoom
	Main Select	HDMI HDBaseT RGB D-15 YUV1 RGBHV/YUV2 SDI/HDSDI/3G Stereo DVI
	PIP Select	HDMI HDBaseT RGB D-15 YUV1 RGBHV/YUV2 SDI/HDSDI/3G
	PIP Position	Top Left Top Right Botton Left Botton Right Split L-R
	PIP	On, Off

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INPUT	IMAGE	LAYOUT	LAMPS	ALIGNMENT	CONTROL	SERVICE

Zoom	< Off >	
Main Select	Enter	
PIP Select	-----	
PIP Position	< ----- >	
PIP	< Off >	

9.2 Zoom

Due to the fact that some consumers may still be using older television systems, some TV programs may not display the edges of the image. Use this function to hide the image edge by choosing one of the following three options:

- Off
  Setting it to off makes no change to the projected image.
- Crop
  Setting it to "Crop" will add two "masks" equivalent to 3% of horizontal resolution on either side of the image and two similar masks above and below the projected image.
- Zoom
  You can use this function to enlarge the image's horizontal resolution over the 106% of the default aspect ratio. Any portion that exceeds the original image will be cropped.

	Off	Crop	Zoom
16:10	Sample Text Sample Text	Sample Text Sample Text	Sample Text Sample Text
5:4	Sample Text Sample Text	Sample Text Sample Text	Sample Text Sample Text
2.35	Sample Text Sample Text	Sample Text Sample Text	Sample Text Sample Text
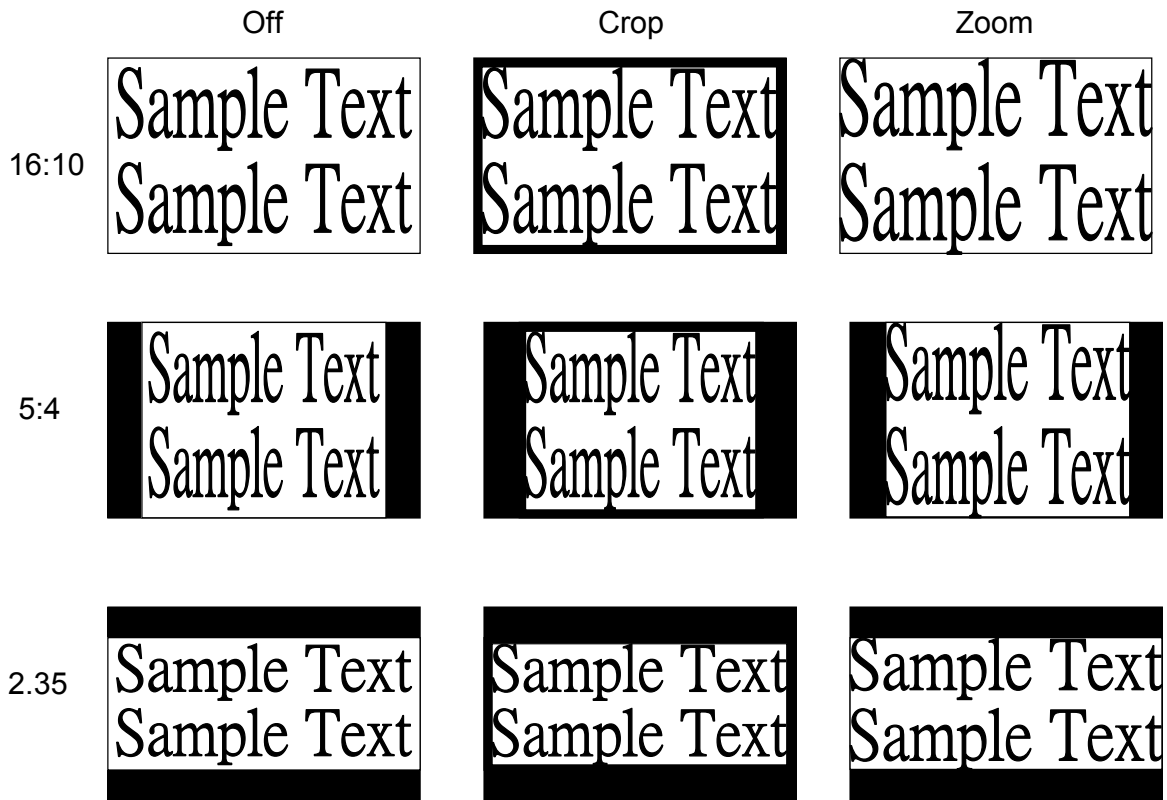
When you set aspect ratio to "Native", be sure to set Zoom to "Off" or "Crop".

9.3 Main Select

When you want to project PIP image, use this function to specify the image source for the PIP image. This function is identical to Input Selection; for more information, please refer to

9.4 PIP Select

Use this function to select the source for the sub window.
You can choose from HDMI1, HDMI2, VGA, YUV1, RGBHV/YUV2.

Sub picture   Main picture
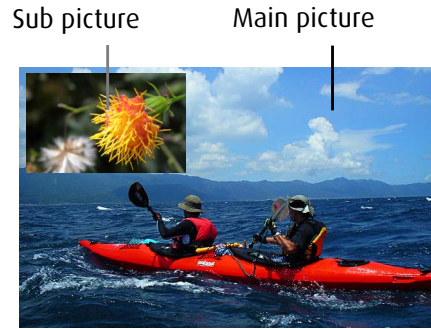
 PiP stands for "Picture in Picture" and allows to display multiple windows containing each of them an image. The windows may be of the video or data type.

9.5 PIP Position

You can choose to display

the sub window in five different location over the main picture according to your preference.

Top Left

Top Right

Split L-R

Bottom Left

Bottom Right

9.5 PIP

If you wish to display PIP image, you can make the configuration here.By choosing "ON", you will see two windows on the projected image; the larger one is the primary image and the smaller one is the sub image.By choosing "OFF", the PIP function will be disabled and you will only see a single image window.

Refer to the following main and PIP source matrix for a valid main and PIP source selection when PIP is ON.

Pip/main source availability		Main select						
		HDBaseT	HDMI	VGA	YUV1	RGBHV/ YUV2	SDI/ HDSDI/ 3G	3D-DVI
PIP select	HDBaseT		-	●	●	●	-	-
	HDMI	-		●	●	●	-	-
	VGA	●	●		-	-	●	-
	YUV1	●	●	-		-	●	-
	RGBHV/YUV2	●	●	-	-		●	-
	SDI/HDSDI/3G	-	-	●	●	●		-

● *Source availabe*   - *source not availabe*

10. LAMP

Overview

- Lamp menu overview
- Lamps Single and Dual setup
- High Altitue Mode setup
- Power saving setup
- Lamp1 and Lamp2 on or off setup
- Lamp1 and Lamp2 Run Time display
- Lamp Performance

10.1 Lamp menu overview

	Mode	Eco Normal Power
LAMPS	LAMPS	Single Dual
	High Altitude Mode	On Off
	Power	78.3% - 100%
	Lamp1 Status	On Off
	Lamp2 Status	On Off
	Lamp1 Run Time	XX HRS
	Lamp2 Run Time	XX HRS

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INPUT	IMAGE	LAYOUT	**LAMPS**	ALIGNMENT	CONTROL	SERVICE

Mode	< Normal >	
Lamps	< Dual >	
High Altitude Mode	< Off >	
Power	< ----- >	
Lamp1 Status :	On	
Lamp2 Status :	On	
Lamp1 Run Time :	1 HRS	
Lamp2 Run Time :	1 HRS	

10.2 Mode

This chapter covers information on the projector lamp.

Mode

- ECO
  When set to Eco mode, the wattage of the lamp will be at 360W. If the surrounding environment is sufficiently dark or if you do not require intense brightness, you can set the lamp to Eco mode to prolong its usage life.
- Normal
  When set to Normal mode, the wattage of the lamp will be at 465W. If the projection environment requires brighter image, you can set the lamp to Normal for the highest projection brightness.
- Power
  If the image brightness at Eco mode is too dark for you and the Normal mode gets too bright, you can set it to Power to specify the power of the lamp yourself to make fine adjustments to the brightness of the projected image.you could encounter situations where the image from projector A being brighter than projector B. When this occurs, you can use this function you could encounter situations where the image from projector A being brighter than projector B. When this occurs, you can use this function to fine tune the brightness of the two projectors to achieve consistent image brightness. To access this function, go to the OSD Menu —> LAMPS —> Power and adjust accordingly.

10.3 Lamps

Depending on the application condition, either single lamp or dual lamps can be selected via OSD menu. When the projector was switched from single lamp to dual lamps, an hourglass OSD will block the user from the further OSD operation for 7 seconds. When the projector was switched from dual lamp mode to single lamp, the lamps selection OSD will be blocked for 90 seconds for lamp cooling. The lamp power can be adjusted from 78.3% ~ 100%.

- Single
  When the projection environment is sufficiently dark that a single lamp could achieve the desired projection brightness, you can choose to use one single lamp. The projector will automatically determine the usage hours for lamp1 and lamp2 and choose the lamp with lower hours for the operation.
- Dual
  When you require brighter image from the projector, please operate the projector with Dual lamps.

