

D-ILA1080MF1 DIGITAL VIDEO PROJECTOR

USER MANUAL

Preface

Important safety instructions

- Read these instructions.
- Keep these instructions.
- Heed all warnings.
- Follow all instructions.
- Do not use this apparatus near water.
- Clean only with dry cloth.
- Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
- Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- (North America) Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade, or the third prong are provided for your safety. If the provided plug does not fit your outlet, consult an electrician for replacement of the obsolete outlet.
- Protect the power cord from being walked on or pinched, particularly at plugs, convenience receptacles, and at the point they exit from the apparatus.
- Only use attachments/accessories specified by the manufacturer.
- Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
- Unplug the apparatus during lightning storms or when unused for long periods of time.
- Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen in to the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

Safety warnings

- Do not expose the product to dripping or splashing.
- Do not place any object filled with liquid, such as a vase, on the product.
- Do not place naked flame sources, such as lighted candles, on the product.

To avoid interference

Do not position the product:

- Near strong magnetic radiation, such as near a power amplifier.
- Near to a television, or where connecting cables may be subject to or cause interference.

WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPARATUS TO RAIN OR MOISTURE

This apparatus has been designed with Class 1 construction and must be connected to a mains socket outlet with a protective earthing connection (the third grounding pin).

To avoid overheating

- Leave at least 10cm around the equipment to ensure sufficient ventilation.

Do not position the product:

- In direct sunlight.
- Near heat sources, such as a radiator.
- Directly on top of heat producing equipment, such as a power amplifier.
- On a soft surface, such as a carpet, which would obstruct the ventilation holes in the base.

The product normally runs warm to the touch.

FCC Information (USA Only)

CAUTION:

Changes or modifications not approved by Meridian/Faroudja could void the user's authority to operate the equipment.

FCC Warning

This equipment generates and can radiate radio frequency energy and if not installed and used correctly in accordance with our instructions may cause interference to radio communications or radio and television reception. It has been type-tested and complies with the limits set out in Subpart J, Part 15 of FCC rules for a Class B computing device. These limits are intended to provide reasonable protection against such interference in home installations. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encourage to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.



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Copyright and acknowledgements

Sales and service in the UK

Meridian Audio Ltd
Latham Road
Huntingdon
Cambridgeshire
PE29 6YE
England

Tel +44 (0)1480 445678
Fax +44 (0)1480 445686

Sales and service in the USA

Meridian America Inc
8055 Troon Circle
Suite C
Austell
GA30168-7849
USA

Tel +1 (404) 344 7111
Fax +1 (404) 346 7111

World Wide Web – <http://www.meridian-audio.com/>

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Introduction

This guide provides full information about unpacking the D-ILA1080MF1 Digital Video Projector and connecting it to the other equipment in your system. It also explains how to operate it to get superb results with your video sources and display devices.

About the D-ILA1080MF1

The D-ILA1080MF1 Digital Projector takes high performance theatre to a new level, utilising three 1920x1080 DILA-based display chips. With a native resolution equal to full-bandwidth High Definition, all the beauty and drama of the original source can be reproduced with stunning accuracy.

D-ILA technology gives a cinema quality picture

The D-ILA1080MF1 Digital Projector uses D-ILA (Direct Drive Image Light Amplifier) technology based on a reliable, precision mirror reflective system with no moving parts to produce the full-spec 1080p High Definition resolution. The D-ILA1080MF1 uses three D-ILA integrated circuits, each with a native 1920 x 1080 resolution, to produce clear, natural images without the flicker or 'strobed rainbow' artefacts found in some other projectors. There is also no visible grid of pixels or 'screen door effect' with D-ILA, so the results are as close as possible to cinema quality.

Professional-standard greyscale reproduction

Analogue Gradation technology produces highly accurate shades with low noise, particularly in darker areas with less than 20% brightness. The quality of greyscale reproduction is further enhanced by a constant, high 2500:1 contrast ratio that ensures high-precision, high-quality pictures even when the on-screen image is dark. In addition, D-ILA technology reproduces blacks that are truly black, and there is impressively accurate rendering of shadow detail.

Superior colour performance

The optical engine produces rich, natural colours with smooth gradations and low noise. White field uniformity is tuned to near perfect, providing optimal cinema-style reproduction consistently from projector to projector. D-ILA also offers a uniform response, irrespective of brightness, displaying a wide range of intermediate tones.

D65 colour temperature

Reference standard D65 colour temperature ensures accurate colour reproduction of video and film originated programming. D65 performance and dynamic range is adjusted by an illumination system with RGB-optimised f-numbers. The colour gamut of D-ILA is greater than that of any current television standard, ensuring accurate reproduction of virtually any programme material.

Flexible installation

To accommodate the widest variety of theatre sizes and configurations, two models are available, Normal Throw and Short Throw, each offering a different range of lens throw distances. The Normal Throw version features a 1.9x power zoom lens (2.0:1 to 3.8:1), while the Short Throw version (1080MF1-S) incorporates a 1.4x power zoom lens (1.5:1 to 2.1:1). Precision high-resolution all-glass lenses with motorised zoom and focus make installation a snap, while installation flexibility is further enhanced by lens shift capability of up to 60%. This allows the light path to be easily adjusted according to the installation position.

Low fan noise design

The cooling system's airflow design provides optimum cooling while keeping the noise level down to a near-silent 27 dB. Thanks to this low fan noise design, subtle sounds in quiet scenes on-screen are not overwhelmed by ambient noise.

