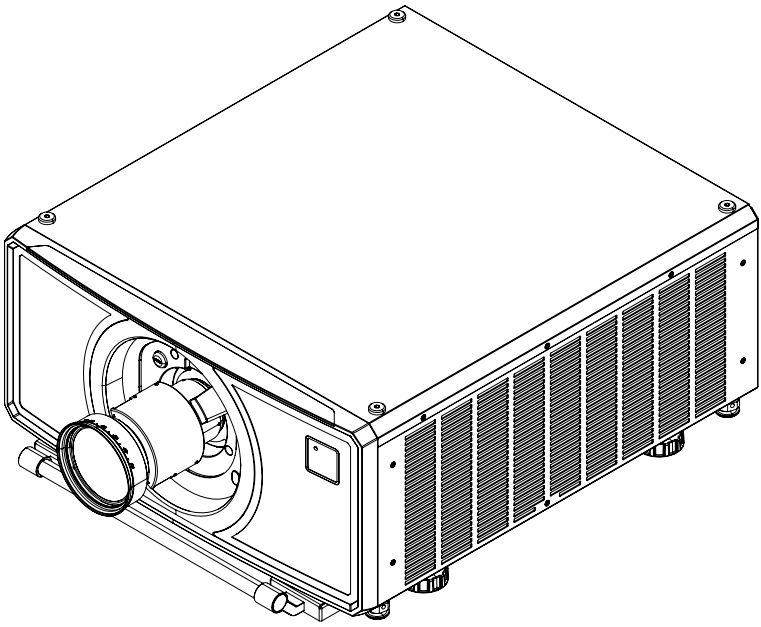
DIGITAL PROJECTION

A Delta Group Company

M-Vision 21000 II Series WUXGA
M-Vision 24000 Series WUXGA
M-Vision 27000 Series WUXGA

IMPORTANT INFORMATION



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Introduction

Congratulations on your purchase of this Digital Projection product.

The information in this document is relevant for the following products:

- M-Vision 21000 II Series WUXGA (EMEA and China)
- M-Vision 21000 II Series WUXGA (USA TAA compliant)
- M-Vision 21000 II Series WUXGA (USA TAA compliant - REF)
- M-Vision 24000 Series WUXGA (EMEA and China)
- M-Vision 24000 Series WUXGA (USA TAA compliant)
- M-Vision 24000 Series WUXGA (USA TAA compliant - REF)
- M-Vision 27000 Series WUXGA (EMEA and China)
- M-Vision 27000 Series WUXGA (USA TAA compliant)
- M-Vision 27000 Series WUXGA (USA TAA compliant - REF)

This projector is a Laser Risk Group 2 product when a lens with a throw ratio less than 1.2: 1 is installed. It becomes Laser Risk Group 3 when a lens with a throw ratio greater than 1.2 :1 is installed. Additional installation and operational precautions must be followed when the projector is classed as Laser Risk Group 3. This information is provided in this document and in the User Manual.

Please note that the REF model is always classed under Laser Risk Group 2.

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 M-Vision projector user guides and other documentation via the Digital Projection website.

Or visit the Digital Projection website to download the latest user guide and other documentation.

Legal notice

Third Party Credits

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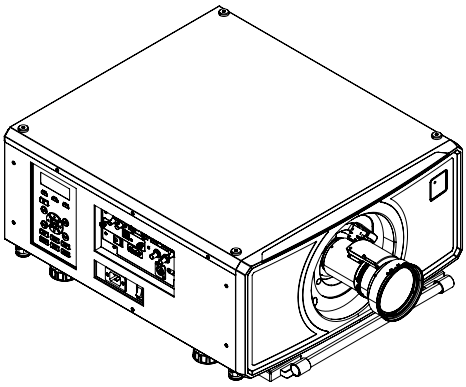
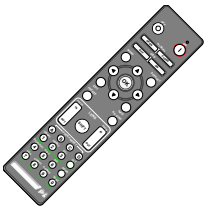
etherCON™ Designed by and Copyright Neutrik AG.

Contents

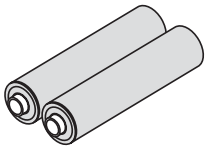
What's in the box?



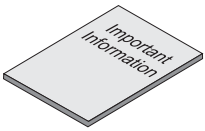
Projector



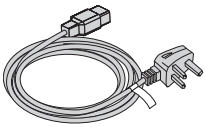
Remote Control



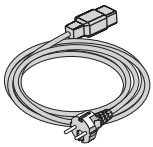
Batteries (2xAAA)



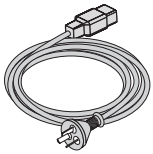
Important Information Book



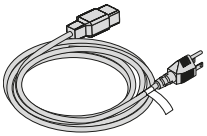
Power Cable, UK



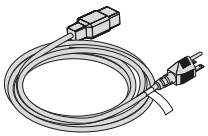
Power Cable, Europe



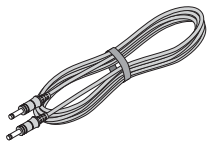
Power Cable, China



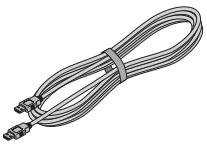
NEMA 5-15P - C19 Power Cable, North America



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



Remote Control Cable



HDMI Cable

A single power cable is supplied with the projector. The cable appropriate for the destination territory is supplied.

The M-Vision Laser Stacking Kit is available as an optional extra (part number: 119-073A). Please contact your local representative for details.

Electrical and Physical Specifications

	M-Vision 21000 II Series WUXGA	M-Vision 24000 Series WUXGA
Mains Voltage	200-240 VAC 10.6 A 50/60Hz 110-130 VAC 11.1 A 50/60Hz	
Operating Temperature	0°C to 40°C (32°F to 104°F) in mormal mode. 33°C to 40°C (91°F to 104°F) automatically reduced to ECO mode light output	
Storage Temperature	-20°C to 60°C (-4 F to 140 F)	
Operating Humidity	90% (with maximum temperature of 35°C) non-condensing	
Storage Humidity	10% to 90% non-condensing	
Dimensions	W 599 mm (23.6 in), H 303 mm (11.9 in), D 768 mm (30.3 in)	
Weight	47.2 kg (104 lb) without lens	
Power Consumption	at 110VAC: typical 850 W, max 935 W in Normal mode at 110VAC: typical 1150 W, max 1265 W in High Altitude mode at 230VAC: typical 1300 W, max 1430 W in Normal mode at 230VAC: typical 1000 W, max 1100 W in ECO mode at 230VAC: typical 1600 W, max 1760 W in High Altitude mode	at 110VAC: typical 850 W, max 935 W in Normal mode at 110VAC: typical 1150 W, max 1265 W in High Altitude mode at 230VAC: typical 1450 W, max 1595 W in Normal mode at 230VAC: typical 1050 W, max 1155 W in ECO mode at 230VAC: typical 1750 W, max 1935 W in High Altitude mode
Standby Power	<1W in Super ECO mode, <6W in ECO mode, <40 Win Normal mode	
Thermal Dissipation	at 110 VAC: typical 2901 BTU/hr, max 3191 BTU/hr in Normal mode at 110 VAC: typical 3925 BTU/hr, max 4317 BTU/hr in High Altitude mode at 230 VAC: typical 4437 BTU/hr, max 4881 BTU/hr in Normal mode at 230 VAC: typical 3413 BTU/hr, max 3754 BTU/hr in ECO mode at 230 VAC: typical 5461 BTU/hr, max 6007 BTU/hr in High Altitude mode	at 110 VAC: typical 2901 BTU/hr, max 3191 BTU/hr in Normal mode at 110 VAC: typical 3925 BTU/hr, max 4317 BTU/hr in High Altitude mode at 230 VAC: typical 4949 BTU/hr, max 5444 BTU/hr in Normal mode at 230 VAC: typical 3584 BTU/hr, max 3942 BTU/hr in ECO mode at 230 VAC: typical 5973 BTU/hr, max 6604 BTU/hr in High Altitude mode