Lamp2
Lamp1
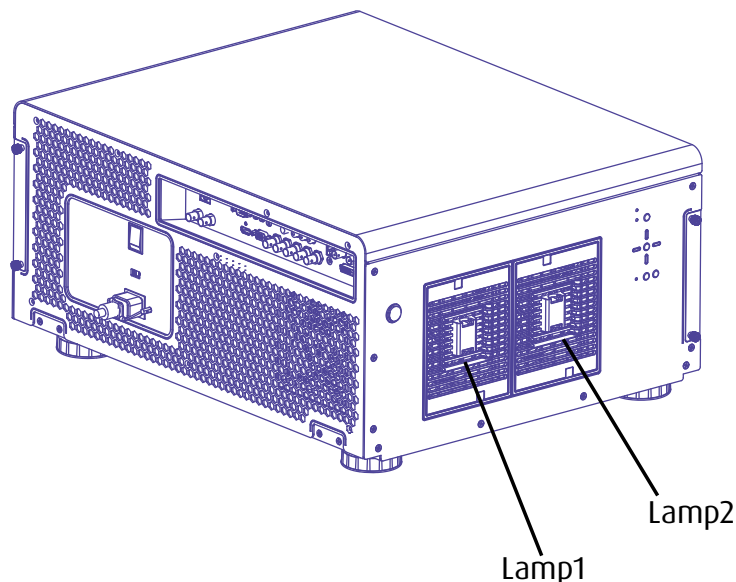
Lamp switching cooling requirement

10.4 High Altitude Mode

Use this function to control the projector's cooling fan. You can set it to Off or On. The default setting is Off.

Under normal circumstances, the projector will operate normally with this function set to Off. By default, the projector will detect the temperature of the surrounding environment to regulate the speed of the cooling fan. When the ambient temperature rises, fan speed will increase (generates louder noise) to make sure the heat inside the projector gets discharged and keep the projector working normally.

However, if you were to operate the projector in environment of excessive heat or in areas of high altitude, the projector may automatically shut down. When this happens, you can enable this function by setting it to On to force the cooling fan to work at a higher speed to regulate the temperature inside the projector.

- High altitude region refers to area with elevation over 1500 meters (4900 feet).
- When operating in normal altitude environments, the projector will adjust the cooling fan according to the temperature of the working environment. When the temperature rises above 30C, the projector will automatically increase fan speed.
- According to the product specification, the maximum operating altitude for the projector is at 3000m@25C.This means that you should not be operating the projector in high altitudes when the working environment is over 25C.
  (Due to the air thinning substantially at high altitudes, the result of cooling achieved by the cooling fan is significantly reduced compared to operation on level ground. With low atmospheric pressure and high operating temperature, the cooling fan will not be able to disperse the heat adequately)

10.5 Power

This function will not be available if you have set the lamp to Eco or Normal modes, refer to ,you can only adjust this setting when the lamp has been set to "Power". You can specify the lamp power in the range of 78.3% ~ 100%. Generally speaking, the lower the power, the dimmer the image will be but the lamp will have longer lifecycle. The higher the power, the brighter the image will be at the cost of shorter lamp lifecycle.

10.6 Lamp1 Status

This function is limited to display purposes to inform the user of Lamp1 status (On or Off).

10.7 Lamp2 Status

This function is limited to display purposes to inform the user of Lamp2 status (On or Off).

10.8 Lamp1 Run Time

This function is limited to display purposes to inform the user of Lamp1's total run time.

10.9 Lamp2 Run Time

This function is limited to display purposes to inform the user of Lamp2's total run time.

10.10 lamp performance

in order to maximize the lamp performce over its life time it is recommended to leave the lamps on for a minimum of 30minutes.

11. ALIGNMENT

Overview

- Alignment menu overview
- Adjusting screen orientation(Rear Projection, Ceiling Mode on of off setup)
- Lens Control for zoom, focus and V/H Shift setup
- Keystone adjustment
- Dynamic Contrast setup
- Gammy adjustment
- Internal Patterns setup
- Custom Color Space select
- Setup lens to midposition

11.1 Alignment menu overview

ALIGNMENT	Rear Projection	On Off
	Ceiling Mode	On Off
	Lens Control	Zoom Focus Shift V/H
	Lens To Midposition	Execute
	Lens Memory	Load Memory Save Memory Clear Memory
	Lens Calibration	Execute
	Dynamic Contrast	On Off
	Gamma	1.8 2.0 2.2 2.35 2.5 DICOM SIM.
	Internal Patterns	On Off
	Color Space	Native EBU SMPTE Custom
	Custom Color Space	Red x Red y Green y Blue x Blue y Cyan x Cyan y Megenta x Magenta y Yellow x Yellow y White x White y

ALIGNMENT	Warp	Keystone Rotation Pincushion / Barrel Top Left corner Top Right corner Bottom Left corner Bottom Right corner Custom Warp Reset
	Blanking	Top Bottom Left Right Reset
	ScenergiX	Status White Level Black Level Reset Adjust Lines

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INPUT	IMAGE	LAYOUT	LAMPS	ALIGNMENT	CONTROL	SERVICE

Rear Projection	< Off >
Ceiling Mode	< Off >
Lens Control	Enter
Lens To Midposition	Execute
Lens Memory	Enter
Lens Calibration	Execute
Dynamic Contrast	< Off >
Gamma	< 2.2 >
Internal Patterns	Enter
Color Space	< Native >
Custom Color Space	Enter
Warp	Enter
Blanking	Enter
ScenergiX	Enter

11.2 Adjusting screen orientation

By default, the projector is configured for "frontal projection - desktop installation". If you choose to install your projector in other setups, be sure to adjust the screen orientation to achieve the correct projection mode.

Front projection - ceiling mode

Press **MENU** ➔ ALIGNMENT ➔ Ceiling Mode and choose ON; the projector is now configured for "frontal projection - ceiling mode".
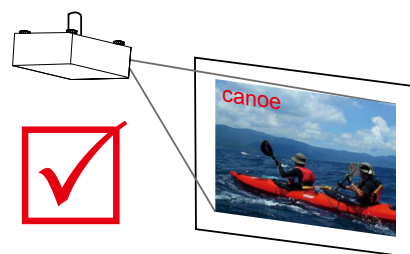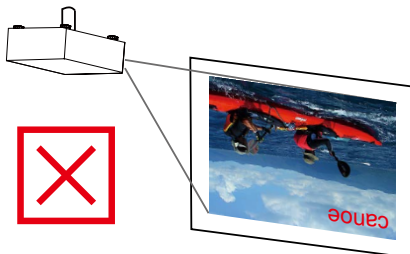
Rear projection - desktop installaion

Press **MENU** ➔ ALIGNMENT➔ Rear Projection and choose ON; the projector is now configured for "rear projection - desktop installation".
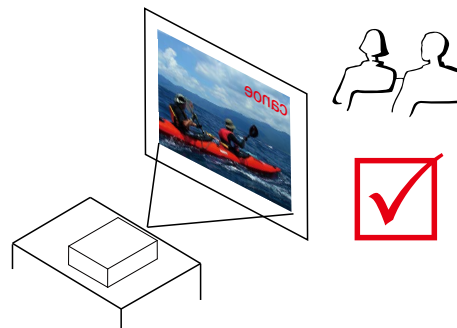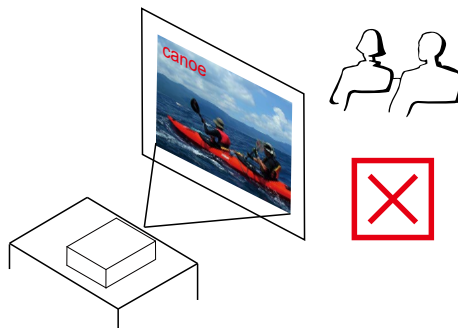
Rear projection - ceiling mode

Press **MENU** ➔ ALIGNMENT ➔ Rear Projection and choose ON;

press **MENU** once more ➔ ALIGNMENT ➔ Ceiling Mode and choose ON

Correct Picture
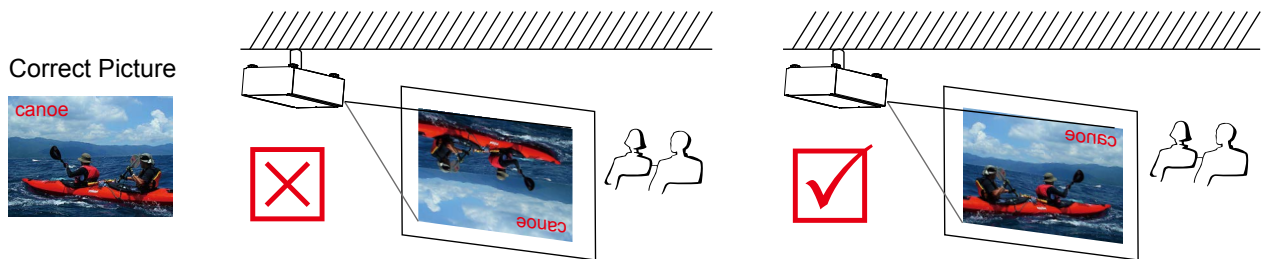
11.3 Rear Projection

The default of the Rear Projection setting is Off.

See 11.2 Adjusting screen orientation, refer to page 56: 11.2 Adjusting screen orientation

11.4 Ceiling Mode

The default setting is Off.

Whenyou have set up the projector for ceilingmode (hung from the ceiling in reverse), please set it to ON. Refer to page 56: 11.2 Adjusting screen orientation

11.5 Lens Control

Zoom

Use this function to zoom in or zoom out the image size. Refer to page 28: Lens zoom.

Focus

Use this function to adjust the image Focus. Refer to page 28: Lens focus

Shift

Use this function to adjust the lens shift. Refer to page 28: Lens Shift.

11.6 Lens To Midposition

After series of lens shift operations, this function can be used to return the lens to the center position.

11.7 Lens Calibration

Lens calibration should be performed every time a lens was installed at the projector. The process will determine the minimum and maximum ranges of the zoom and focus for the lens installed. With this calibrated information, zoom and focus will be adjusted within the safe ranges. The workflow is defined as the following:

Install a lens on the projector

↓

Go to the OSD menu and Perform "Lens Calibration" function

↓

Wait for the lens calibration process completed
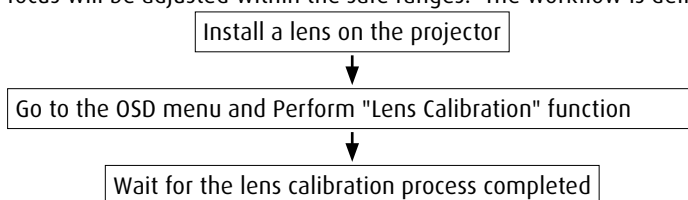
Please do not press any key during Lens Calibration. Press "Enter" to stop Lens Calibration process.

