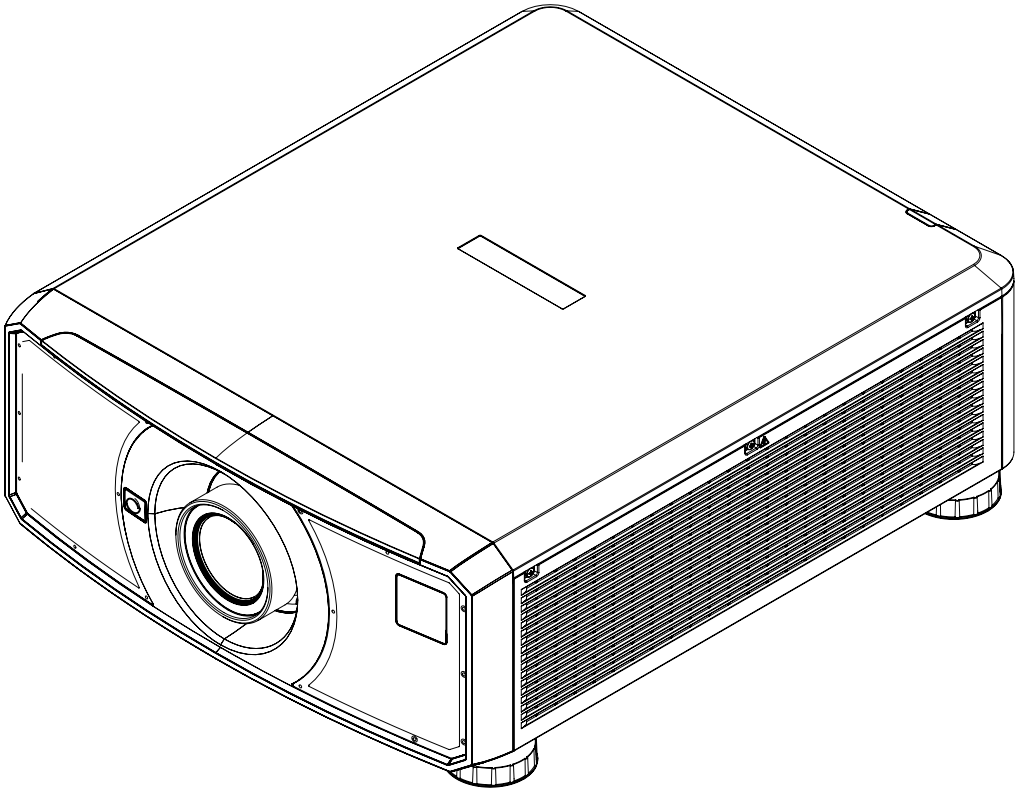
DIGITAL PROJECTION

E-Vision 9100 Series

IMPORTANT INFORMATION



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120-981A

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Contents

Symbols used in this document

Some information in this document may be accompanied by the following symbols:

LASER WARNING: this symbol indicates that there is a potential hazard of eye exposure to laser radiation unless the instructions are closely followed.

ELECTRICAL WARNING: this symbol indicates that there is a danger of electrical shock unless the instructions are closely followed.

WARNING: this symbol indicates that there is a danger of physical injury to yourself and/or damage to the equipment unless the instructions are closely followed.

NOTE: this symbol indicates that there is some important information that you should read.

Additional Documentation

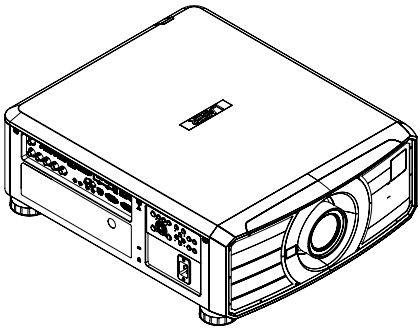
Full information about operating, connecting and setting up the projector can be found in the User Guides.

Please use the QR code (also located on the projector) to access the latest E-Vision projector user guides and other documentation via the Digital Projection website.

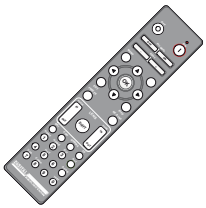
Or visit the products specification page on the Digital Projection website to download the latest user guide and other documentation.

Legal notice

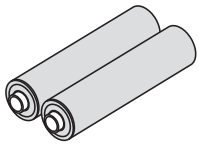
What's in the box?



