

HIGHlite Laser 4K Series



Super High Brightness Digital Video Projector
Important Information

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Super High Brightness Digital Video Projector

Important Information

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Full information about operating, connecting and setting up the projector can be found in the User Manual, located on the CD.

Symbols used in the User Manual



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.



Specifications are subject to change without notice.

Electrical and physical specifications

Mains Voltage	200-240 VAC 8.5 A 50/60 Hz (single phase) 110-130 VAC 11 A 50/60 Hz (single phase)
Operating Temperature	0°C to 35°C
Storage Temperature	-20°C to 60°C
Operating Humidity	20% to 90% non-condensing
Weight	70 kg (154.3 lb) without lens
Power Consumption	1650 W at 220 VAC, 1210 W at 110 VAC
Thermal Dissipation	5627 BTU/hr at 220 VAC, 4126 BTU/hr at 110 VAC

Laser precautions



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 to be Risk Group 2 (Low Risk).

Laser Parameters:

Wavelength	450 nm - 460 nm
Laser Power for classification	333.5 mW
Total internal power	> 100 W
Apparent Source Size	> 10 mm at lens stop
Divergence	100 milliRadian

Product labels



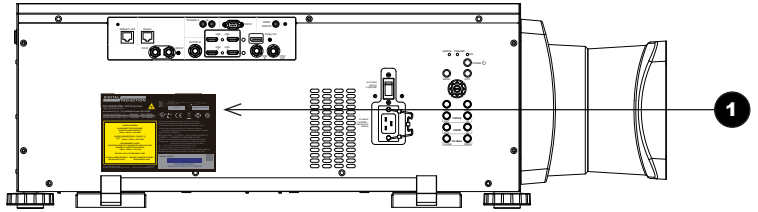
1 Manufacturer's ID Label and Explanatory Label

Complies with FDA performance standards for laser products except for deviations pursuant to Laser Notice No. 50, dated June 24, 2007

2 Certification Statement Label

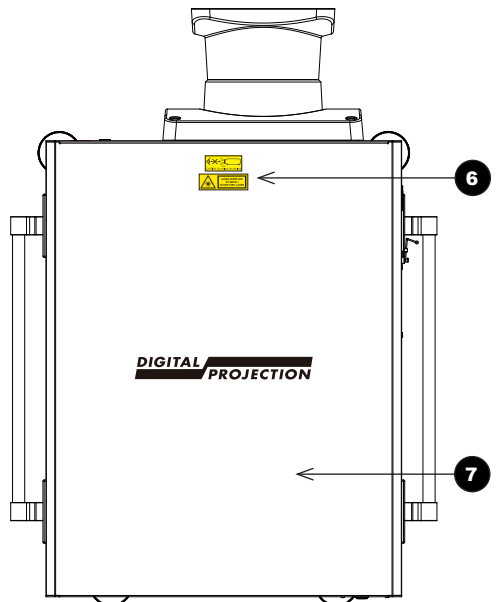


4 Hazard Warning Symbol and Aperture Label



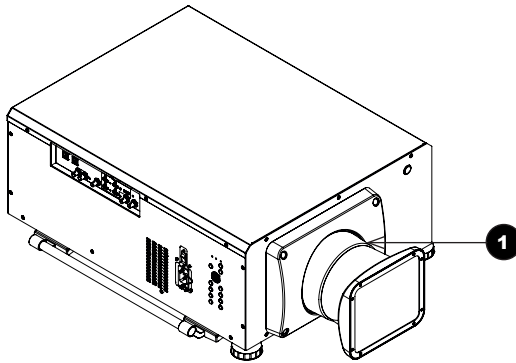
Label locations

- 1 Location of Manufacturer's ID Label, Certification Statement Label and Explanatory Label on the body of the projector
- 2 Manufacturer's ID Label (manufacturer's name, address and projector model)
- 3 Certification Statement Label
- 4 Serial number
- 5 Explanatory Label
- 6 Location of Hazard Warning Symbol and Aperture Label on the body of the projector
- 7 Protective Housing Label (under the top cover and only visible to service personnel)



Location of laser aperture

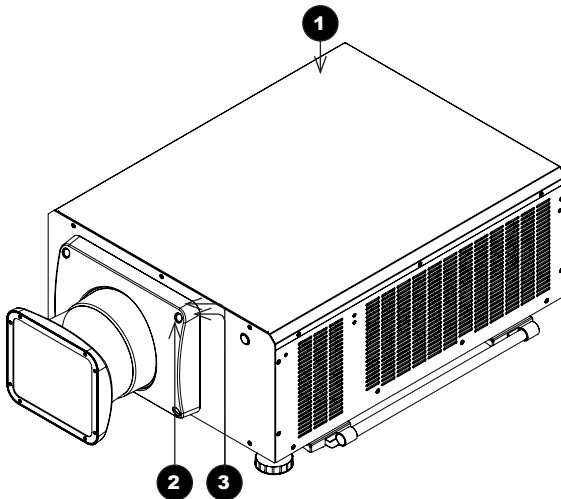
The laser aperture **1** is located as indicated below.