11.8 Lens Memory

There are three functions available after adjusting zoom, focus and lens shift position.

Save Memory

it is used to store current zoom, focus, and lens shift position settings into the designated memory among 3 memories. Users can repeat the above procedure to store up to 3 lens memories.

Load Memory

it is used to recall the previously stored memory from among 3 memories.

Clear Memory

it is used to clear the previously saved settings per the designated memory.

11.9 Dynamic Contrast

Use this function to configure the projector to automatically adjust image contrast from the source upon start up or shut down. When activated, the projector will dynamically adjust the image contrast from the beginning of the projection until the content has ended.

11.10 Gamma

Different Gamma settings will affect viewers' perception of the image. Generally speaking, for images that are darker, it is recommended that Gamma be set higher to yield better image quality in darker regions by sacrificing details in brighter areas. In contrast, when projecting brighter images, you can set the Gamma lower to give up details in the darker areas to make the brighter areas (i.e. clouds) more visible.

You can choose from five different gamma settings (1.8, 2.0, 2.2, 2.35 and 2.5) on the projector. The projector's default gamma value is at 2.2.

Every setting has precisely defined phases to display all primary colors (red, green, blue) and secondary colors (yellow, cyan, magenta) in millions of pixels. Changing any number in the setting will change the resulting color and rearrange the color "triangle".

DICOM SIM. is for training purpose - not for real medical diagnosis.
When DICOM mode is active, Scenergix will not be available (Greyout).

11.11 Internal Patterns

The projector comes with some standard built-in patterns for testers to calibrate the equipment. These include:

0 = Off	7 = White
1 = Color Bars	8 = Black
2 = Hatch	9 = TI-Red
3 = Burst	10 = TI-Green
4 = Red	11 = TI-Blue
5 = Green	12 = TI-Ramp
6 = Blue	13 = Warp

11.12 Color Space

Using different color space will create different color presentation in the projected image. You can choose from the following color gamma:

Native

Choose this to apply the projector's native color gamut

EBU

Choose this to apply the EBU color gamut; it is primarily suited for input devices using PAL, SECAM, 576i, 576p and so forth.

SMPTE

Choose this to apply the SMPTE color gamut; it is primarily suited for input devices using NTSC, 480i, 480p and so forth.

Custom

Choose this to customize the color gamut according to your preference through projector Toolset application or directly in the OSD menu.

11.13 Custom Color Space

This allows user to move the primaries(Red, Green, Blue), secondaries(Cyan, Yellow, Magenta), and white point independently to meet users' requirements

11.14 Warp

Warp The function provides distortion correction on projected images.

Horizontal Keystone

Press ◀▶ to correct horizontal keystone due to projection angle.

Vertical Keystone

Press ▲▼ to correct Vertical keystone due to projection angle.

—>

The summation of the absolute value of horizontal keystone and vertical keystone is limited to less than or equal to 350.

Rotation

Press ◄► to correct incorrect image angle.

Press ◄ to adjust the rotation angle   Correct angle   Press ► to adjust the rotation angle

Pincushion / Barrel

Press ◄► to adjust pincushion/barrel distortion.

—>

Press ◄► to correct pincushion distortion to correct image.

—>

Press ◄► to correct barrel distortion to correct image.

Top Left Corner

Press ◄► to correct top left corner image bias.

—>

Press ◄► to correct Top left corner image bias to correct image.

Top Right Corner

Press ◄► to correct top right corner image bias.

—>

Press ◄► to correct Top Right corner image bias to correct image.

Bottom Left Corner

Press ◄► to correct Bottom left corner image bias.

—>

Press ◄► to correct bottom left corner image bias to correct image.

Bottom Right Corner

Press ◄► to correct bottom right corner image bias.

—>

Press ◄► to correct Top left corner image bias to correct image.

Custom Warp

Custom warp files can be created with the projector toolset. Refer to the projector toolset manual for more details.

Reset

Set all adjusted value (Warp) to factory default setting

11.15 Blanking

Top

Press ▲▼ on the remote control to adjust the top blanking area on the projected image

Bottom

Press ▲▼ on the remote control to adjust the Bottom blanking area on the projected image

Left

Press ◄► on the remote control to adjust the Left blanking area on the projected image

Right

Press ◄► on the remote control to adjust the right blanking area on the projected image

Reset

It will reset all the blanking functions to the default settings that is without any blanking functions enabled.

Use left blanking function to block the additional image on the screen.
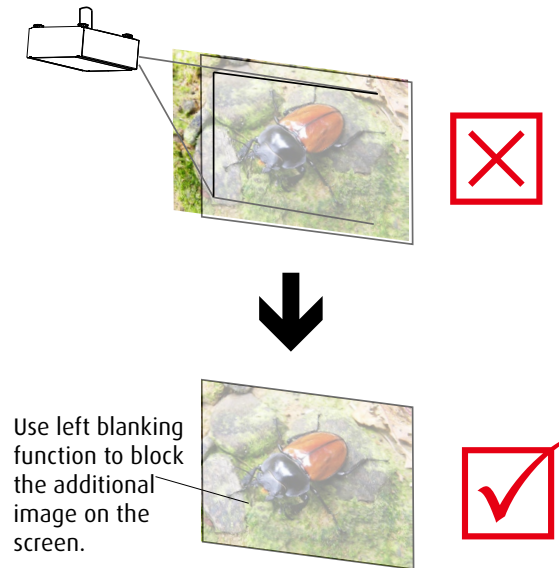
11.16 ScenergiX

The function of ScenergiX is applied in multiple projectors that are projecting at the same screen simultaneously to adjust the uniformity of the images on the screen.

Status

Press ENTER to select ON or OFF. The function must be set to ON in order to enable the function of ScenergiX. If the function is set to OFF, the function of ScenergiX is disabled.

White Level

white level is to set the line from one projector where the other projector last pixel ends. Press ◄►▲▼ to adjust the white level of the Top. Bottom, Left, Right direction on the projected image.

As shown in the below drawing, the area D is the overlap area of the projected image 1 and the projected image 2. The white level lines that is set where the other projector last pixels ends. Color adjustment for matching the images is done with projector toolset with customs color space x and y or with input balance on the OSD.

Black Level

The purpose of black level is in order to compensate the non overlap zones vs the over lap zone. It increase the black level to the brightness level of the overlap black. It is to adjust the black level of the Top, Bottom, Left, Right direction on the projected images.

It can be set to adjust the primary color of the projector. For instance, select ALL is to adjust the primary color of Red, Greed, and Blue. Or it can be set to adjust the Red, Green and Blue independently.

The function combination of Black Level adjustment and 4 Corners is not available

The function combination of Black Level adjustment and blend along corners is not available.
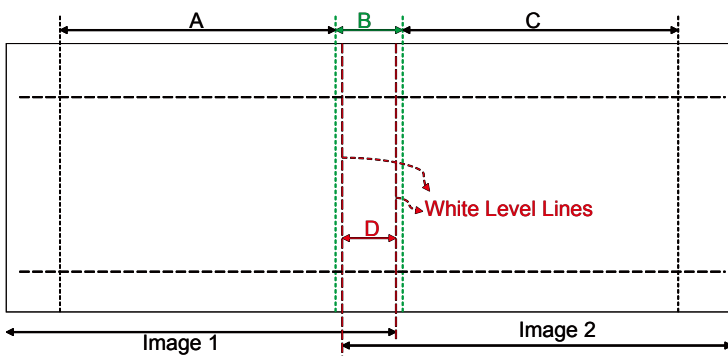
for black level adjustment a black image needs to be connected on the 2 projectors. Zone B will have the sum of the blacks of the 2 projectors. Set the adjustment line of the black level to the position where the non active DMD's of the right projector ends. Set the adjustment line of the black level to the position where the non active DMD's of the left projector ends. Adjust black level of projector A to match the black level with zone B. Adjust the projector C to match the black level with zone B.
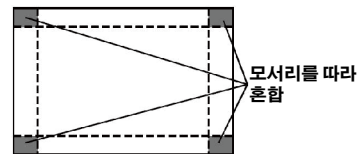
Reset

The function can reset the ScenergiX settings on the projector. It will restore to the images to the default that is without any ScenergiX functions enabled.

Adjust Lines

When the function is ON, there will be adjust lines on the image in order to easily adjust multiple images. Press ◄►▲▼ on the remote control to adjust the position of the lines on the image.

The image below is an example if 2 projectors are projecting at the same image.

1. Horizontally place two projectors and have the two projected images with an overlap area and use the focus/zoom and lens shift functions with test grid pattern to set a proper overlap area for blending with a matched grid size.
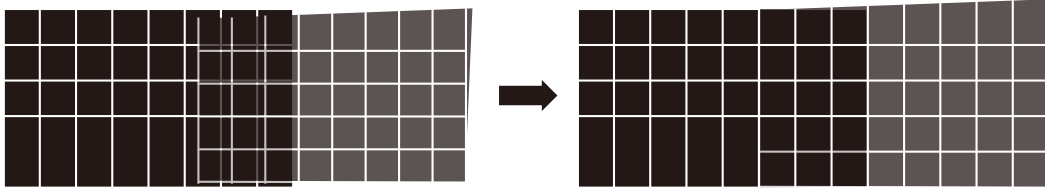
2. Color matching 2 projectors on white is done with P7 (R.G.B.C.M.Y.W) adjust in projector toolset.

3. Brightness matching 2 projectors can be done with the lamp power(Refer to adjustment by dimming the projector with higher lumens.