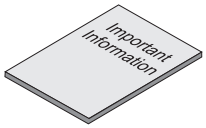
Projector



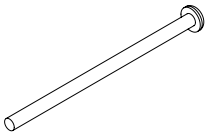
Remote Control



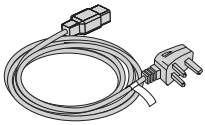
Batteries (2xAAA)



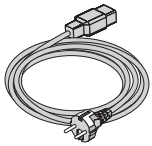
Important Information Book



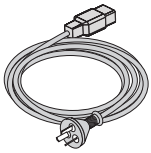
Security Screw



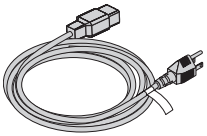
Power Cable, UK



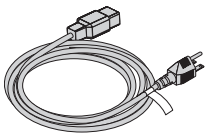
Power Cable, Europe



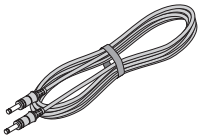
Power Cable, China



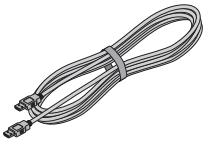
NEMA 5-15P - C19 Power Cable, North America



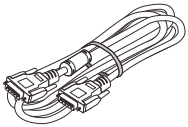
NEMA 6-15P - C19 Power Cable, North America



Remote Control Cable



HDMI Cable



VGA Cable

Electrical and Physical Specifications

Mains Voltage	100-240VAC 50/60Hz single phase 9.0A
Operating Temperature	0°C to 40°C (32°F to 104°F) 35°C to 40°C (95°F to 104°F) with reduced ECO mode light output
Storage Temperature	-20°C to 60°C (-4°F to 140°F)
Operating Humidity	10% to 85% non-condensing
Storage Humidity	5% to 95% non-condensing
Dimensions	L:598mm (23.5in) X W: 500mm (19.7in) X H 218mm (8.6in)
Weight	27.5Kg (60.62lb) without lens
Power Consumption	at 110VAC: 792W typical (normal mode) at 240VAC: 755W typical (normal mode)
Standby Power	0.5W typical (Normal Mode) 0.9W typical (On By LAN mode) 3.7W typical (On By HDBaseT mode)
Thermal Dissipation	at 110VAC: 2704 BTU/Hour typical (Normal mode) at 240VAC: 2579 BTU/Hour typical (Normal mode)
Fan Noise	40dBA Max, 38 dBA typical (Normal Mode)

Specifications are subject to change without notice.

General Precautions

Warning! Death or Serious Injury could occur if the following precautions are ignored

Eye Hazard! Do not look directly into the lens when the light source is on. The high brightness can cause permanent eye damage

Fire Hazard! Keep any combustible material away from hot surfaces and the projected beam. Ensure cables do not contact hot surfaces

Shock Hazard! Use only authorised components, tools, accessories and replacement parts specified by the manufacturer

Trip Hazard! Locate cables where they cannot be pulled, tripped over or damaged by persons or objects

Operate the product in the specified operating environment and conditions

Product should be powered off and disconnected from the mains before any service or maintenance operation

Keep body parts, hair, clothing and jewellery away from moving parts in the product.

Do not operate the product without a lens installed

Use a lens plug when installing or moving the product

The unit is never to be operated if the unit is defective or the cover or seal is damaged.

No maintenance allowed by end user.

Do not open the cabinet. There are no user serviceable parts inside.

No service is allowed except by authorized personnel.

Use only the power cable provided.

Ensure that the power outlet includes a Ground connection, as this equipment MUST be earthed.

Take care to prevent small objects such as paper or wire from falling into the projector. If this does happen, switch off immediately, and have the objects removed by authorised service personnel.

Do not expose the projector to rain or moisture, and do not place any liquids on top of the projector.

Unplug before cleaning, and use a damp, not wet, cloth.

Do not touch the power plug with wet hands.

Do not touch the power plug during a thunder storm.

Handle the power cable carefully and avoid sharp bends. Do not use a damaged power cable.

Do not touch the ventilation outlets, as they will become hot in use.

Do not cover or obstruct the ventilation outlets or inlets.

Do not cover the lens whilst the projector is switched on. This could cause a fire.

Always allow the projector to cool for 5 minutes before disconnecting the power or moving the projector.

Never use strong detergents or solvents such as alcohol or thinners to clean the projector and lens.

Laser Safety Precautions

Warning! Death or Serious Injury could occur if the following precautions are ignored

Permanent/Temporary Blindness Hazard

CLASS 3R LASER PRODUCT
This Laser Product is designated as Class 3R during all procedures of operation.

LASER LIGHT - AVOID DIRECT EYE EXPOSURE.
Do not point laser or allow laser light to be directed or reflected toward other people or reflective objects.

Direct or scattered light can be hazardous to eyes and skin.

There is a potential hazard of eye exposure to laser radiation if the included instructions are not followed.

Caution – use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

Non-laser emission. There remains non-laser emission from the projection lens. This portion of emission has been tested per IEC/EN 62471-5:2015 to be Risk Group 2 (low risk).

RISK GROUP 2 CAUTION. Possibly hazardous optical radiation emitted from this product. Do not stare at operating light source. May be harmful to the eyes.