Interlock switches

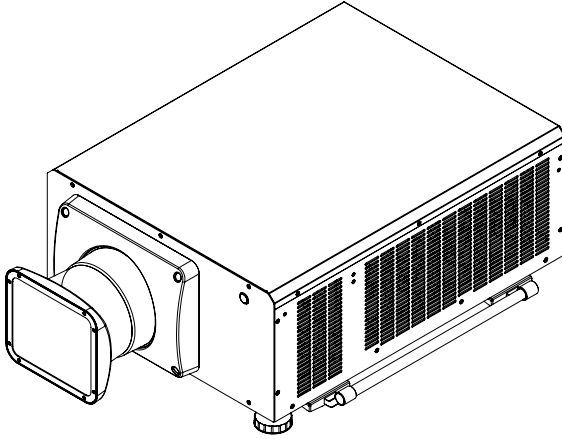
Five interlock switches installed at the main frame, inside the cover, will power-off the system individually when activated.

- 1** Will be activated when the top cover is removed.
- 2** Will be activated when the projection lens is removed.
- 3** (x2) Will be activated when the lens hood is removed.



Lens hood

The lens hood is compatible with the following lenses:



Throw ratios	Part number
0.77 : 1 fixed lens	110-808
1.16 : 1 fixed lens	110-809
1.45 - 1.74 : 1 zoom lens	110-803
1.74 - 2.17 : 1 zoom lens	112-878
2.17 - 2.90 : 1 zoom lens	113-852
2.90 - 4.34 : 1 zoom lens	110-806

General precautions



- 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.**

Installation precautions



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

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

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.

Ensure that there is at least 30cm (12in) of space between the ventilation outlets and any wall, and 10cm (4in) on all other sides.

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.

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

Do not drop or knock the projector.

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.

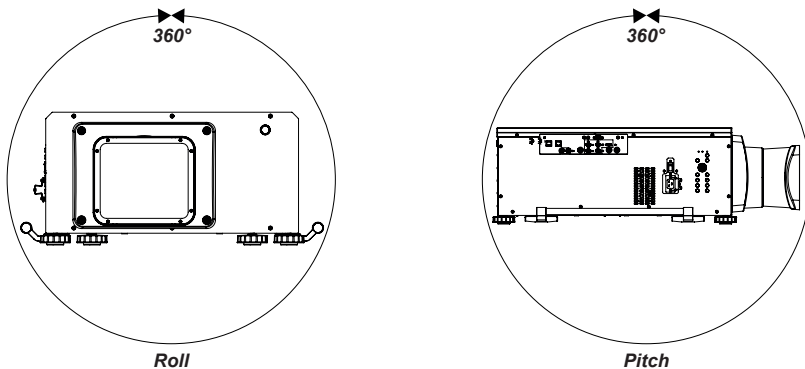
When stacking projectors, the stack **MUST** be vertical, to ensure that the stresses are distributed to all four chassis corners.

Do not stack more than 3 projectors.

Do not place heavy objects on top of the projector chassis. Only the chassis corners and the optional rigging frame are capable of withstanding the weight of another projector.

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

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



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

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 A 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 42 dB (A) according to ISO 3744 or ISO 7779.