4. Use ScenergiX-> White level to set the blending size based on the overlap region size.
Use ScenergiX-> Black level position to adjust the start position of black level compensation.
Use ScenergiX-> Black level to raise the brightness of non-overlap zone such that the brightness of the overlap zone and non-overlap zone are matched for black level.
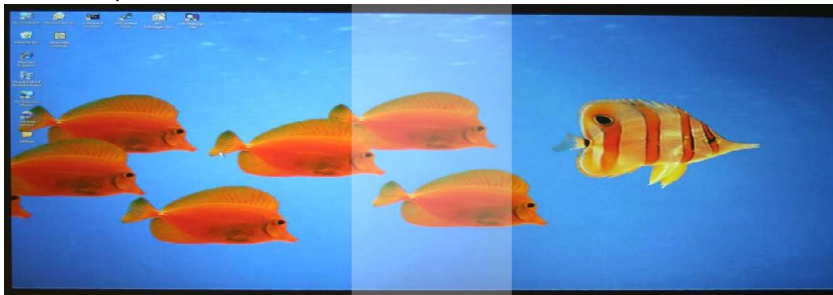
Note1: Please note that the following allowable warp, blanking and ScenergiX combination based on the underlying chip specification
Note2: ScenergiX / 4 corner combination is available when black level is not adjusted.
Note3: Blend along corners is available when black level is not adjusted.

		Keystone	Rotation	Pin/Barrel	4-corner	blanking	ScenergiX White Level Top/Bottom or Left/Right only	ScenergiX White Level Blend along corners	ScenergiX Black Level Black Level
	Keystone		X	X	X	X	X	X	X
	Rotation	X		X	X	X	X	X	X
	Pin/Barrel	X	X		X	X	X	X	X
	4-corner	X	X	X		OK	OK	OK	X
	blanking	X	X	X	OK		OK	OK	OK
ScenergiX White Level	Top/Bottom or Left/Right only	X	X	X	OK	OK			OK
ScenergiX White Level	Blend along corners	X	X	X	OK	OK			X
Black Level	Black Level	X	X	X	X	OK	OK	X	

12. CONTROL

Overview

- Control menu overview
- ECO Network Power setup
- Network address setup
- OSD Menu position
- Projector start up display Logo or not
- Projector start up Chime on or off
- Setup the trigger
- Setup the projector auto select the source or not
- Setup the OSD menu's language

12.1 Control menu overview

CONTROL	IR Address	1 2
	Eco Network Power	On Off
	Network	IP Address Subnet mask Gateway DHCP
	Menu Position	Top Left Top Right Botton Left Botton Right Center
	Start Up Logo	On Off
	Start Up Chime	On Off
	Button 1	HDMI HDBaseT VGA RGBHV/YUV2 Stereo DVI
	Button 2	
	Button 3	
	Button 4	
	Button 5	
	Trigger 1	5:4 4:3 16:10 16:9
	Trigger 2	1.88 2.35 Letterbox Native Auto
	Auto Source	On Off
	Language	English French Spanish German Portuguese Chinese Simplified Chinese Traditional Japanese Korean Russian

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INPUT	IMAGE	LAYOUT	LAMPS	ALIGNMENT	CONTROL	SERVICE	
			IR Address		<	1	>
			Eco Network Power		<	Off	>
			Network			Enter	
			Menu Position		<	Center	>
			Start Up Logo		<	On	>
			Start Up Chime		<	On	>
			Button 1			Enter	
			Button 2			Enter	
			Button 3			Enter	
			Button 4			Enter	
			Button 5			Enter	
			Trigger 1		<	Auto	>
			Trigger 2		<	16:9	>
			Auto Source		<	On	>
			Language			Enter	

12.2 IR Address

Use this function to configure the projector's IR code receive commands from the remote control. The default value is 1.If you have other equipment in your home that could pick up the command from the projector's remote control, it is recommended that you set the remote control code to 2.

When you are running two projectors via serial connection, you can set the code on one projector as "1" and "2" for the other projector. By doing so, you will be able to control two projectors with the same remote control.

When you want to switch your remote control from code 1 projector to code 2 projector, press and hold the ENTER and ADDRESS buttons on the remote control simultaneously (for approximately 5 seconds); the backlight module on the remote control will blink to confirm the switch.

12.3 Eco Network Power

The projector can be connected to a network via its RS-232 port and 10/100 BASE-T port for remote operation with two separate boards to control the signal sources from RS-232 and 10/100BASE-T ports.

If you do not require remote operation of the projector over a network, it is recommended that you set this function to On to activate the ECO Network Power. This will turn off the power that is used to control the 10/100 BASE-T board. However, you will not be able to operate the projector remotely over a network as long as the function remains activated.

By setting it to Off, the function will be disabled. You won't be able to conserve power but you can control the projector remotely over a network.

12.4 Network

To control the projector via network, after connecting the network cables for a PC and the projector, you can use this OSD function to view the relevant network information (such as IP Address, Subnet Mask, Gateway and DHCP) of the projector. Please configure the PC to be connected to the projector with a proper IP address with the same subnet mask, gateway as the projector. The default IP address of the projector is 192.168.0.100. The settings of the network can be changed from the OSD menu, Projector Toolset or from the webbrowser only.

To control the projector via network, please connect to the projector via a web browser with the IP address shown on the OSD menu CONTROL —> Network. The home page will be displayed as follows.
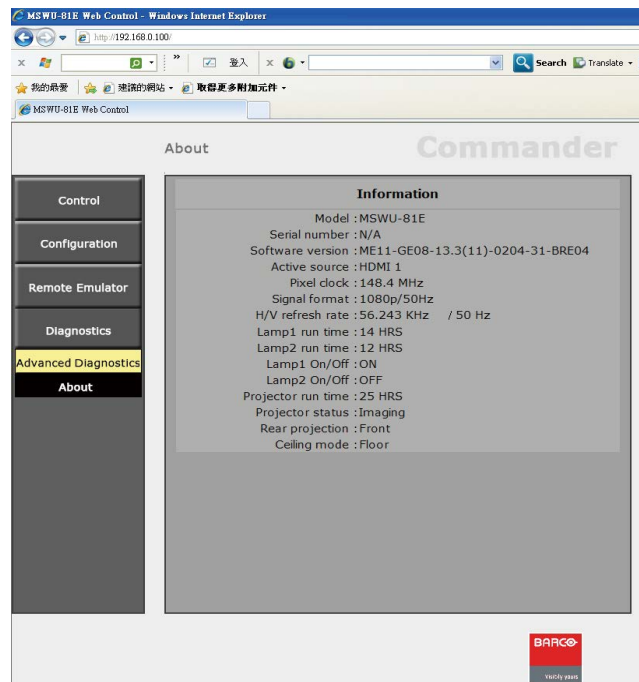
IP Address

Internet Protocol. The network layer of TCP/IP. Required for communication with the internet.

	This for subnet and gateway hdcp.

Subnet mask

A number that is used to identify a subnetwork so that IP addresses can be shared on a local area network.

	Subnet for Wired and Wifi must be different !

Gateway

A router that serves as an entry point into and exit point out of a network. For example, a local network (LAN) may need a gateway to connect it to a wide area network (WAN) or to the Internet.

HDCP

Dynamic host configuration protocol. DHCP is a communications protocol that lets network administrators manage centrally and automate the assignment of IP addresses in an organization's network. Using the Internet Protocol, each machine that can connect to the Internet needs a unique IP address. When an organization sets up its computer users with a connection to the Internet, an IP address must be assigned to each machine. Without DHCP, the IP address must be entered manually at each computer and, if computers move to another location in another part of the network, a new IP address must be entered. DHCP lets a network administrator supervise and distribute IP addresses from a central point and automatically sends a new IP address when a computer is plugged into a different place in the network.

12.5 Menu Position

You can use this function to designate which area on the image the OSD Menu will appear.

As you can see from the diagram below, there are five positions where you can choose to have the OSD Menu displayed.The default setting is "Center".

Top Left		Top Right
	Center	
Bottom Left		Bottom Right
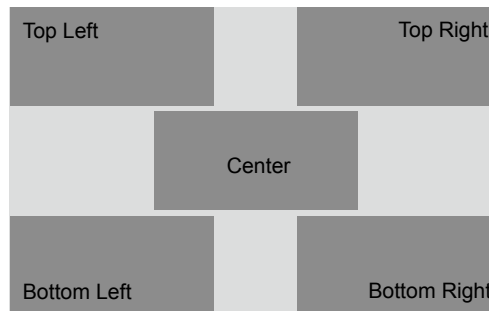
12.6 Start Up Logo

You can use this function to have the projector display the Barco logo in the start up screen. Set **On** to display the Barco logo during start up and **Off** to display a blank image.

12.7 Start Up Chime

Set it to On to have the projector play a sound effect during start up; when it is set to off, the projector will not play any sound effect to indicate start up.

12.8 Button 1 ~ 5

These buttons on the remote control are the hotkeys for different image source. By factory default, these are:
1 = HDMI
2 = HDBaseT
3 = VGA
4 = RGBHV/YUV2
5 = Stereo DVI
You can configure the input source that corresponds to each button in the OSD Menu. To do so:

When press **MENU** > CONTROL > Button 1~5; use the ▼▲ buttons to choose from diffferent sources of input. You can choose from: HDMI 1,HDMI 2,RGB D-15,YUV 1,RGBHV/YUV 2,Composite Video,S-Video and RGB-S.

For example, if you have configured (1) as RGB D-15 in the OSD Menu, when you press (1) on the remote control, the projector will display the image from RGB D-15.

12.9 Trigger1 ~2

The projector comes with two sets of Trigger output. You can configure two different devices connected to the projector via the trigger ports to be automatically turned on when the projector is on. There will be a 2-3 second delay prior to activation to prevent operation of this function when the user is choosing the desired aspect ratio.

5:4   Outputs 12V of power on Trigger1 or 2 when the user chooses the 5:4 aspect ratio.

4:3   Outputs 12V of power on Trigger1 or 2 when the user chooses the 4:3 aspect ratio.