Laser Parameters

Wavelength	449-461nm (Blue)
Mode of operation	Pulsed, due to frame rate
Pulse duration	1.34ms
Pulse repetition rate	120Hz
Maximum pulse energy	0.698mJ

Compliance with International Standards

RF Interference

FCC

The Federal Communications Commission does not allow any modifications or changes to the unit EXCEPT those specified by Digital Projection in this manual. Failure to comply with this government regulation could void your right to operate this equipment.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant with 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.

Noise

GSGV Acoustic Noise Information Ordinance

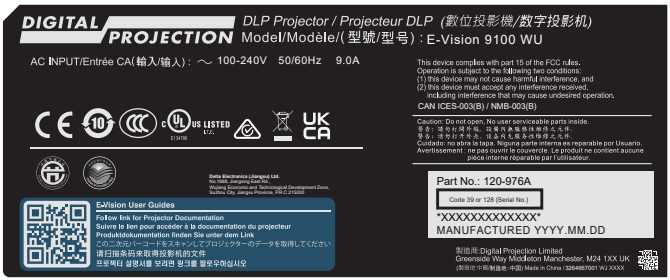
The sound pressure level is less than 40 dB (A) at normal operating mode according to ISO 3744 or ISO 7779.

European Waste Electrical and Electronic Equipment (WEEE) Directive

Digital Projection Ltd is fully committed to minimising Waste Electrical and Electronic Equipment. Our products are designed with reuse, recycling and recovery of all components in mind. To this end, at end of life, your projector may be returned to Digital Projection Ltd or its agent so that the environmental impact can be minimised.

Product Labels

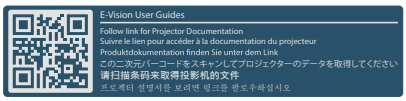
Projector



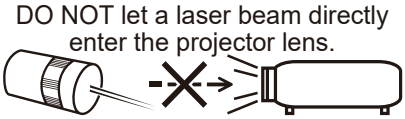
Manufacturers ID Label

Explanatory Label

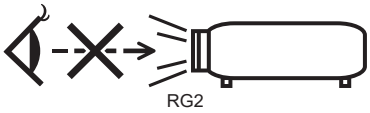
Laser Aperture Label



User Guides Label



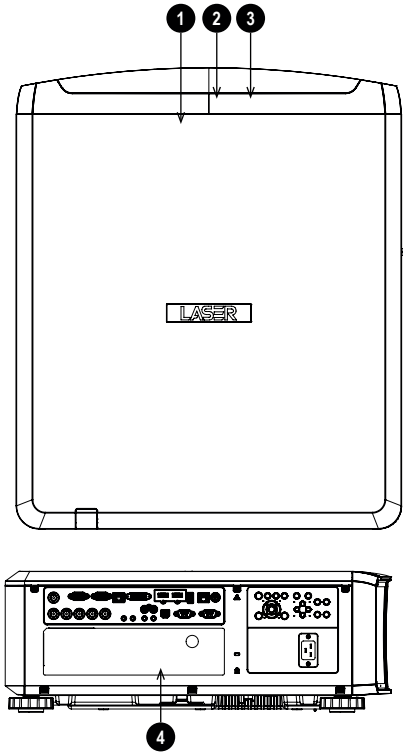
Lens Safety Label



Laser Hazard Label

Label Locations

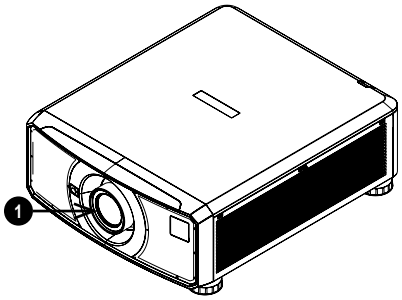
1. Location of Hazard Warning Symbol and Laser Aperture Label on the body of the projector.
2. Location of Lens Safety Label on the body of the projector.
3. Location of Laser Hazard Label on the body of the projector.
4. Location of Manufacturer's ID Label, User Guides Label and Explanatory Label with Certification Statement and Risk Statement on the body of the projector.



Location of Laser Aperture

1. The laser aperture is located as indicated below.

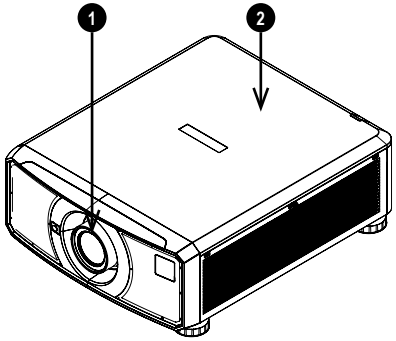
Be careful not to expose the eye to direct laser light.



Interlock Switches

Interlock switches are installed at the main frame, inside the cover. These will power-off the system individually when activated.

1. Will be activated when the projection lens is removed or misplaced.
2. Will be activated when the top cover is removed.



Installation Precautions

The projector must be installed only by suitably qualified personnel, in accordance with local building codes.