	M-Vision 21000 II Series WUXGA	M-Vision 24000 Series WUXGA
Fan Noise	typical 44dBA, max 46dBA in Normal mode typical 42dBA, max 44dBA in ECO mode	typical 47dBA, max 49dBA in Normal mode typical 45dBA, max 47dBA in ECO mode

	M-Vision 27000 Series WUXGA
Mains Voltage	200-240 VAC 10.6 A 50/60Hz 110-130 VAC 11.1 A 50/60Hz
Operating Temperature	0°C to 40°C (32°F to 104°F) in mormal mode. 33°C to 40°C (91°F to 104°F) automatically reduced to ECO mode light output
Storage Temperature	-20°C to 60°C (-4 F to 140 F)
Operating Humidity	90% (with maximum temperature of 35°C) non-condensing
Storage Humidity	10% to 90% non-condensing
Dimensions	W 599 mm (23.6 in), H 303 mm (11.9 in), D 768 mm (30.3 in)
Weight	47.2 kg (104 lb) without lens
Power Consumption	at 110VAC: typical 850 W, max 935 W in Normal mode at 110VAC: typical 600 W, max 660 W in ECO mode at 110VAC: typical 1150 W, max 1220 W in High Altitude mode at 230VAC: typical 1550 W, max 1700 W in Normal mode at 230VAC: typical 1250 W, max 1375 W in ECO mode at 230VAC: typical 1850 W, max 2035 W in High Altitude mode
Standby Power	<1W in Super ECO mode, <6W in ECO mode, <40W in Normal mode
Thermal Dissipation	at 110 VAC: typical 2901 BTU/hr, max 3191 BTU/hr in Normal mode at 110 VAC: typical 2048 BTU/hr, max 2253 BTU/hr in ECO mode at 110 VAC: typical 3925 BTU/hr, max 4317 BTU/hr in High Altitude mode at 230 VAC: typical 5289 BTU/hr, max 5818 BTU/hr in Normal mode at 230 VAC: typical 4265 BTU/hr, max 4692 BTU/hr in ECO mode at 230 VAC: typical 6313 BTU/hr, max 6944 BTU/hr in High Altitude mode
Fan Noise	typical 48dBA, max 50dBA in Normal mode typical 46dBA, max 48dBA in ECO 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 authorized 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 jewelery 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.

Service personnel should use effective laser safety goggles during service operations.

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 authorized 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

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

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

Do not attempt to operate the product without covers in place.

Lens Change should only be carried out by instructed and skilled persons in accordance with the Important Information document or User Manual. If in doubt consult your dealer.

Ensure the projector is switched off and AC power removed before attempting a lens change

This projector is a Laser Risk Group 2 product when a lens with a throw ratio less than 1.2: 1 is installed. It becomes Laser Risk Group 3 when a lens with a throw ratio greater than 1.2 :1 is installed.

Please note that the REF model is always classed under Laser Risk Group 2.

Laser Risk Group 2 Precautions

Class 1 Laser Product, BS EN IEC 60825-1:2014.
Caution! As with any bright source, do not stare directly into beam, RG2 IEC 62471-5:2015.

The product should be installed and operated in accordance with the provisions of BS EN IEC 62471-5:2015 and the Important Information document or User Manual

Children should be supervised and never be allowed to stare into the projector beam at any distance from the projector.

Use caution when using a remote control to switch the projector on when standing in front of the projection lens.

Avoid the use of optical aids, such as binoculars or telescopes, inside the beam.

MOUNT ABOVE THE HEAD HEIGHT OF CHILDREN. It is recommended to use a ceiling mount to place this product above the eyes of children.

Laser Risk Group 3 Precautions

Not for household use.

Class 1 Laser Product, BS EN IEC 60825-1:2014.
No direct exposure to the beam shall be permitted, RG3 BS EN IEC 62471-5:2015.

Operators shall control access to the beam within the hazard distance or install the product at a height that will prevent exposure of the spectator's eyes within the hazard distance. See Light Hazard Distance and Hazard Zone on page 35 for more information.

The product should be installed and operated in accordance with the provisions of BS EN IEC 62471-5:2015 and the Important Information document or User Manual by instructed and skilled persons only (BS EN IEC 62368-1:2020).

Laser Parameters

Wavelength (Red)	635-651 nm
Wavelength (Blue)	449-461 nm
Mode of operation	Pulsed, due to frame rate
Pulse duration (Red)	1.00 ms
Pulse duration (Blue)	0.76 ms
Pulse repetition rate	180 Hz
Maximum pulse energy (Red)	0.26 mJ
Maximum pulse energy (Blue)	0.15 mJ
Apparent source size	> 10 mm (at lens stop)
Divergence	> 100 mRad

Light Output

The light output for the M-Vision 21000 II Series WUXGA projector is 21,000 Lumens at 100% laser power.

The light output for the M-Vision 24000 Series WUXGA projector is 24,000 Lumens at 100% laser power.

The light output for the M-Vision 27000 Series WUXGA projector is 27,000 Lumens at 100% laser power.

Laser Power

The altitude and ambient temperature at the location where the projector is installed affects the laser power output. This is an automatic adjustment made by the projector:

Ambient temperature		Laser Power Output (%)		
		<4000ft (<1219m)	**4000~8000ft (1219~2438m) High altitude mode**	**At 8000~13780ft (2438~4200m) High altitude mode**
<26°C	<78.8°F	100%	90%	80%
26~32°C	78.8~89.6°F	100%	90%	80%
33~35°C	91.4~95°F	90%	80%	70%
36~40°C	96.8~104°F	80%	70%	60%
41~45°C	105.8~113°F	60%	60%	50%

Laser power output is limited to 60% at 110VAC, with reduced light output.

High altitude mode is activated when the projector is installed at a location over 4000ft (1219m) above sea level.

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 for the M-Vision 21000 II Series WUXGA is less than 46 dB (A) at normal operating mode according to ISO 3744 or ISO 7779.

The sound pressure level for the M-Vision 24000 Series WUXGA is less than 49 dB (A) at normal operating mode according to ISO 3744 or ISO 7779.

The sound pressure level for the M-Vision 27000 Series WUXGA is less than 50 dB (A) at normal operating mode according to ISO 3744 or ISO 7779.