16:10   Outputs 12V of power on Trigger1 or 2 when the user chooses the 16:10 aspect ratio.

16:9   Outputs 12V of power on Trigger1 or 2 when the user chooses the 16:9 aspect ratio.

1.88   Outputs 12V of power on Trigger1 or 2 when the user chooses the 1.88 aspect ratio.

2.35   Outputs 12V of power on Trigger1 or 2 when the user chooses the 2.35 aspect ratio.

Letterbox   Outputs 12V of power on Trigger1 or 2 when the user chooses the Letterbox aspect ratio.

Native   Outputs 12V of power on Trigger1 or 2 when the user chooses the native aspect ratio.

Auto   Outputs 12V of power on Trigger 1 or 2 when the projector is turned on.

12.8 Auto Source

Off

default setting. By enabling this function, the projector will automatically determine the source of input every time it is turned on so that the user will not have to make the selection on the OSD Menu.

ON

Setting the function off will require the user to specify source of image input on the OSD Menu in order for the projector to display the intended image.

12.9 Language

The user can change the language of the on screen menus and the local display menus to one of the available languages.

You can choose from the following nine languages: English, French, Spanish, German, Portuguese, Chinese Simplified, Chinese Traditional, Japanese and Russian.

13. SERVICE

Overview

- Service menu overview
- Use this function to display the projector's message.

13.1 Service menu overview

SERVICE	Model	Read-only information
	Serial Number	
	Software Version	
	Active/PIP source	
	Pixel Clock	
	Signal Format	
	H/V Refresh Rate	
	Lamp1 Run Time	
	Lamp2 Run Time	
	Lamp Hour Reset	Lamp1 Hour Reset Lamp2 Hour Reset
	Projector Run Time	Read-only information
	Blue Only	On Off
	Factory Reset	The command will be executed after confirmation in the prompt dialog box

BARCO RLM W14

INPUT	IMAGE	LAYOUT	LAMPS	ALIGNMENT	CONTROL	SERVICE

Model :	Barco RLM W14
Serial Number :	0123456789
Software Version :	NP01-GD01-12.5-08-08-31-BRJD01
Active/PIP Source :	VGA / OFF
Pixel Clock :	33.75MHz
Signal Format :	848x480@60Hz
H/V Refresh Rate :	H:31.027KHZ, V:60HZ
Lamp1 Run Time :	1 HRS
Lamp2 Run Time :	1 HRS
Lamp Hour Reset	Enter
Projector Run Time :	1 HRS
Blue Only	< Off >
Factory Reset	Enter

13.2 Service message of the projector

The functions covered in this unit relate to the display of some basic information about the projector.

	Memory of the custom timing files will be erased in the Factory Reset operation

- Model: the designated model number of the projector.
- Serial Number: the designated serial number of the projector.
- Software Version: the version of software installed on the projector.
- Active/PIP Source: displays the current PIP sources.
- Pixel Clock: displays the pixel clock of the current input signal.
- Signal Format: displays the format of the current input signal.
- H/V Refresh Rate: displays the horizontal and vertical refresh rates for the current image.
- Lamp1 Run Time: displays Lamp1's current run time.
- Lamp2 Run Time: displays Lamp2's current run time.
- Projector Run Time: displays the projector's total operating hours.

	When a lamp's run time has reached 1200 hours or when you notice the projected image to be noticeably dimmer, please replace the lamp

13.3 Lamp Hour Reset

Use this function to reset the hours for lamp1 and lamp2 to zero.

	After replacing the lamp, remember to reset the lamp hours to ensure the accuracy of lamp hours displayed in the OSD Menu.

13.4 Blue Only

Enabling this option will make the projector display only blue color to facilitate the process of image inspection for the service personnel. For detailed instructions on how to use this function, consult a qualified service personnel.

13.4 Factory Reset

All settings of the projector will be set to the original factory settings. All user settings are erased with this operation.

	This function will not apply to items including the OSD appearance, no signal, network, Projector control, startup Logo, language, and lamp hours

	When Factory Reset is executed, all source memories created by the projector (i.e. timings files) will be erased

14. MAINTENANCE

14.1 Lamp Replacement

The lifecycle of ordinary projection lamp typically lasts for 2500 hours before requiring replacement (different lamp configurations will affect lamp life). From the OSD Menu, you can go to " ". to check how long a lamp has been used. You should also replace the lamp when the projected image gets noticeably darker. Contact your local dealer to purchase new certified lamps for your projector.

⚠️ **WARNING:** This procedure may only be performed by qualified technical service personnel.

How to replace the projector lamp

WARNING: Switch off the projector and unplug the power cord before starting the procedure.

Keep all flammable items away from lamp

Never to remodel or disassembly on lamp housing

Lamp contains mercury. If lamp bursts during operation. Keep yourself in sufficiently ventilate area in order to avoid inhaling mercury.

1. Turn off the projector and unplug the power cord. Let the projector cool for approximately 15 minutes before removing the lamp module for replacement.

⚠️ When you turn off the projector, the lamp inside the projector will still be very hot (approximately 200 ~ 300°C). If you attempt to replace the lamp without allowing the projector to cool, you could risk scalding yourself. This is why you should wait for no less than 60 minutes for the lamp to cool down in order to perform the replacement safely.

2. Loosen the Lamp cover.
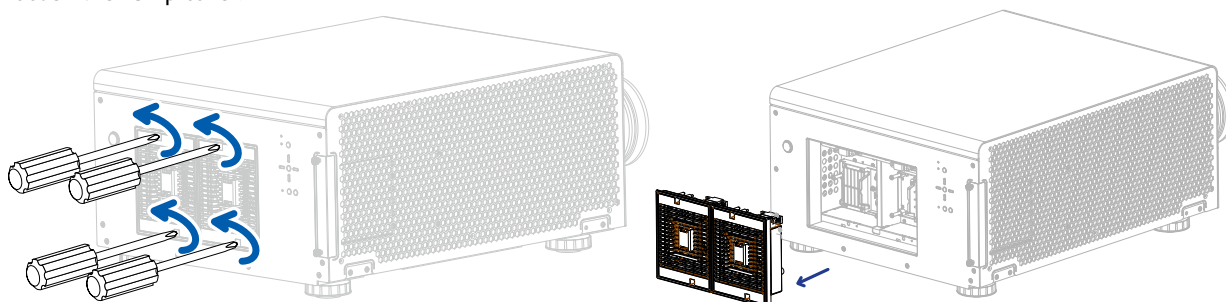
3. Use a screw driver to loosen the screws as shwon in the illustration.
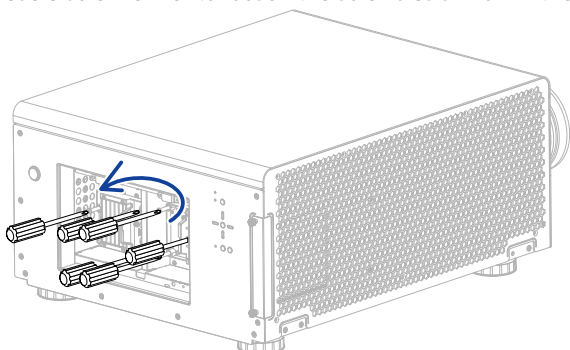
4. Grasp the metal rod on the lamp cover and pull the lamp out.
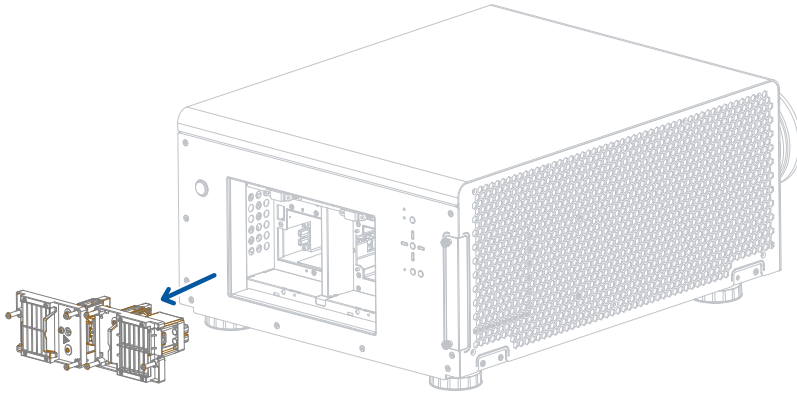
5. Insert the new lamp in the direction shown in the illustration into the lamp assembly; tighten the two screws using a screw diver and make sure the lamp is firmly secured to prevent the lamp from shaking or poor contact.
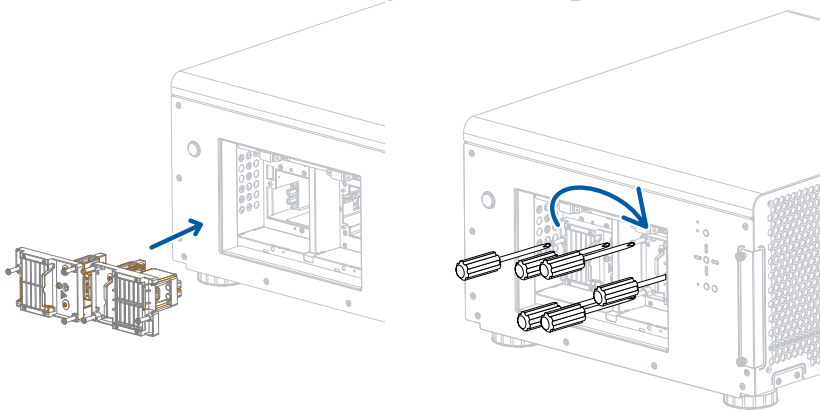
6. Replace the lamp cover and firmly secure the two screws on the lamp cover.
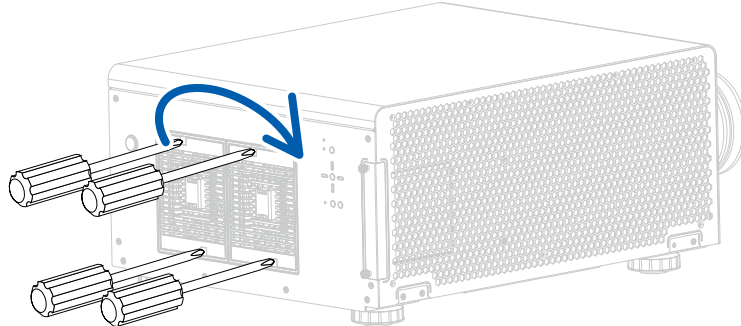
7. Reconnect power to the projector and reset the lamp usage timer. Refer to page 54: 10.8 Lamp1 Run Time and page 54: 10.9 Lamp2 Run Time

While starting up the projector, the electronics detect if a lamp is installed. If no lamp is installed, it is not possible to start up the projector.