The projector is heavy. Use safe handling techniques when lifting the projector.

Do not drop or knock the projector.

Do not install the projector close to anything that might be affected by its operational heat, for instance, polystyrene ceiling tiles, curtains etc.
Place the projector in a dry area away from sources of dust, moisture, steam, smoke, sunlight or heat.

Ensure that the intake vents do not recycle hot air from the exhaust vent.
When operating the projector in an enclosed space, ensure that the surrounding air temperature within the enclosure does not exceed operation temperature while the projector is running, and the air intake and exhaust vents are unobstructed.

All enclosures should pass a certified thermal evaluation to ensure that the projector does not recycle exhaust air, as this may cause the device to shutdown even if the enclosure temperature is with the acceptable operation temperature range.

Avoid installing at high temperature, insufficient cooling and heavy dust locations. Keep your product away from fluorescent lamps (>1 Meter) to avoid malfunction caused by IR interference.

Avoid installing near an air conditioner duct or a subwoofer.

The projector should be installed as close to the power outlet as possible.

The power connection should be easily accessible, so that it can be disconnected in an emergency.

Please pay attention to projector installation with respect to other staging laser light equipment set-up. These systems can cause permanent damage to the DMD imaging devices used in our projectors. This damage is not covered by our warranty.

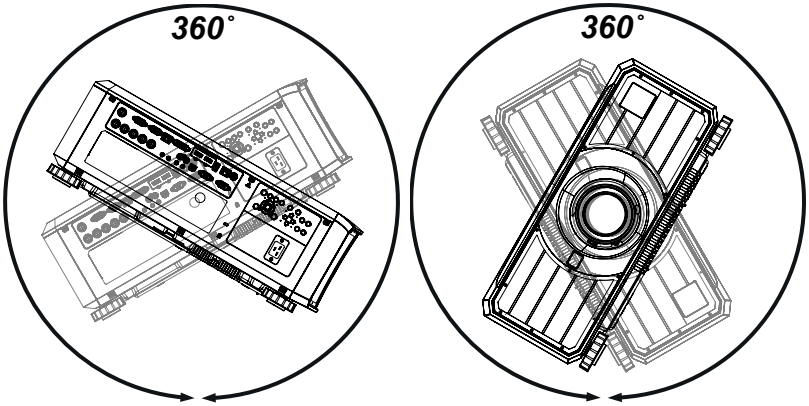
When using projectors in environments with third party high power laser systems avoid direct laser beams pointing towards the projection lens. This may cause incident light to converge into the optical engine and cause damage to the DLP DMD.

Before installation, make sure that the surface, ceiling or rigging that is to support the projector is capable of supporting the combined weight of the projector and lens.

Backup safety chains or wires should always be used with ceiling mount installations.

When installing a ceiling mount, make sure the weight limit is not exceeded and the projector is firmly secured.

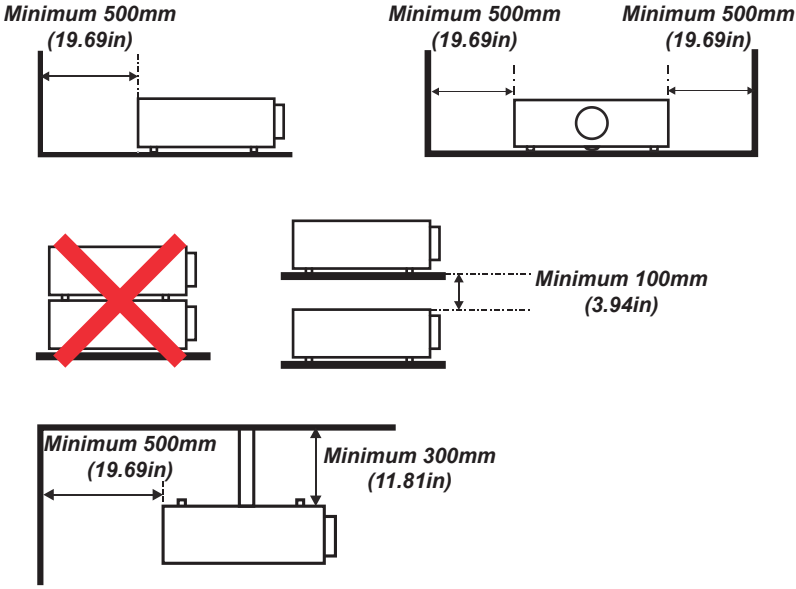
The projector can be operated any position, as shown in the diagram:



Tilt (Left) and Roll (Right)

The following positions are to be avoided as they can reduce motor life:
Lens facing down
Inputs and outputs facing up

Allow at least 50cm (19.7in) of space between the ventilation outlets and any wall, and 30cm (11.8in) on all other sides.



Example Positioning

Make sure the lens cap is removed from the lens before operating the projector. Light energy levels have been known to cause damage to both the lens and projector optics. This damage is not covered by our warranty.