Cost-effective high-pressure Mercury Lamp

To keep running costs down, the MF1 projector uses a low-cost, long-life 200 W ultra high-pressure mercury lamp. The lamp can be easily replaced without de-mounting the projector, and only needs replacement every 2000 hours.

Optimized by William Phelps

To remove the guesswork from projector installation, each unit is individually precision-tuned and calibrated in our UK factory using technology, techniques and expertise developed exclusively by world-renowned video expert William Phelps. To take just one example: conventional calibration simply aligns a projector's white reference to a given colour temperature. However, colour temperature, surprisingly, does not tell you how accurate the colour rendering is. Only one point in the colour measurement coordinate system (D65) is actually correct - and our projectors are calibrated specifically to that point.

Optional Digital Video Processor

The D-ILA1080MF1 projector has no internal scaling, and so is recommended for use with the DVP1080MF Digital Video Processor to convert all analogue and digital high definition and standard definition sources to the native 1920x1080p resolution of the projector.

The processor features Faroudja's advanced motion adaptive de-interlacing with DCDi and 3:2 pull-down technology to ensure error-free progressive-scan signals.

Faroudja colour matrixing provides accurate colour profiles for PAL, NTSC and HDTV, allowing the processor to up-convert standard analogue and digital video inputs to a high-resolution, fully HDCP-compliant digital signal that can be transmitted via the DVI-D connector to the projector.

The processor also allows detailed video adjustments to suit viewer preferences, and custom user-defined configuration profiles can be established, saved and recalled at will to address an extensive range of operating requirements.

Technical specifications

Model	Meridian Faroudja D-ILA1080MF1 Home Theatre Projector
Emission method	D-ILA (Direct drive Image Light Amplifier) (Reflective Active Matrix Principle)
Display panel/size:	D-ILA Device / 0.82in (1920 pixels 1080 pixels) x 3 (Total pixels: Approx. 6,220,000) D-ILA devices are manufactured using extremely high-precision technology. Pixel effectiveness is 99.99%. Only 0.01% or less of the pixels will either not illuminate or remain permanently illuminated.
Projection lens	Normal (Long) Throw version 1.9x power zoom lens (2.0:1 to 3.8:1) (D-ILA1080MF1 model) Short Throw version: 1.4x power zoom lens (1.5:1 to 2.1:1) (D-ILA1080MF1S model) Power zoom/focus adjustment
Light-source lamp	200W Ultra-high pressure mercury lamp. Part No: BHL5008-S
Screen size	Approx. 1.5m to 5m (60" to 200") (Aspect ratio: 16:9)
Projection distance	Normal (Long) Throw: Approx. 2.5m to 15m Short Throw: Approx. 2m to 10m
Input signal	1080/60p or 1080/50p
Resolution	1920 dots x 1080 dots
Input sync frequency	Horizontal: 56.25kHz, 67.43kHz, 67.5kHz Vertical: 50Hz, 59.94Hz, 60Hz
Inputs	Video In: DVI input via DVI-D (Single-24pin) terminal, HDCP-compatible Control: RS232C I/O via D-sub 9 pin 1 (External control) Service: 3.5mm diameter, tip/ring/sleeve mini-jack 1 (For Service)
Outputs	Screen Trigger: 3.5mm diameter, tip/sleeve mini-jack
Power requirements	AC 100V – 240V AC, 50Hz/60Hz
Rated power	3.5A (100V AC) – 1.4A (24V AC)
Environment	Temperature: +5°C to +35°C (41°F to 95°F) Humidity: 20% to 80% (No condensation) Storage Temperature: -10°C to +60°C (14°F to 140°F)
Dimensions	513mm x 193.7mm x 558.5mm approx (20.2" x 7.6" x 22") WHD (Excluding lens and protrusion portion)
Weight	17.0kg (37.5lbs)

Specifications and features subject to change without notice.

Installing the digital video projector

This chapter explains how to install the digital video projector. It describes what you should find when you unpack the product, and how you should connect it to the sources and displays in your system.

Considerations for projector installation

Please read the following carefully before installing this unit.

Installation environment

This unit is a precision device. Do not install it in the following places. Doing so may cause fire or malfunction of the unit.

- Where there is water, humidity or dust.
- Where the unit may be subjected to oily or cigarette smoke.
- On a soft surface such as carpet or cushion.
- Where the unit may be subjected to high temperature due to direct sunlight.
- When temperature is high or low.

Allowable operation temperature range: +5° to +35°C.

Allowable relative humidity range: 20% to 80% (no condensation)

Allowable storage temperature range: -10° to +60°C.

- Any room in which there is cigarette smoke or grease.

Even where smoke and grease levels are minimal, prolonged exposure will affect this unit. This unit produces significant amounts of heat, and the optical components are cooled by taking in a large amount of air. The optical path may be soiled by grease/dirt, thus causing images to become dark or colour projection to deteriorate. Where soiling of the optical components occurs, total removal of grease/dirt may not be possible.

Operating precautions

This unit uses a light source that reaches high temperatures during projection.

Do not allow projection under the following conditions, as doing so may cause fire or failure of the unit:

- Projection with the unit laid on its sides
- Projection with the unit installed at an unreasonable angle

Avoid using this unit at an angle of more than 5° horizontally and 25° vertically. Doing so may cause unevenness in the colour and/or shorten the lamp life.