14.2 Replace the filter (for inlet *Ventilation)*

Make sure to replace the filter when it is required to keep the air intake clear of dust, and prevent possible over temperature issue of the projector due to the clog of filter.

⚠️ **CAUTION:** The high density filter must be replaced on a regular basis, depending on the environment condi- tions of the projector. Suggest to replace filter every 500 hours runtime.

⚡ **WARNING:** Switch off the projector and unplug the power cord before starting the procedure.

⚠️ **CAUTION:** Never use the projector with removed filters !

Necessary parts

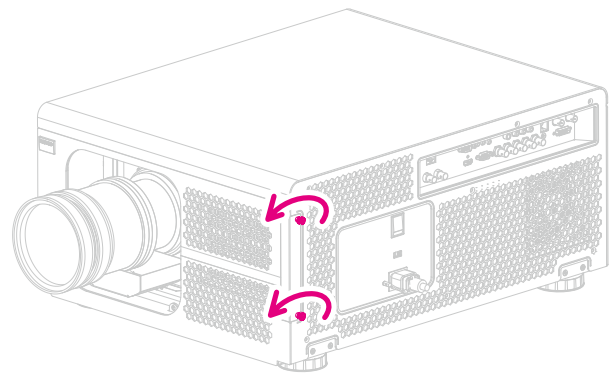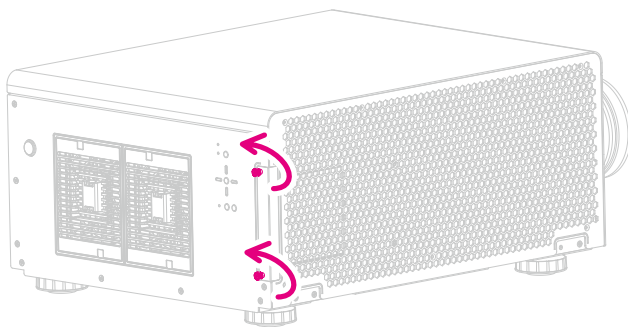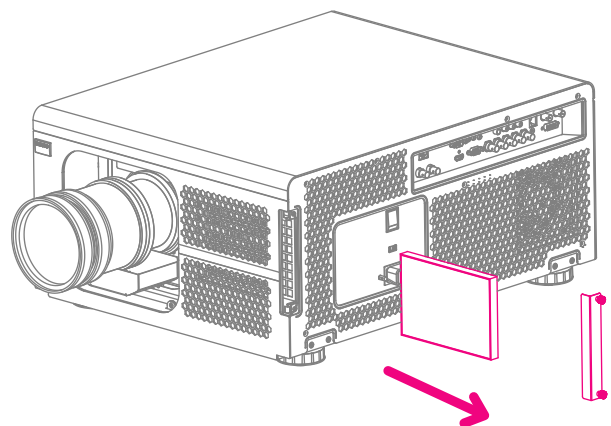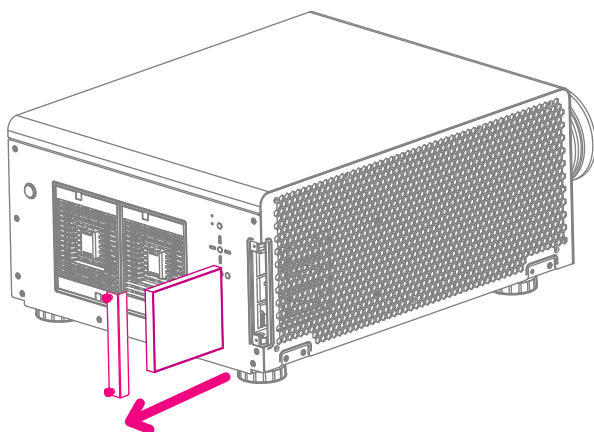New filter (available kit : R9801342, contains 2 high density filters)

⚠️ **CAUTION:** Never clean the filter Always replace with a new one.

How to change the filter

1. Loosen the five screws on the projector left side cover.

2. Take out the old filter.

3. Insert new filter.

Black side **White side**

Black side **White side**
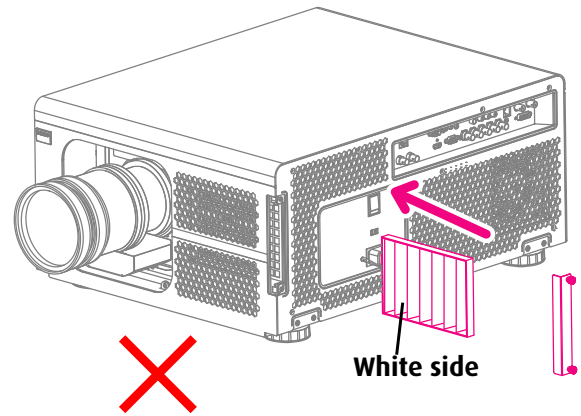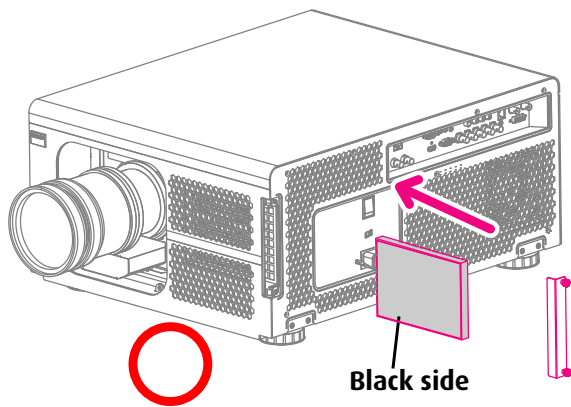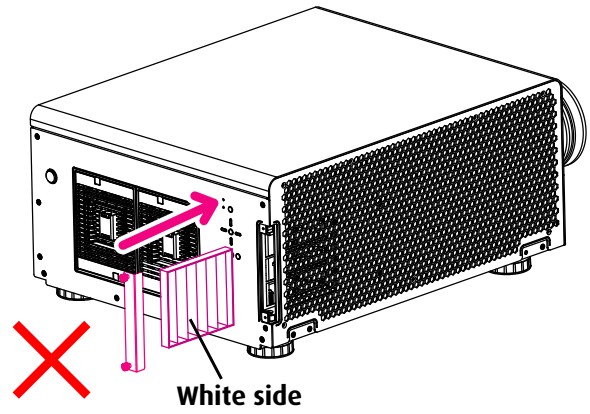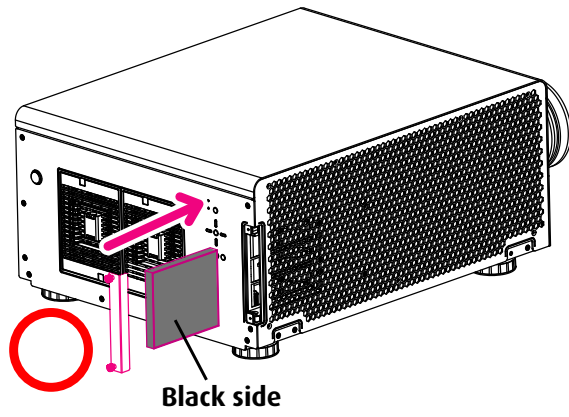
4. Tighten the five screws of left side cover.
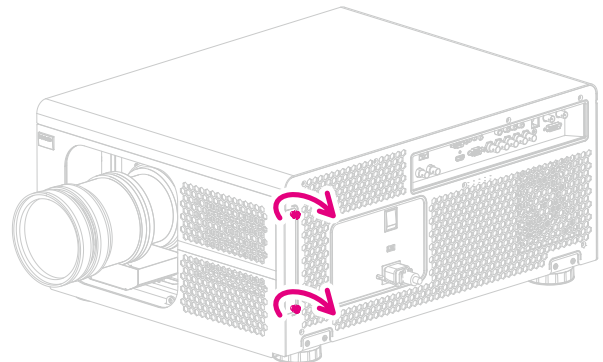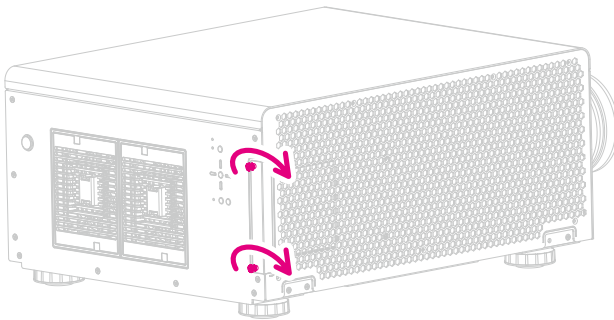
14.3 Clean the dust filter(for outlet *Ventilation)*

1. Remove most contamination with a vacuum cleaner.
2. Blow remaining dust away with compressed air in an other room or outside.
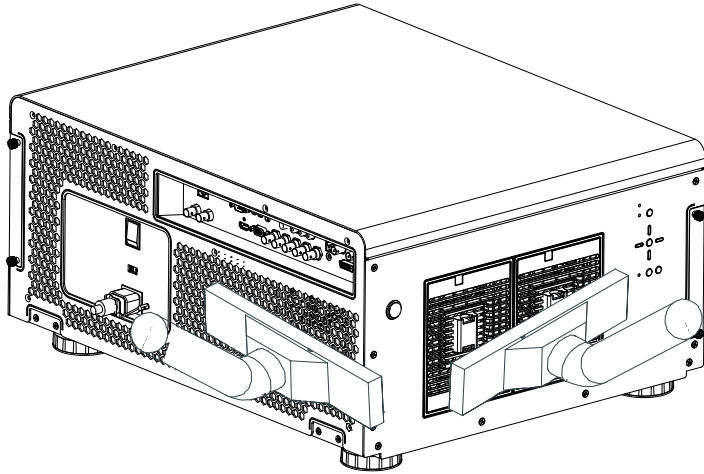
14.4 Cleaning the lens

> To minimize the possibility of damage to optical coatings, or scratches to lens surfaces, we have developed recommendations for cleaning. FIRST, we recommend you try to remove any material from the lens by blowing it off with clean, dry deionized air. DO NOT use any liquid to clean the lenses.