European Waste Electrical and Electronic Equipment (WEEE) Directive



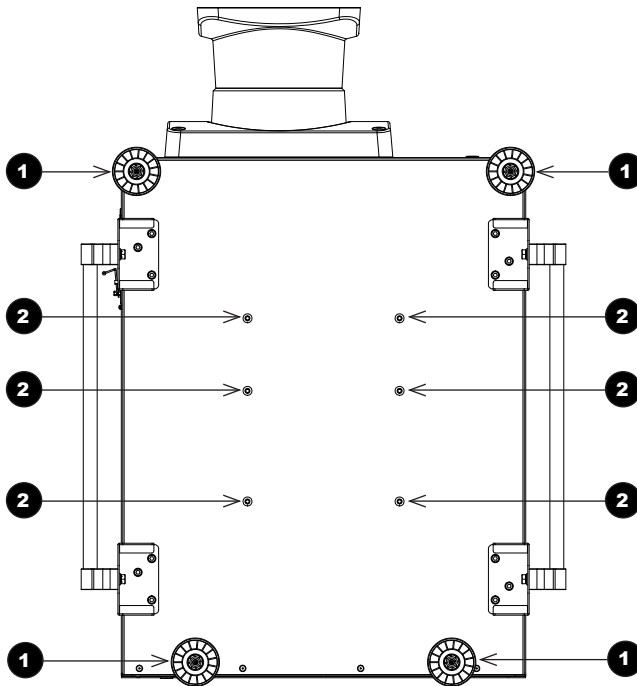
Digital Projection Ltd is fully committed to minimising Waste Electrical and Electronic Equipment. Our products are designed with reuse, recycling and recovery of all components in mind. To this end, at end of life, your projector may be returned to Digital Projection Ltd or its agent so that the environmental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

Basic Operation Instructions

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



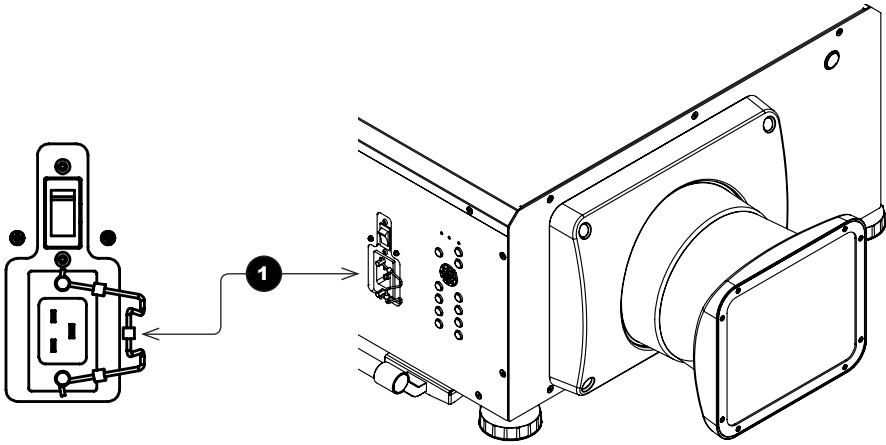
1 Four adjustable feet

2 Six M6 holes for ceiling mount

The screws should not penetrate more than 15 mm into the body of the projector.

Connecting the power supply

Firmly push the mains connector into the **socket 1**.



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.

Switching the projector on

1. Connect the power cable between the mains supply and the projector. (See **Connecting the power supply** above.) Switch on at the switch next to the power connector.
2. The **STANDBY** indicator lights red to signal that the projector is in STANDBY mode. Press one of the following buttons:
 - On the remote control, the **ON** button
 - On the projector control panel, the **POWER** button.

After approximately 15 seconds, the **ON** indicator begins flashing blue. When the flashing stops, the **ON** indicator lights solid blue and the Digital Projection logo appears on the screen. The projector is switched on.

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 **ON** indicator on the control panel will start flashing, the system will go out and the cooling fans will run for a short time until the **STANDBY** indicator goes steady green to indicate that the projector has entered STANDBY mode.

2. If you need to switch the projector off completely, switch off at the AC power switch above the power connector and then disconnect the power cable from the projector.

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 on the remote control.
 - Alternatively, open the On-screen display (OSD) by pressing **MENU**. Highlight **Input** from the main menu, press **ENTER/OK** and then select an input signal using the **UP** and **DOWN** arrow buttons. Press **ENTER/OK** to confirm your choice.

Selecting a test pattern

To display a test pattern:

- Press **TEST** on the remote control. If necessary, press again to change the test pattern. Test patterns are displayed in the following order:

White, Black, Red, Green, Blue, CheckerBoard, CrossHatch, V Burst, H Burst, ColorBar, Off

After the final test pattern, the projector exits test pattern mode and returns to the main image. To view test patterns again, you need to press **TEST** again.

- Alternatively, open the OSD by pressing **MENU**. Highlight **Test Patterns** from the main menu, then select a test pattern using the **LEFT** and **RIGHT** arrow buttons.

Adjusting the lens

The lens can be adjusted using the **Lens** menu, or using the lens buttons on the remote control.