Make sure the lens cap is removed from the rear of the lens before it is inserted into the projector.

Connect the LAN cable only to a computer LAN connection. Other similar connectors may have a dangerously high voltage source.

A VGA IN connector should be used to connect to the VGA IN port on the projector. It should be inserted tightly, with the screws on both sides securely fastened to ensure proper connection of the signal wire for achieving optimal display effect.

An AUDIO IN connector should be used to connect to the AUDIO IN port on the projector.

The power cord and signal cable should be connected before the projector is powered on. During startup and operation, DO NOT insert or remove the signal cable or the power cord to avoid damaging the projector.

Turn on High Fan Speed Mode when located in high altitude areas.

The projector generates heat during use. The internal fans dissipate the heat of the projector when shutting down, which could continue for a certain period. After the projector enters STANDBY MODE, remove the power cord. DO NOT remove the power cord during shutdown as it may cause damage to the projector and may affect the service life of the projector.

Do not place heavy objects on top of the projector chassis.

Fitting a lens

The projector must be fully turned off prior to attempting a lens change.

When changing the lens, avoid using excessive force as this may damage the equipment.
Avoid touching the surface of the lens as this may result in image impairment.

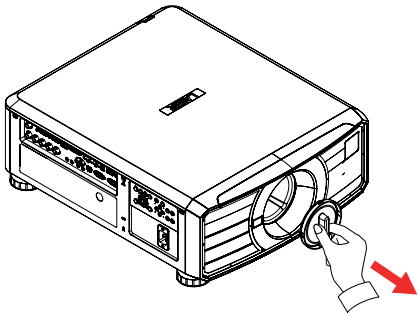
The lens is shipped separately.

Take care to preserve the original lens packaging and protective caps for future use.

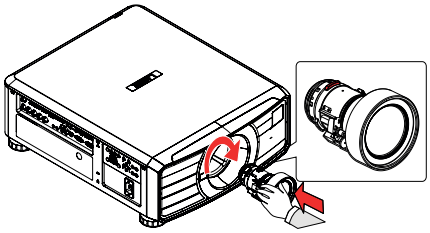
The projector will not turn on the light source without a lens fitted

Inserting a new lens

1. Remove the lens aperture cap or lens from the projector. See Removing the lens on the facing page for guidance on removing a lens.

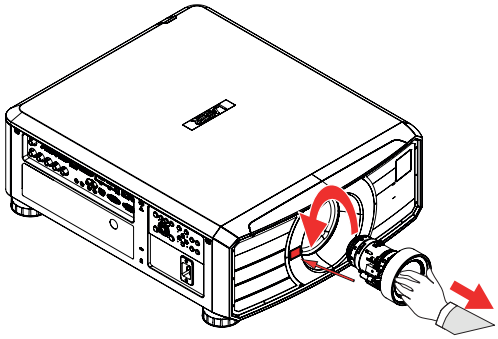


2. Remove the front and rear lens caps from the lens.
3. Position the lens so that the labels are at the top, and gently insert it all the way into the lens mount.
4. Push the lens in firmly and turn it clockwise until it clicks into place.



Removing the lens

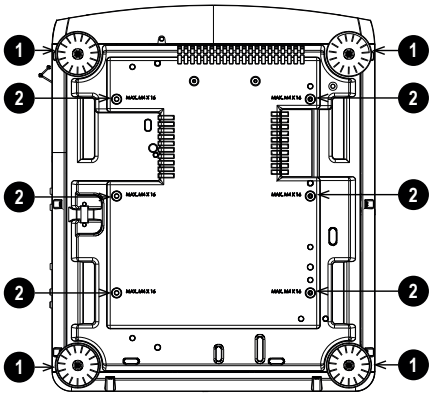
1. Push the lens release button all the way in
2. Turn the lens anti-clockwise until it disengages
3. Slowly remove the lens
4. Fit lens caps to the front and rear of the lens
5. Fit a lens cap or a new lens to the projector. See Inserting a new lens on the previous page for guidance on inserting a lens.



Positioning the screen and projector

1. Install the screen, ensuring that it is in the best position for viewing by your audience.
2. Mount the projector, ensuring that it is at a suitable distance from the screen for the image to fill the screen. Set the adjustable feet so that the projector is level, and perpendicular to the screen.

The drawing shows the positions of the feet for table mounting, and the fixing holes for ceiling mounting.



1. Four adjustable feet ❶.
2. **Six M4 holes for ceiling mount ❷.** The screws should not penetrate more than 16 mm mm into the body of the projector.

Do not use the threaded holes for the adjustable feet to hang or mount the projector.