Necessary tools

Toraysee ™ cloth (delivered together with the lens kit). Order number : R379058.

How to clean the lens ?

3. Always wipe lenses with a CLEAN Toraysee ™ cloth.
4. Wipe lenses in a one single direction.
   Warning: Do not wipe back and forwards across the lens surface as this tends to grind dirt into the coating.
5. Do not leave the cleaning cloth in either an open room or lab coat pocket, as doing so can contaminate the cloth.
6. If smears occur when cleaning lenses, replace the cloth. Smears are the first indication of a dirty cloth.

> **CAUTION:** Do not use fabric softener when washing the cleaning cloth or softener sheets when drying the cloth.
>
> Do not use liquid cleaners on the cloth as doing so will contaminate the cloth.

> Other lenses can also be cleaned safely with this Toraysee ™ cloth.

14.5 Cleaning the exterior of the projector

How to clean the exterior of the projector ?

1. Switch off the projector and unplug the projector from the mains power net.
2. Clean the housing of the projector with a damp cloth. Stubborn stains may be removed with a cloth lightly dampened with a mild detergent solution.

14.6 Simple troubleshooting

The following table offers a list of common problems with projectors and how to troubleshoot. If the recommended solutions fail to resolve your problem, contact your local dealer to arrange for servicing; do not attempt to service the projector by yourself.

Problem	Possible cause	Solution
You cannot turn on the projector	1. The projector may be unplugged 2. Check the AC POWER SWITCH on the back of the projector and see if it is flipped to ON. 3. The AC socket may be faulty 4. The lens cover is not replaced properly	1. Plug the projector's power cord into a wall outlet 2. Flip the power switch to "I". 3. Make sure the AC socket is working properly. 4. Make sure the lens cover has been properly replaced.
You cannot turn on the projector after turning it off	1. You will not be able to turn on the projector within two minutes after you have just turned it off. This feature is designed to protect the lamp.	1. Wait for the projector to cool down completely before starting it up again (the projector's STAND BY indicator will turn blue)
You have connected the projector to a DVD player as the input source but the image appears broken or split in halves.	The DVD player is connected to the projector through component cables (RGB-S or RGBHV/YUV2) and you have set it to progressive scan.	Disable the progress scanning function on the DVD player.
The picture looks dim	1. The image brightness, contrast, color and tint might need proper adjustment. 2. The lamp is due for replacement.	1. Adjust the image brightness, contrast, color and tint. 2. Replace the projector lamp.
The remote control does not operate normally	1. The battery might have run out 2. You might have inserted the batteries in the wrong orientations 3. You may be operating the remote control too far away from the projector's IR sensor or exceeded the maximum angle of signal reception ; there might be an obstacle between the projector and the remote control or there might be a source of intense light near the IR receiver. 4. Ø 3.5mm A wired remote connector might be connected to the projector's 3.5mm port. 5. The remote control's address is not consistent with the projector's address.	1. Replace new batteries 2. Make sure the batteries are inserted in the right orientation. 3. Adjust the distance/angle between the projector and the remote control and try again; if there are obstacles between the projector and the remote or source of intense light near the IR sensor resolve these situations and try again. 4. Remove the wired remote cable or operate the projector using wired remote. 5. Press the OK button on the remote control followed by the Address button until the panel of the remote control flashes once (approximately 5 seconds) and try again.
You are able to turn on the projector and access the OSD Menu but no picture appears.	1. The projector may not be turned on properly or you have not selected the correct input source. 2. You might not have connected the source device correctly or the source might not be connected to the projector at all.	1. Make sure the projector is turned on properly and select the correct input source. 2. Check the connection between the projector and the input device.
The image is too bright or the bright areas are blurry	The contrast might have been set too high.	Lower contrast settings.
The image appears washed out or the dark areas appear too bright	The image brightness might have been set too high.	Lower brightness settings.

Problem	Possible cause	Solution
The image is blurry	1. The lens may not be in focus. 2. The temperature or humidity of the projector's working environment may have changed in mid operation (i.e. going from cold to warm or dry to humid), leading to condensation of moisture inside the projector.	1. Adjust Lines focus. 2. Turn of the projector first and wait for the moisture in the projector to evaporate.
The color of the image looks pale	The input signal type (RGBHV/YUV2) might not have been connected properly	Check to make sure that the connections between the projector and the input device are correct.
The image flashes occasionally	1. The cables might not have been properly connected or the input device itself may be faulty. 2. If the problem persists, it may also mean the lamp might be faulty.	1. Make sure the connector and the input device have been properly connected; check to see if the input device is in normal working order. 2. Replace the projector lamp.
The colors of the projected image are out of place (i.e. displaying red as blue)	The G/Y, R/Pr, B/Pb cables from the input might have been incorrectly connected to the input.	Please make sure the input source has been correctly connected to the projector.
The noise from the cooling fan suddenly grew louder	The temperature inside the projector might have risen.	When the temperature inside the projector rises, the cooling fan will operate at a higher speed to discharge the internal heat more rapidly.
The LED indicator on the projector's front panel is blinking in red	The lamp or the cooling fan could be faulty.	Refer to the definition of page 15: 3.4 Status lights of LED
1. During projection, the lamp suddenly goes off and the picture disappears. 2.The lamp does not turn on even when the projector has been turned on.	The lamp might have been damaged; check the LED indicator on the rear panel of the projector and see if it is blinking in red.	The lamp has reached the end of its service life; please replace it.

15. PROJECTOR SPECIFICATION

15.1 Specifications

Description	Specifications
Projector type	3-chip DLP projector
Technology	0,96" DMD x 3
Resolution	1920 × 1200 (Native)
Brightness	13500 ANSI lumen 14500 center
Contrast ratio	1650 : 1
Brightness uniformity ANSI	90%
Aspect Ratio	16:10
Lens type	TLD+ lens
Lens range	0.73:1 1,2:1 1,25-1,6 : 1 1,5-2,0 : 1 2-2.8 : 1 2,8-4.5 : 1 4.5-7.5 : 1 7.5-11.5 : 1
Horizontal Lens Shift Range	-30%~+30%
Vertical Lens Shift Range	-70%~+130%
Color correction	P7
Lamps	465W x 2 NSH (2000hr lamplife per lamp)
Transport with lamp	Yes
Sealed DLP™ core	yes
Advance Picture in Picture	Up to two sources simultaneously
Orientation	table - ceiling
Keystone Correction	Warping
Ease of Use	Easy OSD menu + Remote control + Web browser
Inputs	5 BNC, VGA, HDMI, HDBaseT(Video only), 3G HDSDI barcolink, RCA YUV,
Input Resolutions	up to WUXGA (1920x1200) 60Hz
Software tools	Projection Toolset
Control	IR; RS232; RJ45
Network connection	10/100 Base-T, RJ-45 connection
Power requirements	100 - 240V / 50 - 60 Hz
Power consumption	1230W (Max) @110VAC 1140W (Max) @ 220VAC
Power consumption in ECO mode	955W (Max) @110VAC 895W (Max) @ 220VAC
Power consumption in standby mode	< 2W
Noise level Bright mode (typical at 25°C/77°F)	46 dBA
Noise level ECO mode (typical at 25°C/77°F)	42 dBA
Operational ambient temperature	0-40°C or 32-104°F
Operating humidity	0-90%
Dimensions (WxLxH)	504.8x631x277mm
Weight	33.5kg
Shipping Dimensions	829x 709x 437mm
Shipping Weight from Factory	41.5kg
Certifications	CB test certificate US emc US safety CE emc and safety CCC emc and safety
Warranty	3 years standard warranty*

*Warranty and service conditions can differ from region to region. Contact your local sales or service representative for more details.