Lens menu

The **Lens** menu provides access to the **Lens Control** setting and the **Lens Center** command.

Lens Control allows **Zoom**, **Focus** and **Shift** adjustment using the arrow buttons. The setting operates in **Zoom/Focus Adjustment** and **Shift Adjustment** mode.

Press **ENTER/SELECT** to switch between the two modes.

Remote control

Use the remote control to adjust zoom, focus and shift directly, without opening a menu:

- **OK** enters lens control, then switches between **Zoom/Focus Adjustment** and **Shift Adjustment**.
- **EXIT** exits lens control and opens the **Lens** menu.
- **MENU** exits lens control and returns to the main image.
- The arrow buttons adjust zoom, focus and shift as indicated on the screen.

Adjusting the image

Orientation

- This can be set from the **Setup** menu.

Highlight **Orientation** and choose from **Front Tabletop**, **Front Ceiling**, **Rear Tabletop** and **Rear Ceiling**.

Keystone

- This can be set from the **Geometry** menu.

Picture

- Settings such as **Gamma**, **Brightness**, **Contrast**, **Saturation**, **Hue** and **Sharpness** can be set from the **Image** menu.

Inserting a new lens



Before changing the lens, always make sure the projector is switched off and fully disconnected from its power supply.



When changing the lens, avoid using excessive force as this may damage the equipment.



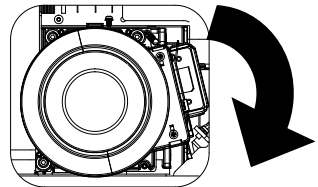
Take care to preserve the original lens packaging and protective caps for future use.



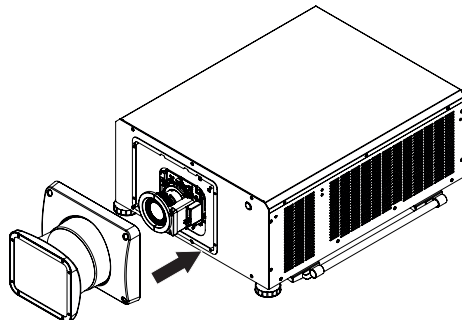
The projector will not power on without the lens and lens hood fitted.

1. Insert the lens into the lens aperture, making sure that the plug on the zoom drive mechanism lines up with socket on the right of the lens aperture.

2. Rotate the lens clockwise until it clicks into place.



3. Secure the lens hood to the front of the projector with the screws.



Removing the lens



Before changing the lens, always make sure the projector is switched off and fully disconnected from its power supply.



When changing the lens, avoid using excessive force as this may damage the equipment.

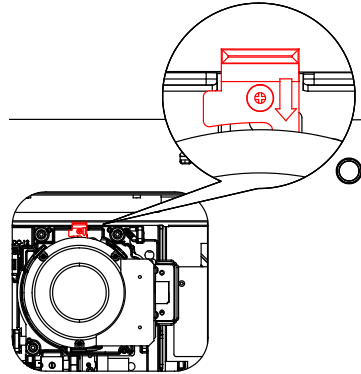
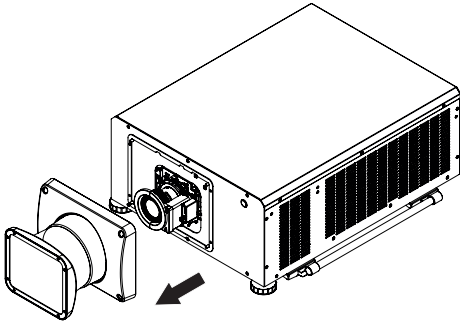


Take care to preserve the original lens packaging and protective caps for future use.

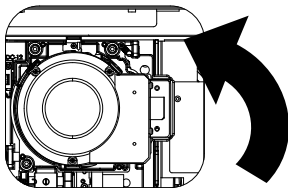


The projector will not power on without the lens and lens hood fitted.

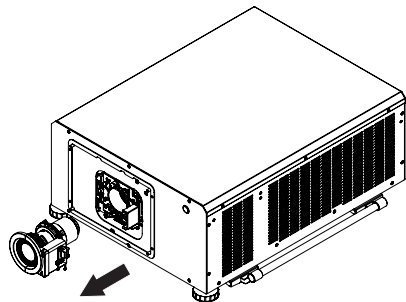
1. Loosen the four screws securing the lens hood to the body of the projector.
Remove the lens hood.
2. Push down the lens holder tab.