- Projection in a location that blocks the air inlets or exhaust vents
- Projection in a place exposed to air blasts from an air conditioner
- Projection without removing the lens cap

Mounting the projector

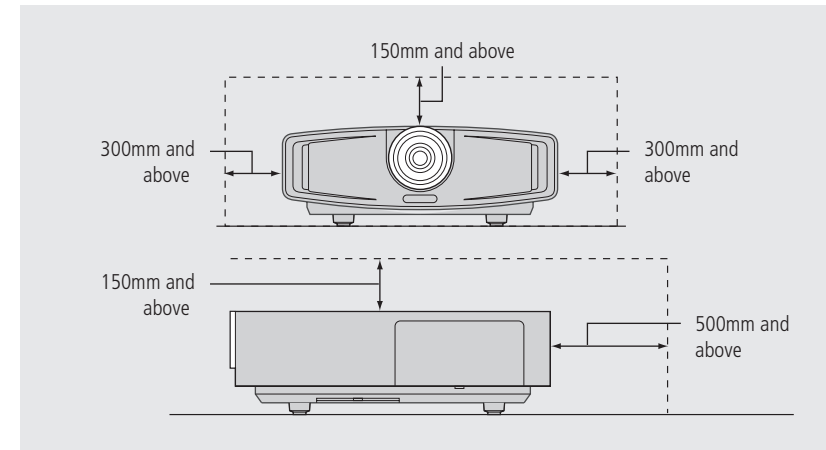
The projector can be operated in a free-standing position using the feet supplied. To mount the projector, remove the 4 feet and make use of the 4 screw holes (M8 nuts) on the underside of the projector. Allow sufficient space around the air inlets to avoid blocking them.

Precautions for ceiling-mount

To ceiling-mount this unit, special expertise and techniques are necessary. Be sure to ask your dealer (or a specialist) to perform mounting (to ceilings, etc.).

- Do not mount in places that may be subjected to vibration and shock.
- The depth of the threaded holes is 30 mm. Use screws shorter than 30mm but longer than 19mm. Longer screws may damage internal parts of the projector and cause malfunction.
- Safety of the installation location should be considered in case this unit, or a part of it, falls. Note that if the light-source lamp is broken, glass shards from the filter mesh may spread outside the projector.

Minimum space required



Do not use a cover which may enclose this unit or block the air inlets/exhaust vents. Allow sufficient space around this unit. When this unit is enclosed in a space of dimensions as indicated above, use an air-conditioner so that internal and external temperatures are the same.

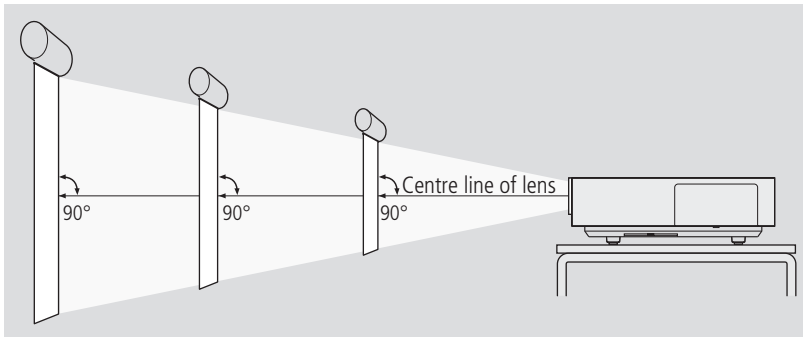
Projector and screen installation

The optimum image can be obtained when the centre of the projector's lens and the screen are placed perpendicular to each other. Take note of the projection angle when placing both items. Failing to do so may give rise to trapezoidal distortion of the projected image.

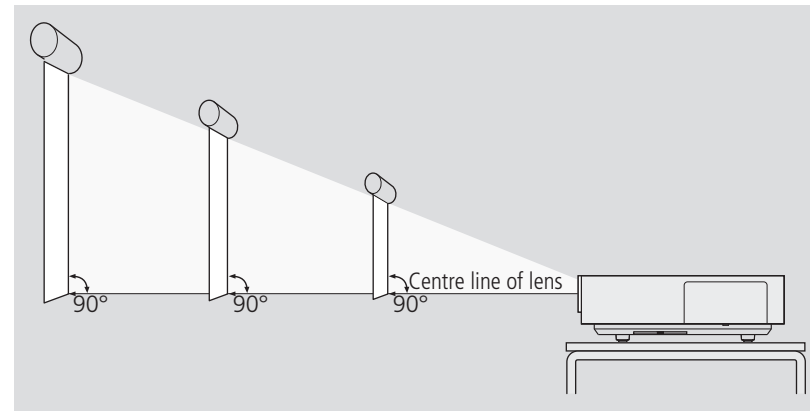
Note: This unit does not come with a function to correct trapezoidal distortion or adjust horizontal gradient.

View from the side

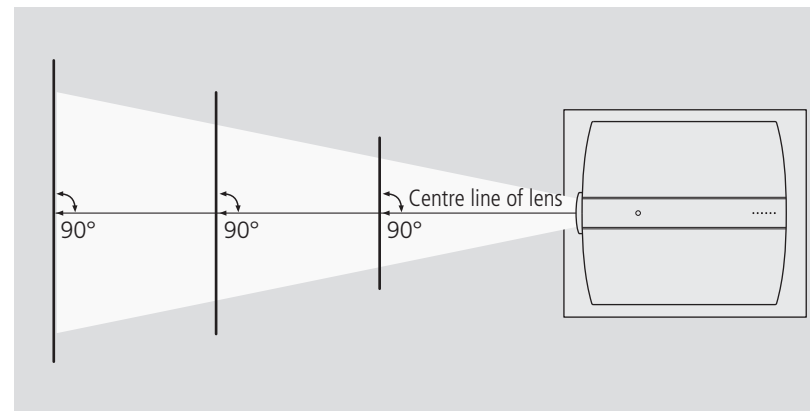
Install the projector such that the centre of the projection screen is on the same level as the centre of the lens when there is a 0% shift (offset).