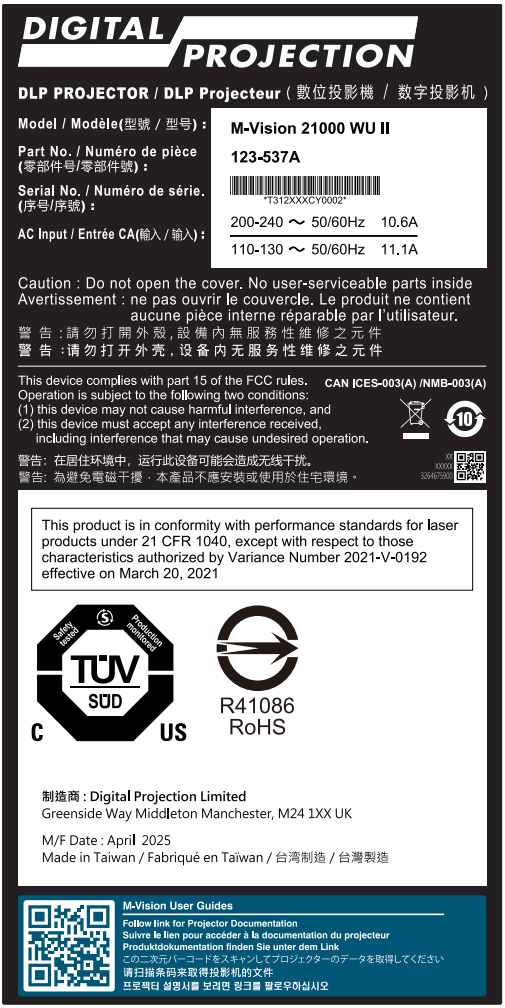
European Waste Electrical and Electronic Equipment (WEEE) Directive

Digital Projection Ltd is fully committed to minimizing 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 minimized.

Product Labels

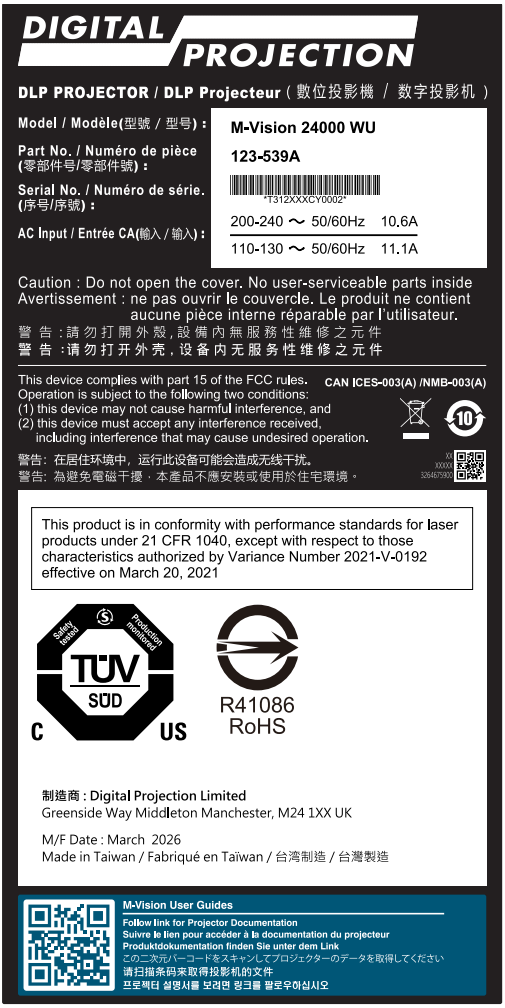
Projector

M-Vision 21000 II Series WUXGA Manufacturers ID Label (EMEA and China)



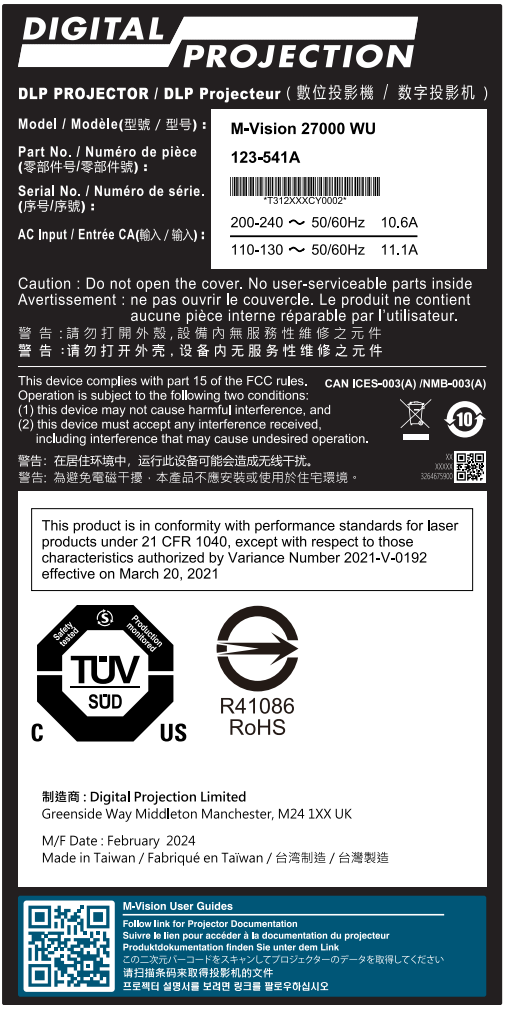
M-Vision 21000 II Series WUXGA Manufacturers ID Label (USA TAA compliant)

M-Vision 24000 Series WUXGA Manufacturers ID Label (EMEA and China)

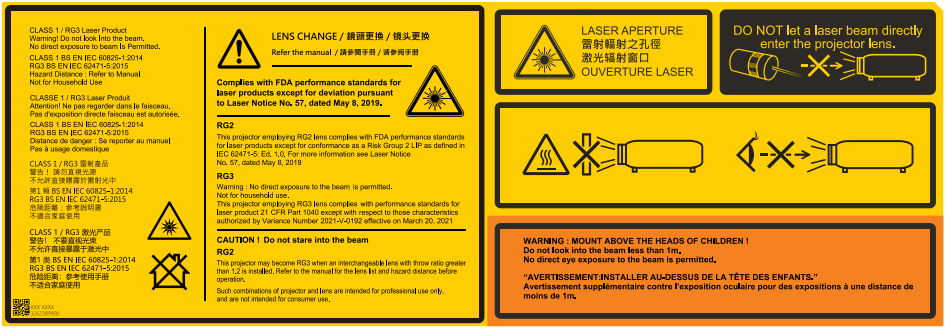


M-Vision 24000 Series WUXGA Manufacturers ID Label (USA TAA compliant)

M-Vision 27000 Series WUXGA Manufacturers ID Label (EMEA and China)



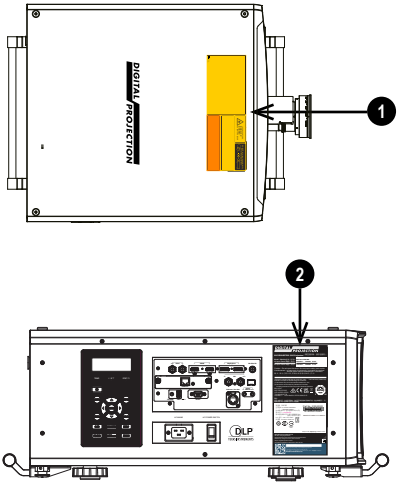
M-Vision 27000 Series WUXGA Manufacturers ID Label (USA TAA compliant)



Risk Group 3 Explanatory Label

Label Locations

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



Projector - REF Model

M-Vision 21000 II Series WUXGA Manufacturers ID Label (USA TAA compliant - REF)