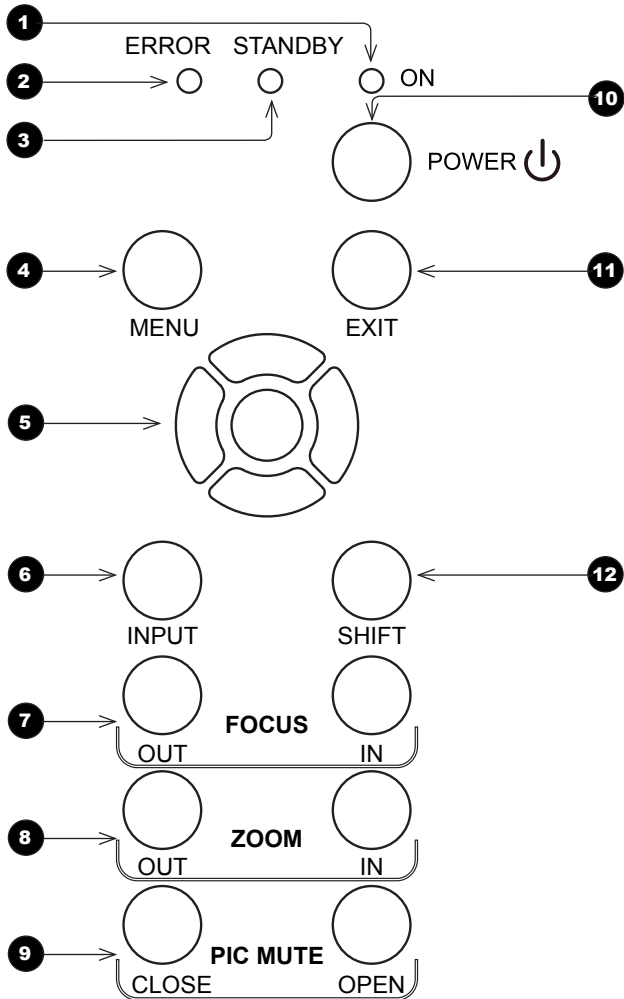
3. Rotate the lens anti-clockwise.



4. Pull the lens forward to remove it from the lens aperture.



Control Panel Reference



1 ON indicator (blue)**Behavior**

Off

**Meaning**

The projector is switched off.

On



The projector is switched ON.

Flashing



The projector is warming up or cooling down.

2 ERROR indicator (red)**Behavior**

Flash once, then pause

**Meaning**

Laser failure.

Flash twice, then pause



Cover open.

Flash three times, then pause



Fan failure.

Flash four times, then pause



Over temperature.

On



System error.

3 STANDBY indicator (green)**Behavior**

On

**Meaning**

The projector is in STANDBY mode.

4 MENU button

Access the projector OSD (on-screen display).

5 Navigation (arrow buttons and ENTER)Navigate the OSD and edit settings with the arrows, confirm your choice with **ENTER**.**6 INPUT button**

Select input source.

7 Focus IN / OUT

Adjust focus.

8 Zoom IN / OUT

Adjust zoom.

9 Shutter CLOSE / OPEN

Open and close the shutter.

10 POWER button

Switch the projector on and off (in STANDBY mode)

11 EXIT button

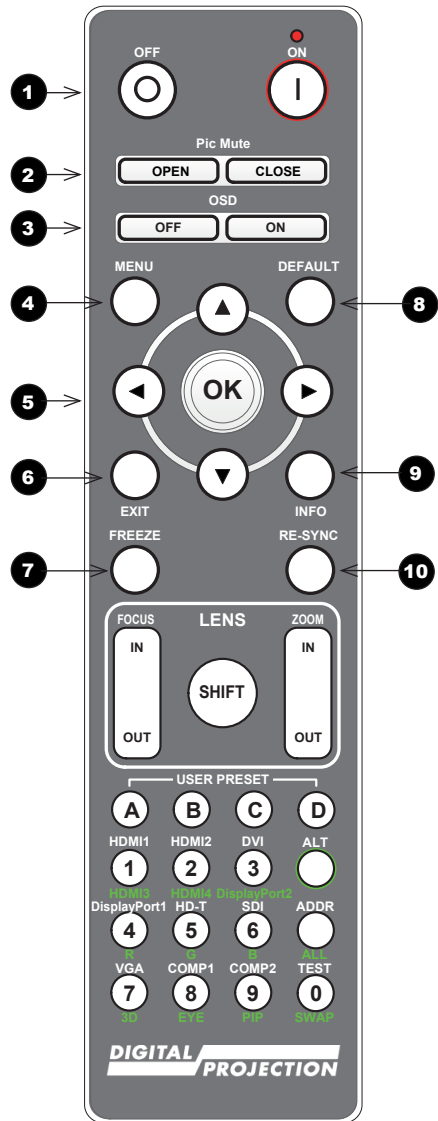
Close the OSD.