Install the projector such that the lower end of the projection screen is on the same level as the centre of the lens when there is a 50% shift (offset).



View from above



Screen size and projection distance

Adjust the distance from the lens to the screen to achieve your desired screen size.

You will need to have specified the Normal Throw (DILA1080MF1) or Short Throw (DILA1080MF1S) version of this projector when ordering. The Normal Throw version uses a 1.9x power zoom lens, while the Short Throw version has a 1.4x power zoom lens. As a result, the Normal Throw version displays a given image size on a screen up to about 150% as far away as the same-sized image displayed by the Short Throw version. In most cases, especially when the projector is mounted in a projection room, the Normal Throw version will be most appropriate. When the projector is used in a smaller room, however, the Short Throw version will probably be more effective. The relationship of projection distance and screen size for both versions is given by the table below.

Projection distance and projection screen size relationship chart

The projection screen sizes (recommended) and projection distances in the table below are provided only as a guide. Please use them as reference during installation. The projected image size may vary depending on the manufacturing tolerance of the lens.

Use a projection image of 16:9 aspect ratio for setup adjustment.

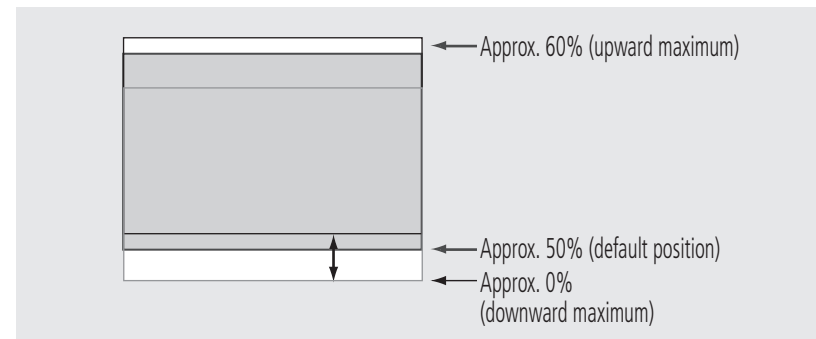
Screen size	Short-throw projecting distance	Normal throw projecting distance
152cm (60")	1.96m - 2.77m	2.58m - 4.94m
178cm (70")	2.29m - 3.29	3.20m - 5.78m
209cm (90")	2.96m - 4.17m	3.90m - 7.46m
254m (100")	3.29m - 4.64m	4.34m - 8.30m
279cm (110")	3.63m - 5.11m	4.79m - 9.14m
305cm (120")	3.96m - 5.57m	5.23m - 9.98m
330cm (130")	4.29m - 6.04m	5.67m - 10.82m
356cm (140")	4.63m - 6.51m	6.11m - 11.65m
381cm (150")	4.96m - 6.98m	6.55m - 12.49m

Screen size	Short-throw projecting distance	Normal throw projecting distance
406cm (160")	5.30m - 7.45m	6.99m - 13.33m
492cm (170")	5.63m - 7.91m	7.43m - 14.17m
457cm (180")	5.96m - 8.38m	7.88m - 15.01m
482cm (190")	6.30m - 8.85m	8.32m
508cm (200")	6.63m - 9.32m	8.76m

Lens shift setting

This unit comes with a Lens shift feature that enables you to adjust the projection screen position up or down. Adjust accordingly depending on the installation conditions.

The shift level is between 0% and 60%. The shift level is set to 50% as the default. The following diagram shows the range of adjustment:



The position of the projection screen may be out of alignment due to the gear movement.

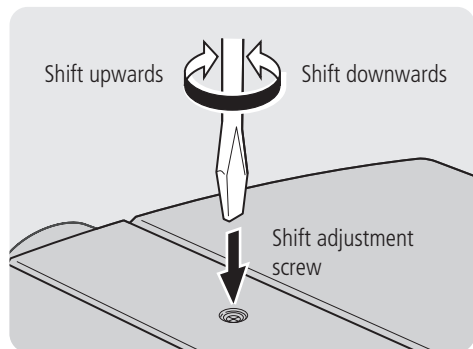
When lens shift setting (adjustment) is completed, mount the lens shift cover to this unit.

To adjust the lens shift setting

- Project a reference image on the screen.
- Access the lens shift cover by unscrewing the knurled aluminium cover on the top of the projector.
- Adjust the projection screen position by turning the shift adjustment screw using a flat-blade or Philips head screwdriver and adjust accordingly:

Turn clockwise: Screen shifts upwards.

Turn anti-clockwise: Screen shifts downwards.



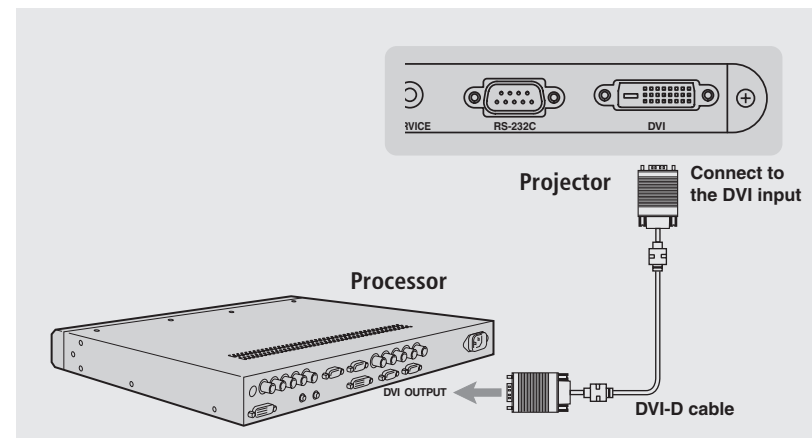
- Re-fit the lens shift cover making sure it is no more than finger-tight.