M-Vision 21000 II Series WUXGA Manufacturers ID Label (USA TAA compliant - REF)

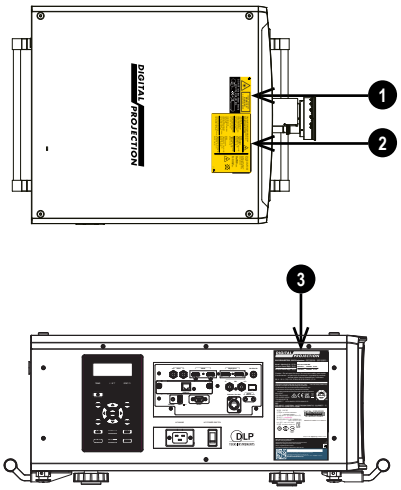
M-Vision 21000 II Series WUXGA Manufacturers ID Label (USA TAA compliant - REF)

Explanatory Label

Laser Aperture and Lens Safety Label

Label Locations - REF Model

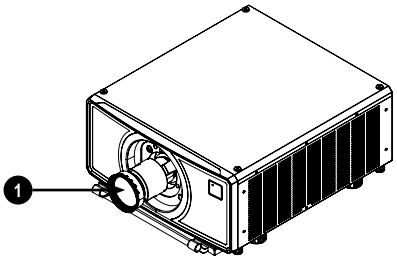
1. Location of the Laser Aperture and Lens Safety Label on the top of the projector.
2. Location of the Explanatory Label with Certification Statement on the top of the projector.
3. Location of the Manufacturer's ID Label with User Guides Label on the right side of the projector.



Location of Laser Aperture

1. The laser aperture is located as indicated below.

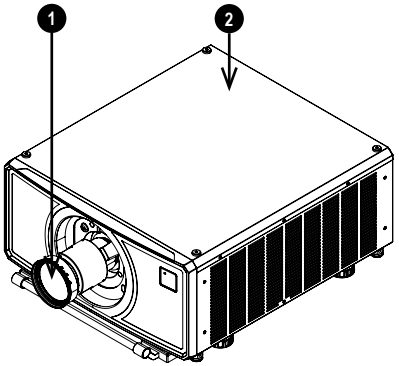
Do not look directly at the light coming from the lens.



Interlock Switches

Interlock switches are installed inside the projector. These will power-off the system 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.

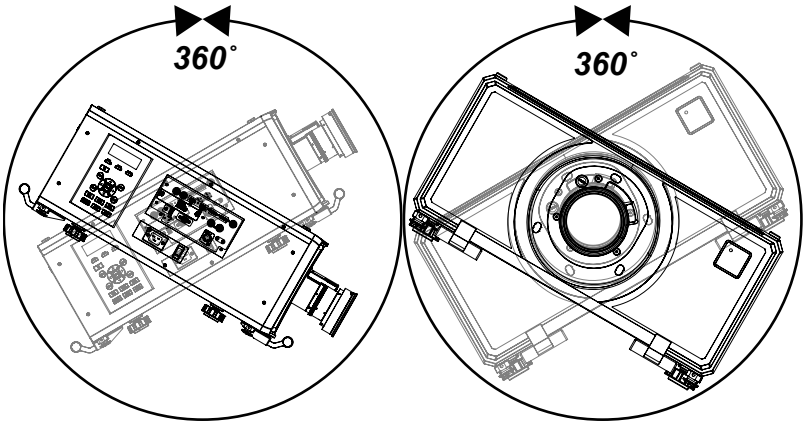
Backup safety chains or wires should always be used with ceiling mount installations.

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

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 2 projectors.

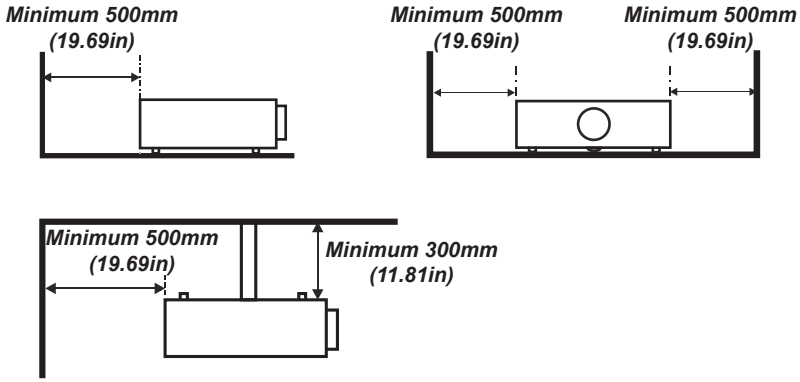
The projector can be operated any position, as shown in the diagram:



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.

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 Altitude 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. Only the chassis corners and the optional rigging frame are capable of withstanding the weight of another projector.

Laser Hazard Installation Precautions

Do not attempt to access the internal hardware of the projector. Do not a attempt to modify or remove the laser module.

Do not operate the projector without its protective covers.

Please consult with a qualified professional to install or remove the lens.

This projector is a Laser Risk Group 2 product when a lens with a throw ratio less than 1.2: 1 is installed. It becomes Laser Risk Group 3 when a lens with a throw ratio greater than 1.2 :1 is installed.

Please note that the REF model is always classed under Laser Risk Group 2.

Laser Risk Group 2 Installation

This product is a Class 1 Risk Group 2 laser product. It must be installed in a safe place.

The product should be installed and operated in accordance with the provisions of BS EN IEC 62471-5:2015 and the Important Information document or User Manual

Do not operate the projector without a lens installed.

MOUNT ABOVE THE HEAD HEIGHT OF CHILDREN. It is recommended to use a ceiling mount to place this product above the eyes of children.

Laser Risk Group 3 Installation Precautions

This product is a Class 1 Risk Group 3 laser product. It must be installed in a safe place and must be handled by qualified and professionally trained personnel.

Operators shall control access to the beam within the hazard distance or install the product at a height that will prevent exposure of the spectator's eyes within the hazard distance.

The product should be installed and operated in accordance with the provisions of BS EN IEC 62471-5:2015 and the Important Information document or User Manual by instructed and skilled persons only (BS EN IEC 62368-1:2020).

Light Hazard Warning

No direct exposure to the beam is permitted, RG3 BS EN IEC 62471-5:2015.

Light Hazard Distance and Hazard Zone

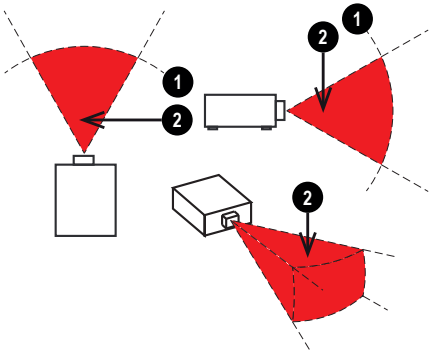
Hazard Distances for Laser Risk Group 3 variants. Operators should control access to the beam within the hazard distance or install the projector at sufficient height to prevent exposures of spectators' eyes within the hazard area.

When the projector is installed overhead, allow a minimum of 3m between the floor surface and the Light Hazard Zone.

The hazard distance is the distance measured from the projection lens at which the intensity or energy per unit of surface is lower than the applicable exposure limit on the cornea or skin. ❶

The hazard zone is the area from the projection lens up to the hazard distance that encompasses where the projected beam is considered hazardous. ❷

If the person is within the hazard zone, the beam is considered unsafe for exposure.