AC Power Precautions

Warning! Death or Serious Injury could occur if the following precautions are ignored

Shock Hazard! Only use the AC power cord provided or recommended by the manufacturer

Fire & Shock Hazard! Do not operate the product unless the power cord, socket and plug meet local rating standards

Do not attempt operation if the AC supply is not within the specified parameters

The AC power cord must be inserted into a socket with grounding

Disconnect the product from the AC supply before installing, moving, servicing, cleaning or removing covers

Do not use an AC power cord that appears damaged

Do not overload power sockets or extension cords

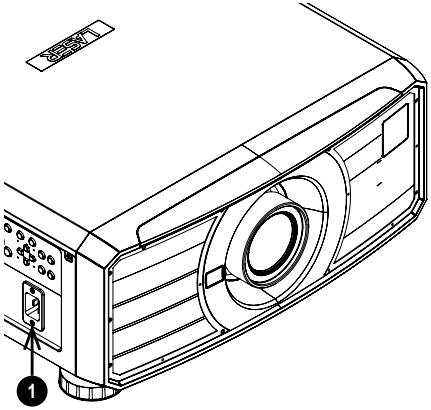
Connecting the power supply

1. Firmly push the mains connector into the AC In socket ❶

Use only the power cable provided.

Ensure that the power outlet includes a ground connection as this equipment MUST be earthed.

Handle the power cable carefully and avoid sharp bends. Do not use a damaged power cable.



Operation and Configuration Precautions

Do not make changes to the networking configuration unless you understand what you are doing, or have taken advice from your Network Manager. If you make a mistake, it is possible that you will lose contact with the projector. Always double-check your settings before pressing the APPLY button. Always keep a written note of the original settings, and any changes you have made.

Software updates should NOT be carried out except by, or with the supervision of, Digital Projection Service personnel.

Basic Operating Instructions

Switching the projector on

1. Ensure a lens is fitted. Connect the power cable between the mains supply and the projector.
2. Press one of the following buttons:
    - On the remote control, the **ON** button
    - On the projector control panel, the **POWER** button.

The **POWER** indicator begins flashing green and the fans begin working. When the flashing stops and the **POWER** indicator shows steady green, the projector is switched on.

The first time you use the projector, you can set OSD language from the quick menu. (See Setting the OSD language in the user manual.)

Switching the projector off

1. Press **OFF** on the remote control or **POWER** on the control panel, then press again to confirm your choice.
   The **POWER** indicator on the control panel will start flashing green, the light source will go out and the cooling fans will run for a short time. The **POWER** indicator stops flashing green and changes to solid green when the projector enters Standby mode.
2. If you need to switch the projector off completely, wait until the projector enters Standby mode, then disconnect the AC power cable from the projector.

Interlock reset

In the event of the laser illumination turning off as a result of an Interlock break:

1. Make sure all interlocks are in place. See Interlock Switches on page 17
2. Turn ON the laser illumination as above

Selecting an input signal

1. Connect one or more image sources to the projector.
2. Select the input you want to display:
    - Press one of the input buttons, or one of the input + or - buttons on the remote control.
    - Press **MENU** on the remote control or control panel and navigate to the Source setting in the Settings 1 tab. Or press **INPUT** on the control panel. Use the **UP** and **DOWN** navigation buttons to select the input source in the **SOURCE** menu. Press **ENTER** to confirm your choice.

Selecting a test pattern

The following test patterns are available:RGB Ramps, Color Bars, Step Ramps, Check Board, Grid, Horizontal Lines, Vertical Lines, Diagonal Lines, Horizontal Ramp, Vertical Ramp, White, Red, Green, Blue, Black, *None*.

To display a test pattern:

1. Press **MENU** on the remote or control panel to open the OSD.
2. Use the **LEFT** and **RIGHT** arrow buttons to access the **Settings 1** menu.
3. Use the **UP**, **DOWN** and **RETURN** buttons to access the **Advanced 2** sub menu.
4. Highlight **Test Pattern** and select a test pattern using the **LEFT** and **RIGHT** arrow buttons.

To return to the main image, set the test pattern to none and exit the OSD by pressing **EXIT**.

Adjusting the lens

You can use the following options to adjust the lens:

- Control panel. See Control panel on page 30
- Remote control. See Remote control on page 32
- On screen display (OSD).

OSD Lens control menu

Navigate to **Settings1 > Alignment > Lens Control**.

Use the ► ◄ ▲ ▼ up down cursor controls to adjust lens shift within the **Lens Control Shift** menu. Press OK to switch to the **Lens Control Zoom and Focus** menu. Use the ▲ ▼ cursors to adjust zoom and the ► ◄ cursors to adjust focus.

Adjusting the image

Orientation

This can be set from the **Settings 1** menu.

Highlight **Projection** and choose from **Desktop Front**, **Desktop Rear**, **Ceiling Front** and **Ceiling Rear**.

Geometry

Settings such as **Keystone** and **4 Corners** can be set from the **Settings 1** menu.

Keystone requires an external signal input to enable it to be set.