Interfacing the projector

Before connection, be sure to turn off both the projector and the device to be connected.

Thoroughly read the manual that is supplied with the device to be connected.

To connect to a video processor

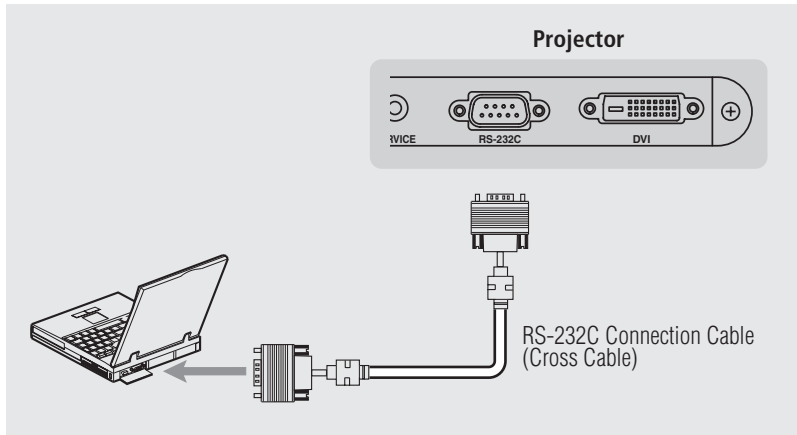


A Meridian/Faroudja Digital Video processor is the ideal companion for your projector. It is capable of processing and upscaling all your video sources to HD quality and will give you the maximum image quality from any source. Consult your dealer for additional information.

Video is connected to the projector via a DVI connector. To avoid image degradation, always use the highest quality DVI cables you can. In addition, using HDMI/DVI adaptor cables, you can connect a Meridian HDMAX 121 HDMI Extender near the projector end of the run, which is especially useful in the case of long cable runs. In any event, when using a DVI-D cable longer than 3m, the use of a booster or optical fibre cable is recommended.

This projector accepts 1080/50p and 1080/60p signals via the DVI-D connector, and HDCP content protection is supported.

To connect to a computer or home automation system via RS232

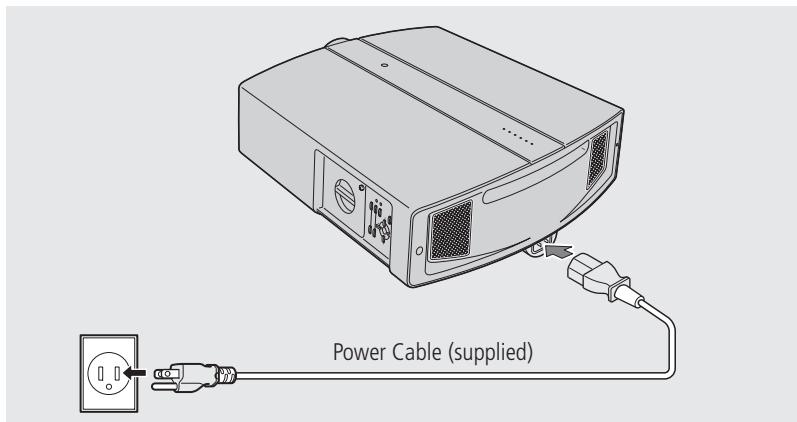


It is possible to control this unit by connecting a computer to the RS232C port at the rear of this unit. Use a crossover cable for this purpose.

For details, please consult your authorized dealer.

To connect power

Before plugging in the power cable/cord, ensure that all devices have been connected.



- Connect the supplied power cable to the power input terminal of this unit
- Connect the earth wire to the earth terminal available in the building, followed by inserting the mains plug of the supplied power cable into the wall outlet

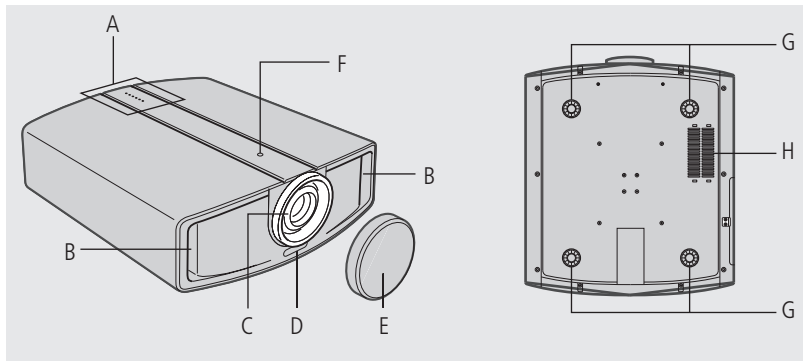
Precautions against fire and electric shock

- Since the power consumption of this unit is high, insert the power plug directly into a wall outlet and not into a multiway adaptor.
- When not using devices, remove the power plug from the wall outlet.
- Do not use power cords for connection other than those supplied.
- Do not use a power voltage different from that which is indicated.
- Do not cut, tear or modify the power cords. Also, do not place a heavy object on, heat or stretch the power cords as this may cause damage to the cords.
- Do not insert or pull out plugs with a wet hand.