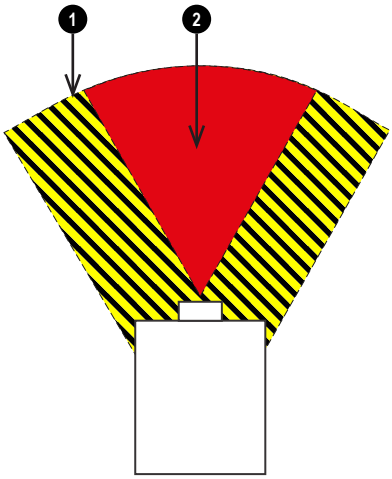
The hazard distance for this projector is related to the fitted lens:

Lens	Hazard Distance
0.38 : 1	0m
0.90 - 1.20 : 1 zoom	0m
1.20 - 1.56 : 1 zoom	2.16m
1.50 - 2.00 : 1 zoom	3.52m
2.00 - 4.00 : 1 zoom	4.00m
4.00 - 7.00 : 1 zoom	5.20m
6.90 - 10.30 : 1 zoom	8.00m

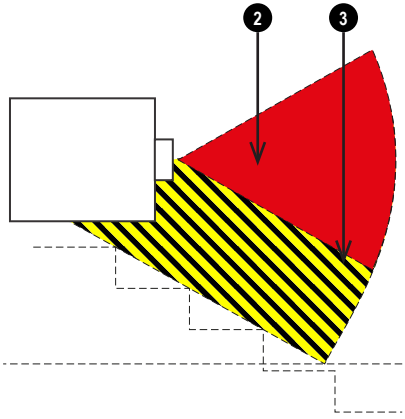
Restriction Zone

A restriction zone should be in place around the hazard zone to prevent any person from entering the hazard zone with any part of their body:

- Horizontal clearance ❶. This should be no less than 2.5m around the hazard zone ❷.
- Vertical clearance ❸. This should be no less than 3m between the hazard zone ❷ and the floor when the projector is installed overhead.



Hazard Zones - Horizontal Clearance (Top View)



Hazard Zones - Vertical Clearance (Side View)

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 power on without the lens fitted.

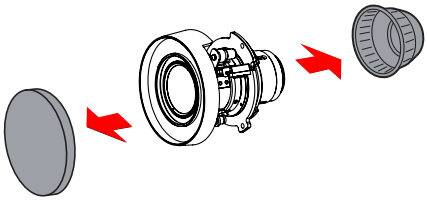
The following lenses are available for this projector:

Lens Throw ratio	M-Vision 21000 II Series WUXGA M-Vision 24000 Series WUXGA M-Vision 27000 Series WUXGA		
	(EMEA and China)	(USA TAA compliant)	(USA TAA compliant - REF)
0.38 : 1	✓	✓	✓
0.90 - 1.20 : 1 zoom	✓	✓	✓
1.20 - 1.56 : 1 zoom	✓	✓	✓
1.50 - 2.00 : 1 zoom	✓	✓	✓
2.00 - 4.00 : 1 zoom	✓	✓	✓
4.00 - 7.00 : 1 zoom	✓	✓	N/A
6.90 - 10.30 : 1 zoom	✓	✓	N/A

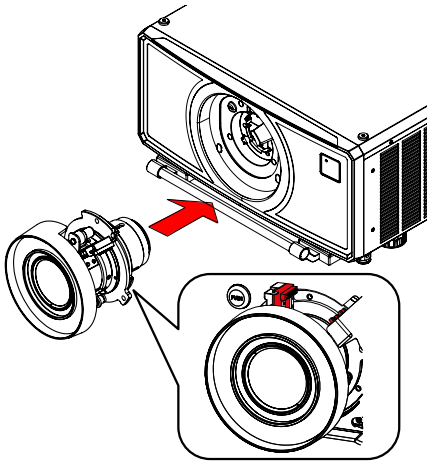
Please refer to the user manual for details about each lens.

Inserting a new lens

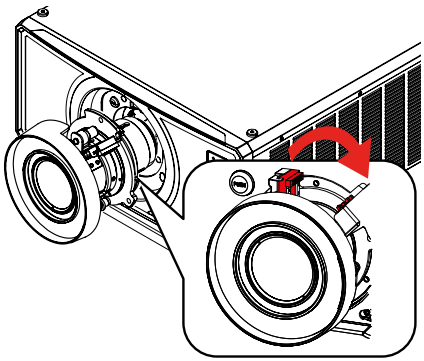
1. Remove the front and rear lens caps



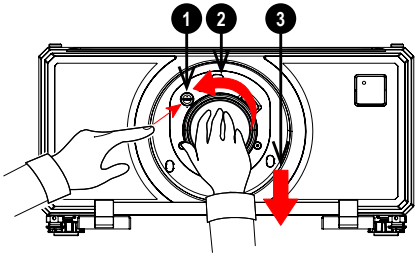
2. Insert the lens with the connector in upright position.



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



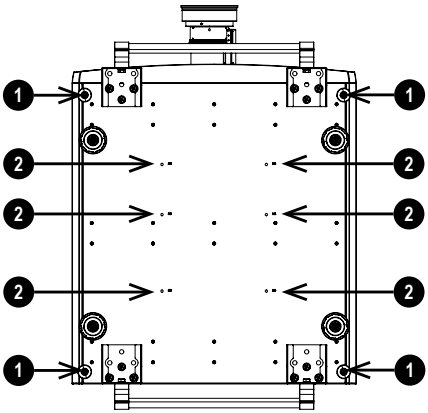
Removing the lens



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 aperture 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.
   The drawing shows the positions of the mounting points:
   - **Four adjustable feet for tabletop mount** ❶. Set the adjustable feet so that the projector is level, and perpendicular to the screen.
   - **Six M6 holes for ceiling mount** ❷**.** The mounting screws should not penetrate more than 16 mm into the body of the projector.



Projector Bottom

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

Stacking

The projectors must be in a vertical position when they are stacked. This will ensure that the stresses are distributed to all four corners of the chassis.

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

Do not use the carry handles to hang or mount the projector.

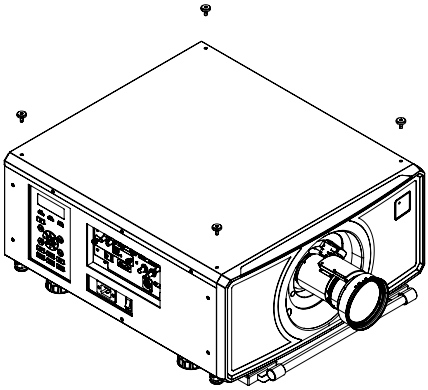
Do not stack more than 2 projectors.

Use only the provided screws with a torque of 25-30 kgf cm (2.45 - 2.94 Nm).

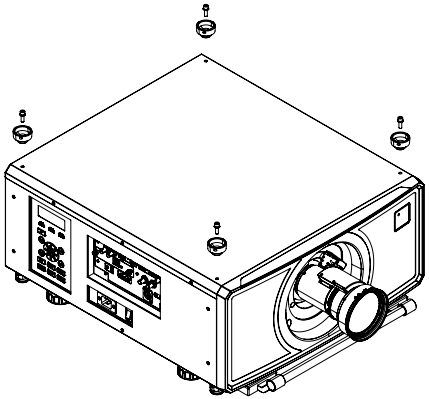
It is the customer's responsibility to ensure that the assembly is carried out securely.