Picture

Settings such as **Display Modes**, **Brightness**, **Contrast**, **Computer**, **Auto Image**, **Color Manager** (**Hue**, **Saturation** and **Gain**), **Dynamic Black Settings**, **HDR Settings**, and **Advanced** (**Brilliant Color**, **Sharpness**, **Gamma**, **Color Temperature**, **Video Saturation**, **Video Tint** and **White Balance**.) can be set from the **Image** menu.

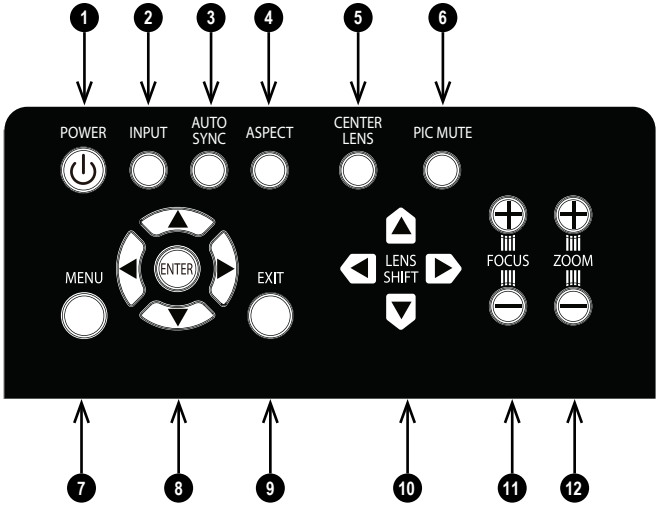
This product includes a DICOM simulation feature intended for training and other non-medical diagnosis purposes.

Adjusting the audio

The audio output can be adjusted using the remote control or OSD:

- Use the **Volume** button on the remote to open the volume bar. Use the LEFT and RIGHT arrow buttons to adjust the volume level.
- Use the **Mute** button on the remote to mute the audio.
- Press **MENU** on the remote or control panel to open the OSD. Navigate to the **Settings 1** menu and open the **Audio** sub menu to adjust the audio.

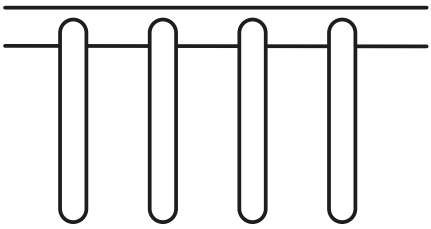
Control panel



Control Panel

1. **POWER**
   Switches the projector on and off (STANDBY).
2. **INPUT**
   Displays the input selection menu.
3. **AUTO SYNC**
   Re-synchronises with the current input signal.
4. **ASPECT**
   Changes the aspect ratio.
5. **CENTER LENS**
   Centers the lens.
6. **PIC MUTE**
   Shows and hides the projected image. When muted, the light source is completely switched off and the screen is blank.
7. **MENU**
   Displays and exits the OSD.
8. **Arrow buttons & ENTER**
   Press an arrow button to open the keystone menu. Use the arrow buttons to adjust vertical and horizontal keystone. After opening the OSD, use the arrow buttons to highlight menu entries. Press **ENTER** to open or execute the highlighted menu entry.
9. **EXIT**
   Exits the current OSD page and enters the level above.
10. **LENS SHIFT**
    Arrow buttons move the lens in the specified direction.
11. **FOCUS**
    Plus and minus buttons move the focus in and out.
12. **ZOOM**
    Plus and minus buttons zoom in and out.

Projector indicators



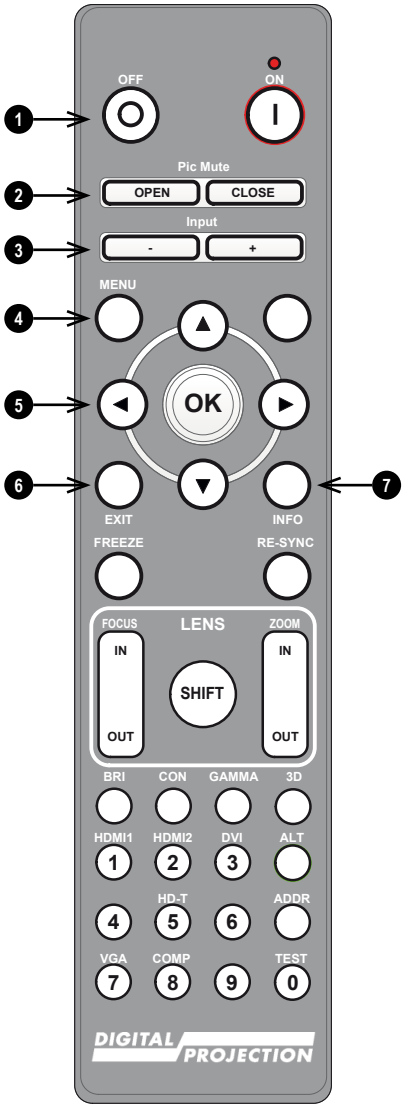
Indicators

- **TEMP.**
  Off = no problem
  On = temperature error
- **LIGHT**
  Off = no problem
  Flashing red = projector error
- **STATUS**
  Off = no problem
  Flashing red (cycles of six flashes) = fan error
  Flashing red (cycles of seven flashes) = cover error
- **POWER**
  Off = AC power is not present
  Flashing green = the projector is starting up or cooling down
  On, green = the projector is on or in standby mode