12 SHIFT button

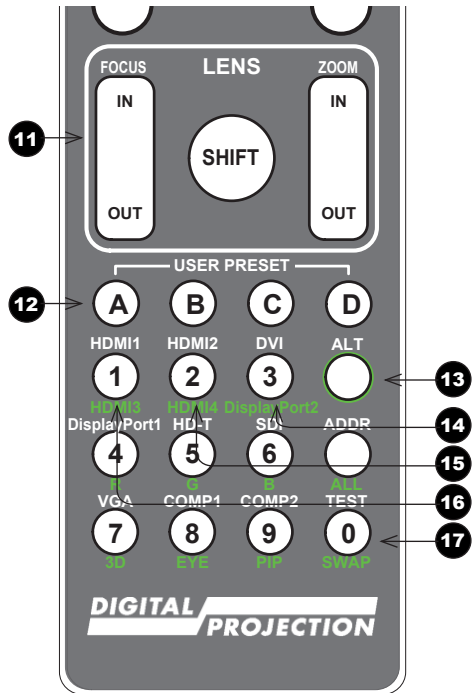
Press and hold this button, then press the arrow buttons to move the lens.

Remote Control Reference

- 1 Power ON/OFF**
Turns the projector on and off. To turn the projector off, press the OFF button twice within five seconds.
- 2 Pic Mute OPEN / CLOSE**
Shows and hides the projected image.
- 3 OSD ON / OFF**
Enables and disables screen timeout messages and showing the OSD during projection.
- 4 MENU**
Access the projector OSD (on-screen display). If the OSD is open, press this button to go back to the previous menu.
- 5 Navigation (arrows and OK)**
Navigate through the menus with the arrows, confirm your choice with **OK**. In lens adjustment modes, the arrows are used to move, zoom or focus the lens. See **11** below.
- 6 EXIT**
Close the current OSD page and return to the level above.
- 7 FREEZE**
Freeze the current frame.
- 8 DEFAULT**
Restore default settings.
- 9 INFO**
Access information about the projector.
- 10 RE-SYNC**
Re-synchronise with the current input signal.



- 11** **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.
- 12** **USER PRESET A, B, C, D**
 Load user presets.
- 13** **ALT**
 Press and hold this button to access alternative functions for all buttons with a green label.
- 14** **DVI / DisplayPort2 / numeric input 3**
 Use with **ALT** to switch to the DisplayPort 2 input.
 Use without ALT is not supported as this projector does not have DVI input.
- 15** **HDMI 2 / HDMI 4 / numeric input 2**
 Select the HDMI 1 input.
 Use with **ALT** to switch to the HDMI 4 input.
- 16** **HDMI 1 / HDMI 3 / numeric input 1**
 Select the HDMI 1 input.
 Use with **ALT** to switch to the HDMI 3 input.
- 17** **TEST / SWAP / numeric input 0**
 Show a test pattern. Press again to show the next test pattern:
 ...**Off, White, Black, Red, Green, Blue, Cyan, Magenta, Yellow...**



18 **DisplayPort 1 / R / numeric input 4**
Select the DisplayPort 1 input.

19 **HD-T / G / numeric input 5**
Select the HDBaseT input.

20 **SDI / B / numeric input 6**
Select the 3G-SDI input.

21 **VGA / 3D / numeric input 7**
Select the VGA input.
Use with **ALT** to toggle the **3D Format** setting between **Off** and **Auto**.

22 **COMP1 / EYE / numeric input 8**
Use with **ALT** to switch between left and right eye 3D dominance. Use without **ALT** is not supported as this projector does not have Component input.

23 **COMP2 / PIP / numeric input 9**
This button is unavailable as the projector does not have Component input.

24 **ADDR / ALL**
Assign and unassign an IR remote address.

To assign an address:

1. Press and hold this button until the indicator starts flashing.
2. Release this button and while the 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,

- Press and hold **ALT** and this button simultaneously until the indicator flashes to confirm the change.