Pin and cup stacking

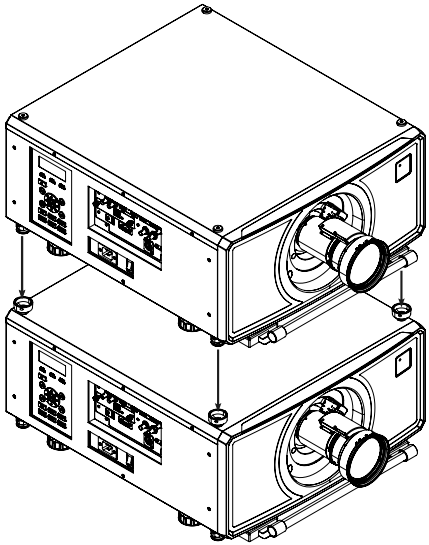
1. Remove the four screws on the top side of the projector that will be on the bottom of the stack.



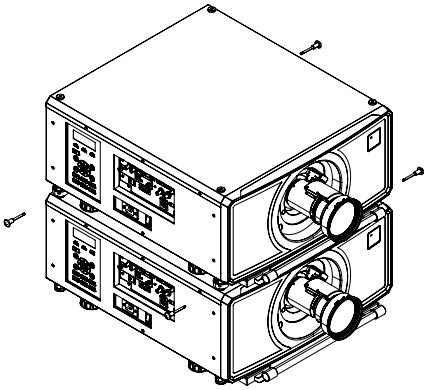
2. Insert and secure the stacking tops in place of the removed screws.



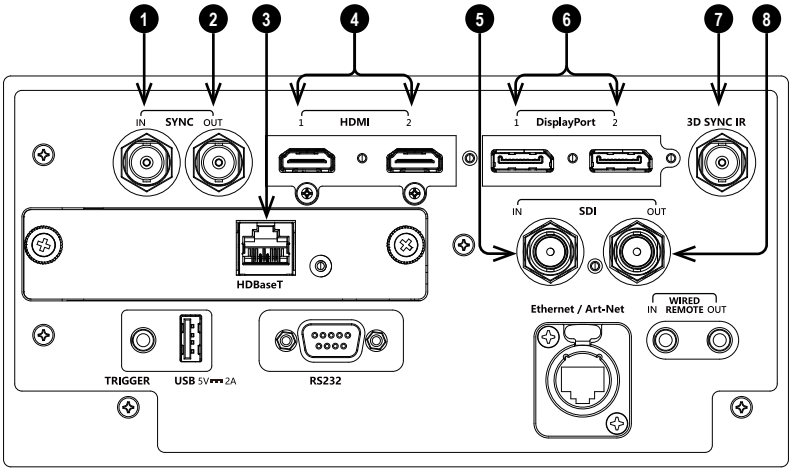
3. Mount the top projector onto the bottom projector. Ensure that all four pins are placed into the cups on the bottom projector.



4. Use the stacking safety pins to secure each connection.

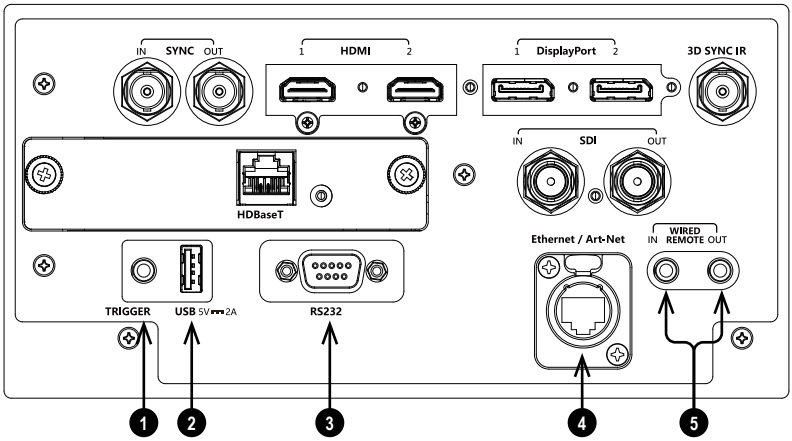


Signal connections



1. **Sync In**
   3D sync input signal. Use a BNC connector to connect the 3D sync from your graphics card or server.
2. **Sync Out**
   3D sync output signal. This enables synchronized 3D with multiple projectors. Use a 3-pin DIN connector to connect this to another projector.
3. **HDBaseT** (Optional board)
   Receives digital signal from HDBaseT-compliant devices. Cat 6A cable is recommended.
4. **HDMI 1 / HDMI 2**
   HDMI 2.0 inputs supporting HDCP 2.2 and **Frame Sequential**, **Top and Bottom**, **Side By Side** and **Frame packing** 3D formats. Connect an **HDMI** cable to the connector.
5. **SDI in**
   SDI input supporting up to 12G-SDI. Connect an SDI cable to the connector.
6. **DisplayPort 1 / DisplayPort 2**
   DisplayPort 1.2 input. Connect a DisplayPort cable to the connector.
7. **3D Sync IR**
   Sync output signal. Connect this to an IR emitter or ZScreen.
8. **SDI out**
   SDI output supporting up to 12G-SDI. Connect an SDI cable to distribute the SDI signal to another projector.

Control connections



1. **Trigger**

   The trigger output can be used to control an electrically operated screen. The screen will be automatically deployed when the projector starts up and retracted when the projector shuts down.

2. **USB**
   USB 5V / 2A output. Connect a USB cable to supply power to an external device.

3. **RS232**
   All of the projector's features can be controlled via a serial connection, using commands described in the **Protocol Guide**. Use a crossover cable to connect directly to a computer.

4. **Ethernet/Art-Net**

   - **Ethernet**
     The projector's features can be controlled via a LAN connection. For example using Digital Projection's Projector Controller application, a terminal-emulation program or PJ-Link.
   - **Art-Net**
     Art-Net compatible RJ45 etherCON input. Connect an etherCON connector cable from an Ethernet LAN/WLAN network to receive DMX-512 data over an IP-based network.

5. **Wired Remote**
   The remote control can be connected using a standard 3.5 mm mini jack cable (tip-ring-sleeve, or TRS).

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

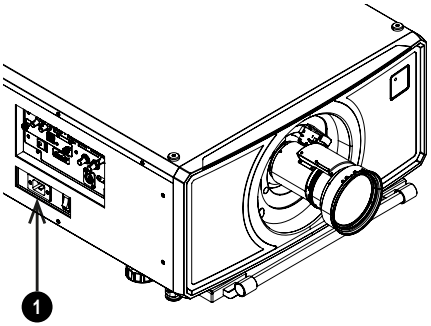
Do not overload power sockets or extension cords

The projector can operate at 110V or 200V. Voltage selection is automatic. Power off the projector before switching power outlets.

Connecting the power supply

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

When the cable is plugged in and the power supply is on, the projector is OFF until the power button is switched to ON.



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.

Basic Operating Instructions

See Control panel on page 51 for guidance on using the control panel to control the projector.

See Remote control on page 54 for guidance on using the remote control to control the projector.