Operating the projector

This chapter explains how to operate the DVP1080MF Digital Video Processor using the Faroudja remote control.

Controls – front, top, and underside



A: Indicators

Please refer to *Indicators*, page 12, for details.

B: Air Inlets

(2 in front and 1 at bottom surface)

The air inlets absorb air to cool the interior of the unit. Do not block or allow warm air to blow into them. This may cause the unit to malfunction.

C: Power Zoom Lens

1.9x Normal power zoom lens
(model DILA1080MF1)

1.4x Short-throw power zoom lens
(model DILA1080MF1S)

Before projection, remove the lens cap.

D: Remote Sensor

When operating with the remote control, aim it towards the sensor. Also see *Digital video projector operation*, page 13.

E: Lens Cap

Fit the cap on the lens when this unit is not in use.

F: Lens Shift Cover

Remove this cover when using the Lens Shift feature for shifting the projecting position in the vertical direction.

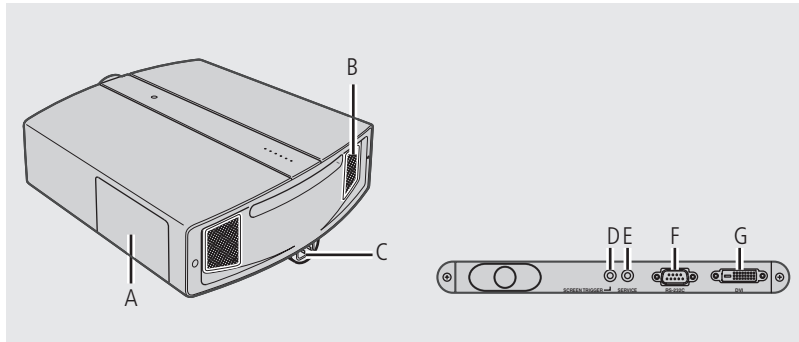
G: Foot

It is set at the lowest position when shipped from the factory. This unit does not come with a function to adjust the gradient.

H: Filter

Cleans air drawn in from the air inlet. Please clean this filter regularly; see *Cleaning and replacing the filter*, page 24.

Controls – right side and rear



A: Control Panel Cover

Remove this cover when operating this unit without the remote control or when replacing the lamp unit.

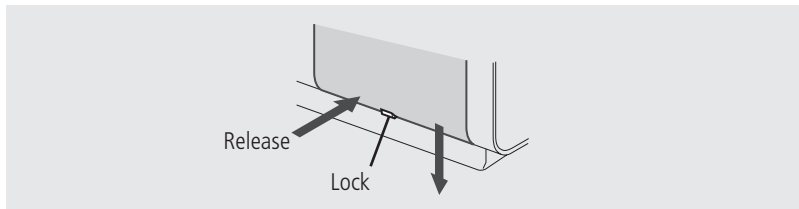
- Unlock the cover, followed by sliding it downwards to remove it.

Please refer to *Control panel*, page 11, for details of the control panel.

Handling the Control Panel Cover

The gap between the body of the unit and the control panel cover is narrow. Be careful not to stick your finger into the gap between the body of the unit and the control panel cover.

After attaching the control panel cover, check that the lock is fastened securely.



B: Exhaust Vent

Warm air is expelled through this vent to keep the system cool. Do not block the exhaust vents as this may cause the unit to overheat and fail.

C: AC Power Input Socket

This is the AC power input socket. Connect the supplied power cable to this socket.

D: Screen Trigger socket

This socket is used for controlling a motorised screen. An output at DC +12 V/100 mA (max.) is produced when the power is on.

Consult a qualified technician for a connection with the screen.

E: Service Connector

This connector is intended for servicing purposes and should not normally be used.

F: RS232C Serial Port (D-sub 9 Pin)

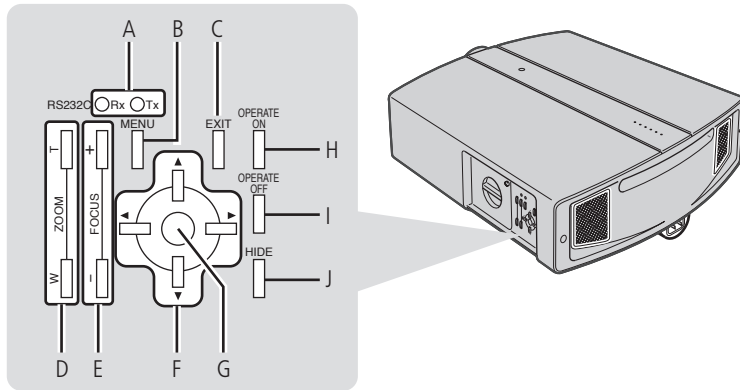
The projector can be controlled by serial commands from a computer or home automation control system connected to this port.

For details, please check with your authorized dealer.

G: DVI input (DVI-D 24 Pin)

This is the input socket for video signals. 1080/50p and 1080/60p signals are supported and HDCP content protection capability is provided.

Control panel



A: Rx/Tx Indicators

This indicator lights up during communication with a remote control system or computer connected to the serial port.

Rx: Lights up when unit is receiving RS232C data.

Tx: Lights up when unit is sending RS232C data.

B: MENU button

Press this button to display the menu. Pressing this button when the menu is displayed clears the menu.

C: EXIT button

Press this button to return to the previous hierarchical menu (for example, to return from submenu to main menu). Pressing this button when the main menu is displayed clears the menu.