**See the user manual for full details about the indicator messages*

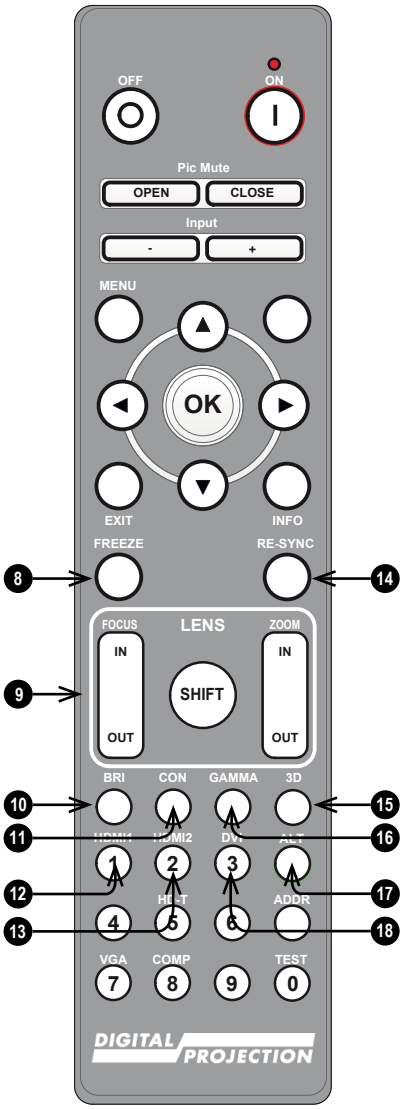
Remote control

1. **Power ON / OFF**
   Turns power on and off.
   To turn the projector off, press the OFF button twice within five seconds.
2. **Pic Mute OPEN / CLOSE**
   - Press CLOSE to hide the projected image. When closed, the light source is completely switched off and the screen is blank.
   - Press OPEN to display the hidden image.
3. **Input + / -**
   Cycles through the signal inputs
4. **MENU**
   Access the on screen display (OSD). If the OSD is open, press this button to go back to the previous menu.
5. **Navigation (arrows and OK)**
   Adjusts horizontal and vertical keystone.
   See **5** above. In menu mode, use the arrows to navigate through the menu, use **OK** to confirm your choice.
   See **10** below. In lens adjustment modes, use the arrows to shift, zoom or focus the lens, use **OK** to switch between modes: **Shift Adjustment** and **Zoom / Focus Adjustment**.
6. **EXIT**
   Go up one level in the OSD. When the top level is reached, press to close the OSD.
7. **INFO**
   Access information about the projector.



Remote Control

8. **FREEZE**
   Freeze the current frame.
9. **LENS adjustment**
   - **FOCUS IN / OUT**: adjust focus.
   - **SHIFT**: press and hold this button, then use the Navigation arrow buttons to move the lens.
   - **ZOOM IN / OUT**: adjust zoom.
10. **BRI**
    Set the brightness level.
11. **CON**
    Set the contrast level.
12. **HDMI 1 / numeric input 1**
    Select the HDMI 1 input.
13. **HDMI 2 / numeric input 2**
    Select the HDMI 2 input.
14. **RE-SYNC**
    Re-synchronise with the current input signal
15. **3D**
    Open the 3D Setting menu in the OSD.
16. **GAMMA**
    Set the gamma.
17. **ALT**
    Press and hold this button to access alternative functions for other buttons on the remote.
18. **DVI / numeric input 3**
    Select the DVI input.



Remote Control

19. **numeric input 4**
20. **HD-T / numeric input 5**
    Select the HDBaseT input.
21. **ADDR (with red indicator at the top)**
    Assign and unassign an IR remote address.
    To assign an IR remote address:
    1. Press and hold this button until the red indicator starts flashing.
    2. Release this button and while the red indicator is still flashing, enter a two-digit address using the numeric input buttons. The indicator will flash three times quickly to confirm the change.

    To unassign an address and return to the default address 00:
    1. Press and hold ALT and this button simultaneously until the red indicator flashes to confirm the change.
22. **numeric input 6**

Remote Control

23. **VGA numeric input 7**
    Select the VGA input.
24. **COMP / numeric input 8**
    Select the Component input.
    Use with **ALT** to switch between left and right eye 3D dominance.
25. **TEST / numeric input 0**
    Show the Grid test pattern. Press again to exit.
26. **numeric input 9**

Remote Control