15.2 STANDARD SOURCE FILES

Signal Format	Resolution	Frame Rate	3RCA YPrPb	5BNC YPrPb	HD15-RGBHV	HD15-YUV	HDMI / HDBaseT RGB	HDMI 8Bit-YUV	HDMI 10Bit-YUV	HDMI 12Bit-YUV	HD/SDI/3G
PC	640×480	59.94		x	x		x				
	640×480	74.99		x	x		x				
	640×480	85		x	x		x				
	800×600	60.32		x	x		x				
	800×600	75		x	x		x				
	800×600	85.06		x	x		x				
	848×480	47.95		x	x		x				
	848×480	59.94		x	x		x				
	1024×768	60		x	x		x				
	1024×768	75		x	x		x				
	1024×768	85		x	x		x				
	1280×720	47.95		x	x		x				
	1280×1024	60.02		x	x		x				
	1280×1024	75.02		x	x		x				
	1280×1024	85.02		x	x		x				
	1600×1200	60		x	x		x				
	1920×1080	47.95		x	x		x				
	1680×1050	59.94		x	x		x				
	1920×1200	50		x	x		x				
	1920×1200	59.94		x	x		x				
	1920×1200	60		x	x		x				
	1400x1050	60	x	x	x		x				
	1366x768	60			x		x				
	1440x900	60			x		x				
	1280x768	60			x		x				
	1280x800	60			x		x				
	1280x960	60			x		x				
Apple Mac	640×480	66.59			x		x				
	832×624	74.54			x		x				
NTSC	NTSC(M, 4.43)	59.94									
PAL	PAL (B, G, H, I)	50									
	PAL (N)	50									
	PAL (M)	59.94									
SECAM	SECAM (M)	50									
SDTV	RGBS	50									
	1440x480i	60					x	x	x	x	
	1440x576i	50					x	x	x	x	
	480i	59.94	x								X
	576i	50	x								X
EDTV	480p	59.94	x	x	x	x	x	x	x	x	
	576p	50	x	x	x	x	x	x	x	x	
HDTV	1035i	60	x	x	x	x	x	x	x	x	x
	1080i	50	x	x	x	x	x	x	x	x	x
	1080i (Aus)	50	x	x	x	x	x	x	x	x	
	1080i	59.94	x	x	x	x	x	x	x	x	x
	1080i	60	x	x	x	x	x	x	x	x	x
	720p	50	x	x	x	x	x	x	x	x	x
	720p	59.94	x	x	x	x	x	x	x	x	x
	720p	60	x	x	x	x	x	x	x	x	x
	1080p	23.98	x	x	x	x	x	x	x	x	x
	1080p	24	x	x	x	x	x	x	x	x	x
	1080p	25	x	x	x	x	x	x	x	x	x
	1080p	29.97	x	x	x	x	x	x	x	x	x
	1080p	30	x	x	x	x	x	x	x	x	x
	1080p	50	x	x	x	x	x	x	x	x	x
	1080p	59.94	x	x	x	x	x	x	x	x	x
	1080p	60	x	x	x	x	x	x	x	x	x
new for SDI	1080sf	30									x
	1080sf	25									x

15.3 SDI FORMATS

Timing	SDI Link mode	Signal Standards	Color Encode	Sampling Structure	Bit Depth
NTSC	SD	SMPTE 259M-C 270Mbps SD	YCbCr	4:2:21	10
PAL	SD	SMPTE 259M-C 270Mbps SD	YCbCr	4:2:2	10
1035i60	HD	SMPTE 292M 1.5Gbps HD	YCbCr	4:2:21	10
1080i59	HD	SMPTE 292M 1.5Gbps HD	YCbCr	4:2:21	10
1080i60	HD	SMPTE 292M 1.5Gbps HD	YCbCr	4:2:21	10
1080P30	HD	SMPTE 292M 1.5Gbps HD	YCbCr	4:2:21	10
1080P25	HD	SMPTE 292M 1.5Gbps HD	YCbCr	4:2:21	10
1080i50	HD	SMPTE 292M 1.5Gbps HD	YCbCr	4:2:21	10
1080P24	HD	SMPTE 292M 1.5Gbps HD	YCbCr	4:2:21	10
720P60	HD	SMPTE 292M 1.5Gbps HD	YCbCr	4:2:21	10
720P50	HD	SMPTE 292M 1.5Gbps HD	YCbCr	4:2:21	10
1080Sf25H	DS	MPTE 292M 1.5Gbps HD	YCbCr	4:2:21	10
1080Sf30H	DS	MPTE 292M 1.5Gbps HD	YCbCr	4:2:21	10
1080P50	3G Level A	SMPTE 424M 3Gbps	YCbCr	4:2:21	10
1080P59	3G Level A	SMPTE 424M 3Gbps	YCbCr	4:2:21	10
1080P60	3G Level A	SMPTE 424M 3Gbps	YCbCr	4:2:21	10
1080P50	3G Level B	SMPTE 424M 3Gbps	YCbCr	4:2:21	10
1080P59	3G Level B	SMPTE 424M 3Gbps	YCbCr	4:2:21	10
1080P60	3G Level B	SMPTE 424M 3Gbps	YCbCr	4:2:21	10

15.4 Dimension
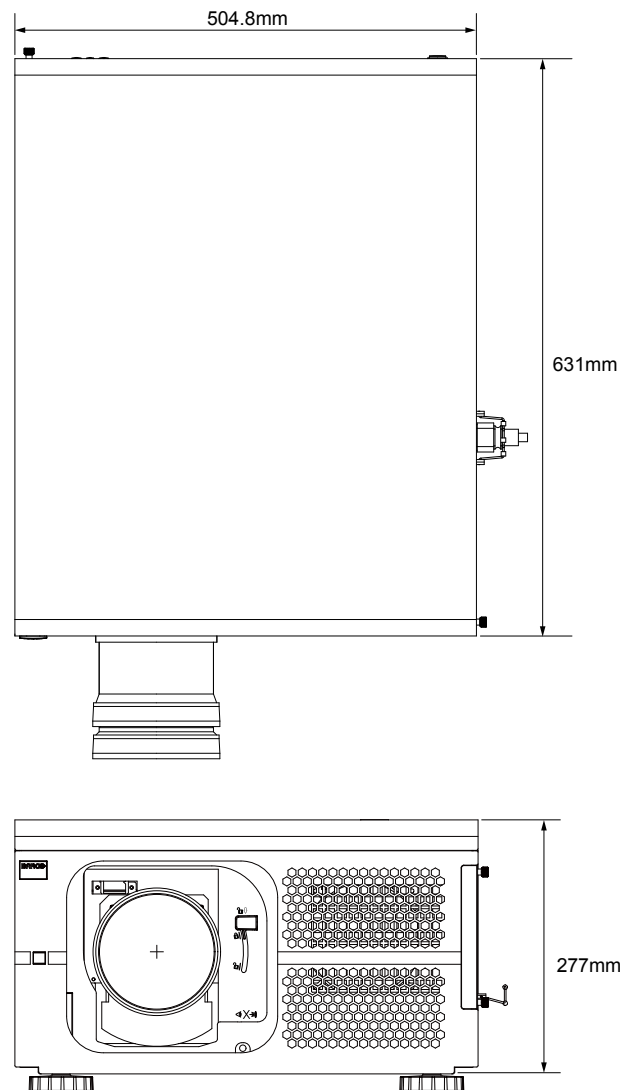
16. ENVIRONMENTAL INFORMATION

16.1 Disposal information

Disposal Information

Waste Electrical and Electronic Equipment

This symbol on the product indicates that, under the European Directive 2002/96/EC governing waste from electrical and electronic equipment, this product must not be disposed of with other municipal waste. Please dispose of your waste equipment by handing it over to a designated collection point for the recycling of waste electrical and electronic equipment. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate these items from other types of waste and recycle them responsibly to promote the sustainable reuse of material resources.

For more information about recycling of this product, please contact your local city office or your municipal waste disposal service. For details, please visit the Barco website at: http://www.barco.com/en/AboutBarco/weee

Disposal of batteries in the product

This product contains batteries covered by the Directive 2006/66/EC which must be collected and disposed of separately from municipal waste.

If the battery contains more than the specified values of lead (Pb), mercury (Hg) or cadmium (Cd), these chemical symbols will appear below the crossed-out wheeled bin symbol.

By participating in separate collection of batteries, you will help to ensure proper disposal and to prevent potential negative effects on the environment and human health.

Mercury Notice

Lamp(s) Contain Mercury. Dispose According to Local, State, Federal Law. This Barco product consists of materials that may contain mercury, which must be recycled or disposed of in accordance with local, state, or country laws:

- Within this system, the lamp in the projector contains mercury.

16.2 Rohs compliance

Turkey RoHS compliance

Türkiye Cumhuriyeti: EEE Yönetmeliğine Uygundur.

[Republic of Turkey: In conformity with the EEE Regulation]

中国大陆 RoHS (Information for China ROHS compliance)

根据中国大陆《电子信息产品污染控制管理办法》(也称为中国大陆 RoHS)，以下部份列出了本产品中可能包含的有毒有害物质或 元 素的名称和含量。

Table of toxic and hazardous substances/elements and their content, as required by China's management methods for controlling pollution by electronic information products

本产品中包含的有毒有害物质/成分的名称和含量。

产品中有毒有害物质或元素的名称及含量列表

依据中国政府针对"电子信息产品污染控制管理办法"为控制和减少电子信息产品废弃后对环境造成的污染，促进生产和销售低污染电子信息产品，保护环境和人体健康，仅提供有关本产品可能含有有毒及有害物质如后：

部件名称	有毒有害物质或元素					
	铅（Pb）	汞（Hg）	镉（Cd）	六价铬（Cr(VI)）	多溴联苯（PBB）	多溴二苯醚（PBDE）
光机引擎或铝镁合金	X	O	O	O	O	O
镜头	X	O	O	O	O	O
灯泡	X	X	O	O	O	O
点灯器	X	O	O	O	O	O
弹片(快削磷铜)	X	O	O	O	O	O
风扇组件	X	O	O	O	O	O
灯泡盖保护开关	O	O	X	O	O	O
温度开关	O	O	X	O	O	O
基板组件	X	O	O	O	O	O
缆线、线材	X	O	O	O	O	O
电源线	X	O	O	O	O	O
电源插座组件	X	O	O	O	O	O
金属件(快削磷铜,铜钉等)	X	O	O	O	O	O
遥控器	X	O	O	O	O	O

○：表示该有毒有害物质在该部件所有均质材料中的含量均在SJ/T11363-2006标准规定的限量要求以下。

×：表示该有毒有害物质至少在该部件的某一均质材料中的含量超出SJ/T11363-2006标准规定的限量要求。

备注：鉴于欧盟与中国对于RoHS的不同规定，本投影机产品符合欧盟RoHS指令(电气、电子设备中限制使用某些有害物质指令)，本表中标有"X"的所有部件均为欧盟ROHS指令所允许例外的部件。