D: ZOOM Tele/Wide buttons

Use these buttons to change the size of the projected image.

E: FOCUS +/- buttons

Use these buttons to adjust focus of the projected image.

F: Cursor buttons

Use these buttons when selecting and adjusting menu options.

G: ENTER button

Press this button to show the next hierarchical menu (for example, to enter a submenu from the main menu). It is also used when **ENTER** is displayed against a selection item on the menu screen.

H: OPERATE ON button

When this unit is in the standby mode, pressing this button for more than 1 second will turn the unit on. The **OPERATE** indicator will illuminate to confirm this status.

I: OPERATE OFF button

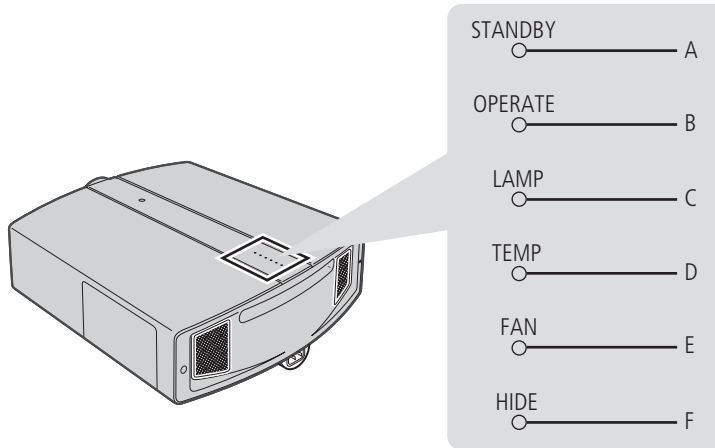
When the unit is operating (projecting), pressing this button for more than 1 second switches the unit to the cool down mode, which will automatically switch to the standby mode after about 60 seconds.

Note: The **OPERATE OFF** button will not work within approximately 1 minute of the light source being turned on. In this case, wait at least a minute before pressing this button.

J: HIDE button

Use this button to temporarily turn off the video image. Press again to resume.

Indicators



A: STANDBY indicator

Light on: Unit is in standby mode.

Blinking: Unit is cooling down.

B: OPERATE indicator

Light on: Illuminated when unit is currently operating (projecting).

C: LAMP indicator

Light on indicates that:

- the lamp needs to be replaced soon or immediately;
- the lamp cover is removed;
- the lamp has failed and the unit is unable to project; or
- when the lamp fails during projection.

D: TEMP indicator

Light on: The internal temperature of the unit is abnormally high.

Blinking: The lamp needs to be replaced soon or immediately, or a failure has occurred in the unit.

E: FAN indicator

Light on: The internal fan has unintentionally stopped running.

Blinking: The lamp has reached the end of its life and it is time to replace the lamp, or a failure has occurred in this unit.

F: HIDE indicator

Light on: The video image has been temporarily cleared by pressing the **HIDE** button.

Blinking: A fault has occurred.

Remote control

Digital video projector operation

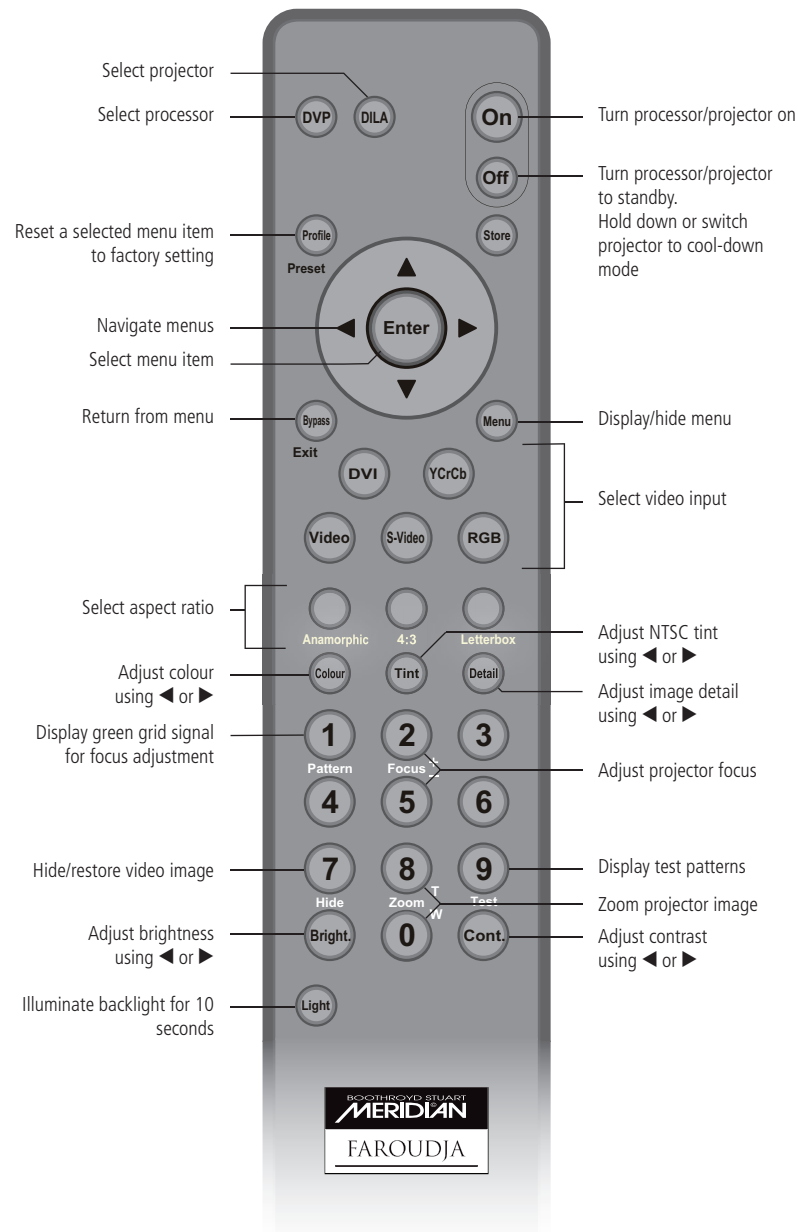
The remote control operates both Meridian DILA projectors and DVP digital video processors.