Switching the projector on

1. Make sure a lens is fitted. Connect the power cable between the mains supply and the projector.
2. Switch on at the switch next to the power connector.

   The **POWER** indicator lights red to signal that the projector is in STANDBY mode.
3. 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 start working. When the flashing stops and the **POWER** and **LIGHT** indicators both light steady green, 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 **POWER** indicator on the control panel will start flashing amber, the system will go out and the cooling fans will run for a short time until the **POWER** indicator goes steady red to indicate that the projector has entered STANDBY mode.
2. If you need to switch the projector off completely, switch off at the mains power switch next to the power connector and then disconnect the 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 29
2. Turn ON the laser illumination. See Switching the projector on 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 on the remote control or control panel.
    - 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

The following test patterns are available: Off, White, Black, Red, Green, Blue, Checkerboard, Crosshatch, Color Bar, Aspect Ratio

Use one of the following methods to display a test pattern:

- Press **TEST** on the remote control.
  Use the **LEFT** and **RIGHT** arrow buttons to cycle through the test patterns.
- Press **MENU** open the OSD. Highlight **Test Patterns** from the main menu, then select a test pattern using the **LEFT** and **RIGHT** arrow buttons.

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. If you wish to exit the test patterns before you reach the final one, press **TEST** or **EXIT** at any time.

Adjusting the lens

You can use the following options to adjust the lens:

- Control panel. See Control panel on page 51
- Remote control. See Remote control on page 54
- On screen display (OSD).

OSD Lens menu

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

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

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

Adjusting the image

Orientation

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

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

Geometry

Settings such as **Keystone**, **Rotation**, **Pincushion / Barrel** and **Arc** can be set from the **Geometry** menu.

For keystone adjustments, open the Lens menu, then open the Lens Type sub menu. Select the correct lens throw ratio. This affects the available options in the Lens Throw Ratio menu for Keystone adjustment.

Please refer to the user manual for guidance on every available geometry setting.

Picture

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

Please refer to the user manual for guidance on every available picture setting.

Operating the projector

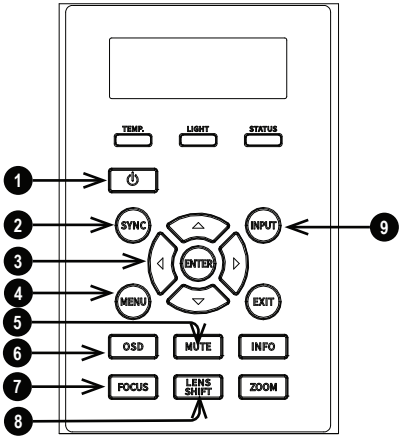
The projector has the following controls:

- Remote control
- Control panel

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.

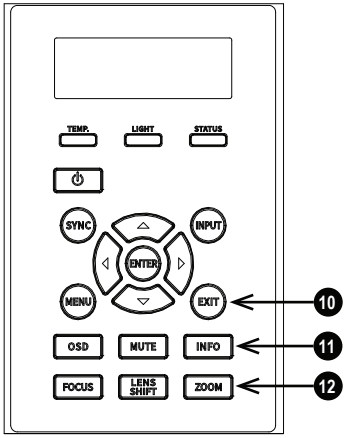
Control panel



Control Panel

1. **POWER**
   Switches the projector on and off (STANDBY).
2. **SYNC**
   Press to resynchronise the active input.
3. **Arrow buttons & ENTER**
   Press Focus , Lens Shift or Zoom and use the Up and Down arrow buttons to adjust the lens focus, shift or zoom. After opening the OSD, use the arrow buttons to highlight menu entries. Press **ENTER** to open or execute the highlighted menu entry.
4. **MENU**
   Press to display or hide the OSD menu.
5. **MUTE**
   Shows and hides the projected image.
   There are two shutter settings:
   - Laser. When closed, the laser is switched off and no image is projected
   - DMD™ Blanking. When closed, the laser remains on and a black image is projected
6. **OSD**
   Press to enable or disable the OSD. When disabled, the OSD cannot be displayed.
7. **FOCUS**
   Press this button, then press an arrow button to adjust the focus. Press EXIT to exit the focus mode.
8. **LENS SHIFT**
   Press this button, then press an arrow button to adjust the lens shift. Press EXIT to exit the lens shift mode. Press and hold for 5 seconds to center the lens.
9. **INPUT**
   Press to move to the next input source.

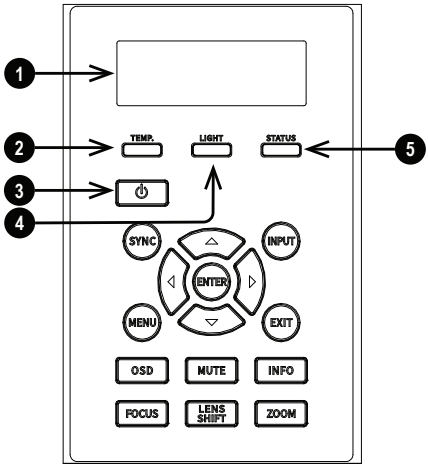
10. **EXIT**
    Exits the current OSD page and enters the level above. Exits the OSD when at the top level OSD page.
11. **INFO**
    Press and hold for 5 seconds to activate or deactivate the LCM.
    Press to change pages when the LCM is active.
12. **ZOOM**
    Press this button, then press an up or down arrow button to adjust the zoom. Press EXIT to exit the zoom mode.



Control Panel

Projector indicators

1. **LCM**
   Displays information about the current state of the projector.
2. **TEMP**
   Off = no error
   Flashing red = temperature error
3. **POWER**
   Off = the projector is switched off
   Flashing green = the projector is warming up
   Flashing amber = the projector is cooling down
   On, green = the projector is switched on
   On, amber = the projector is in network standby mode
   On, red = the projector is in power saving standby mode

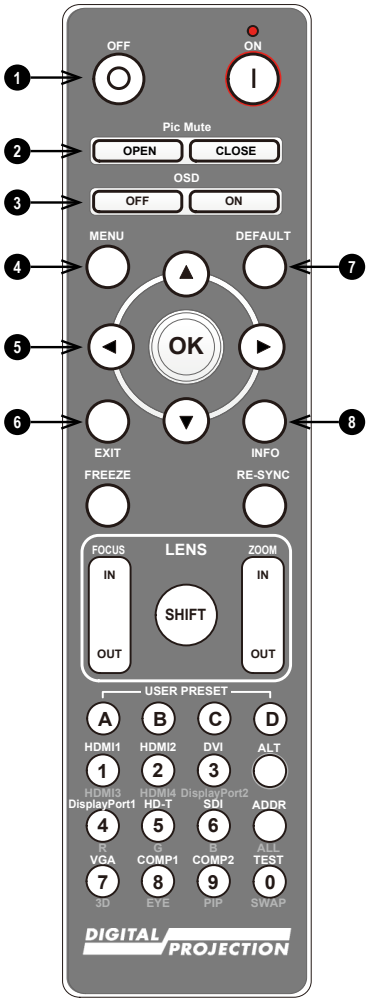


Indicators

4. **LIGHT**
   Off = light source is switched off
   On, amber = light source is on (forced ECO mode)
   On, green = light source is switched on
   Flashing red (cycle of single flashes)
   = failed to light up during power up
   Flashing red (cycles of double flashes)
   = light source failed while projector is on
   Flashing green (cycles of single flashes)
   = light source is temporarily off as PIC Mute is activated
5. **STATUS**
   Off = no error
   On, amber = firmware update mode
   On, red = system error
   Flashing green (cycles of double flashes) = lens calibration mode
   Flashing amber (cycles of double flashes) = request to recalibrate the lens
   Flashing red (cycle of single flashes) = cover error
   Flashing red (cycles of double flashes) = TEC/Color sensor problem
   Flashing red (cycles of four flashes) = fan error

Remote control

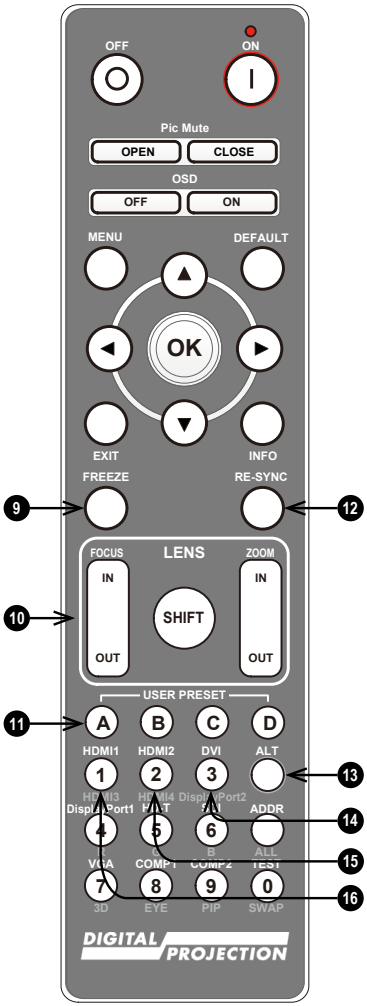
1. **Power ON / OFF**
   Turns power on and off.
2. **Pic Mute OPEN / CLOSE**
   - Press CLOSE to hide the projected image. There are two PIC Mute settings:
     - Laser. When off, the laser is switched off and no image is projected
     - DMD™ Blanking. When off, the laser remains on and a black image is projected
   - Press OPEN to display the hidden image.
3. **OSD ON / OFF**
   Enable and disable screen timeout messages and control whether to show the OSD during projection.
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)**
   OSD mode: Navigate through the menus with the arrows, confirm your choice with **OK**.
   Lens adjustment modes: See **10** below.
6. **EXIT**
   Go up one level in the OSD. When the top level is reached, press to close the OSD.



Remote Control

7. **DEFAULT**
   When editing a parameter, press this button to restore the default value.
8. **INFO**
   Access information about the projector.

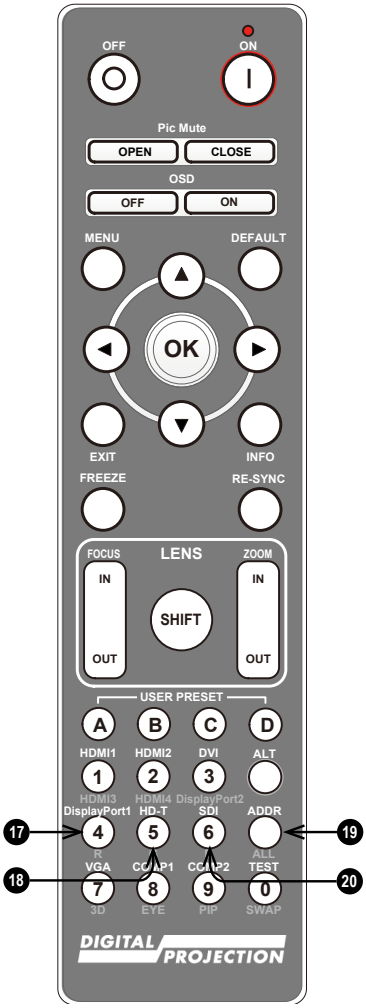
9. **FREEZE**
   Freeze the current frame.
10. **LENS adjustment**
    - **FOCUS IN / OUT**: adjust focus.
    - **SHIFT**: press and hold this button, then use the OK and Navigation buttons. Press OK to switch between **Shift Adjustment** and **Zoom / Focus Adjustment**. Use the arrows to shift, zoom or focus the lens.
    - **ZOOM IN / OUT**: adjust zoom.
11. **USER PRESET A, B, C, D**
    Load user presets.
12. **RE-SYNC**
    Re-synchronise with the current input signal
13. **ALT**
    Press and hold this button to access alternative functions for other buttons on the remote.
14. **DVI / DisplayPort2 / numeric input 3**
    There is no DVI input on this projector.
    Use with **ALT** to select the DisplayPort 2 input.
15. **HDMI 2 / HDMI 4 / numeric input 2**
    Select the HDMI 2 input.
    There is no HDMI 4 input on this projector
16. **HDMI 1 / HDMI 3 / numeric input 1**
    Select the HDMI 1 input.
    There is no HDMI 3 input on this projector



Remote Control

17. **DISPLAYPORT 1 / R / numeric input 4**
    Select DisplayPort 1 input.
18. **HD-T / G / numeric input 5**
    Select the HDBaseT input.
19. **ADDR / ALL (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.
20. **SDI / B / numeric input 6**
    There is no SDI input on this projector.



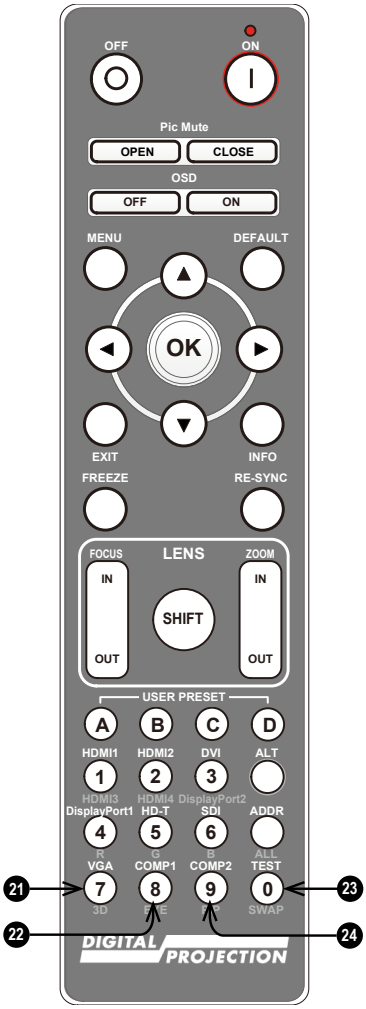
Remote Control

21. **VGA / 3D / numeric input 7**
There is no VGA input on this projector.
Use with **ALT** to toggle the 3D Format setting between Off and Auto.

22. **COMP1 / EYE / numeric input 8**
There is no Component 1 input on this projector.
Use with **ALT** to switch between left and right eye 3D dominance.

23. **TEST / SWAP / numeric input 0**
Show a test pattern. Press again to show the next test pattern: Off, White, Black, Red, Green, Blue, Checkerboard, Crosshatch, Color Bar, Aspect Ratio
When **PIP** mode is on, use this button with **ALT** to swap the main and sub images.

24. **COMP2 / PIP / numeric input 9**
There is no Component 2 input on this projector.
Use with **ALT** to switch on **Picture In Picture (PIP)** mode.



Remote Control

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