- Press **DVP** or **DILA** to select the product you want to control.
- Point the infra-red light at the top of the remote control towards the product you want to control.

The digital video processor has an infra-red sensor on the front panel.

The projector has an infra-red sensor at the front. You may be able to control the projector by pointing the remote control at the screen so the beam reflects back to the projector.

To work reliably the angle of the beam needs to be within $\pm 30^\circ$ of centre, and the total distance needs to be less than 7 metres.



To replace the batteries

Before use, fit 3 AAA size batteries into the remote control. If the remote control starts to function erratically, replace the batteries.

- Gently press the circular recess near the top of the battery cover on the back of the remote control.
- Slide the cover down and off.
- Insert three penlight cells by pressing the negative terminal of each battery against the corresponding spring and snapping into place.

Alkaline cells types AAA, UM04 or IECR03 are recommended.

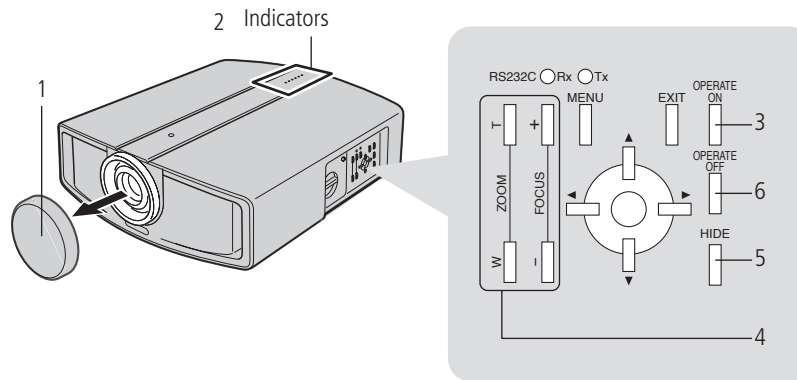
The correct orientation of the batteries is indicated in the battery compartment.

- Replace the battery compartment cover and slide it upwards, engaging the two tabs at the top of the cover with the slots provided at the top of the compartment.
- Push the cover up until it clicks shut.

When correctly engaged, the cover should sit flush with the rear of the remote control.

Basic operation

After installation, the projector will require initial set-up, adjustment, alignment and configuration; see *Adjustments and settings using menus*, page 15. Once this has been done, the unit can be used simply by following these basic operational procedures.



1: Remove the lens cap

We recommend keeping the lens cap in place when the unit is not in use.

2: Apply Mains Power

On the application of power, the STANDBY indicator on the unit illuminates.

3: Press the OPERATE ON button for 1 second or more

- You can also press the **On** button on the remote having previously pressed the **DILA** button
- Your video processor may be capable of turning the projector on and off when required via RS232 command. Consult your dealer for more information.

The OPERATE indicator on the projector lights up and the projected image slowly appears.

- Upon projection, the image may flicker for a few seconds. This is not a fault.
- When the light source is turned on, the lamp will slowly become brighter. It will take more than a minute for the brightness to stabilize.

- When video sources employing copy-protection (HDCP) are in use, it may take a while for the image to appear, due to the projector and its source 'handshaking'

4: Adjusting zoom (image size) and focus

- These adjustments should normally be carried out as part of initial set-up. If the message **not available** is displayed on-screen, these features have been locked out, and you will need to go to the Options menu to unlock them.

To enlarge the screen size, press the **ZOOM T** button (button **8** on the remote). To reduce the screen size, press the **ZOOM W** button (button **0** on the remote). Adjust the focus setting with the **FOCUS +/-** buttons (**2** and **5** on the remote).

5: Hiding the image temporarily

Press the **HIDE** button

- The displayed image will disappear. Press the **HIDE** button again to restore the image.

6: Turning off the power

Press the OPERATE OFF button on the panel, or the **OFF** button on the remote, for 1 second or more

The **OPERATE** indicator turns off, the **STANDBY** indicator starts blinking and the projector switches to the cool down mode. The cool down mode will last for about 60 seconds to allow the light source to cool off.

- The projector switches automatically into standby mode at the end of the cool down mode.
- The **OPERATE OFF** button will not work until about a minute has passed after the light source has been turned on. If necessary, wait for this to happen.

CAUTION: Do not pull out the plug when the Standby indicator is blinking. This may shorten the lamp life and cause a malfunction.

Precautions during use

This unit makes use of a light source that reaches a high temperature during projection. Do not allow projection under the following conditions; doing so may cause fire or malfunction of the projector:

- Projection with the unit laid on its side.
- Projection with the unit installed at an unreasonable angle. Avoid using this unit at an inclined angle. Doing so may cause unevenness in the colour or shorten the lamp life.
- Projection in a location that blocks the air inlets or exhaust vents.
- Projection without removing the lens cap.

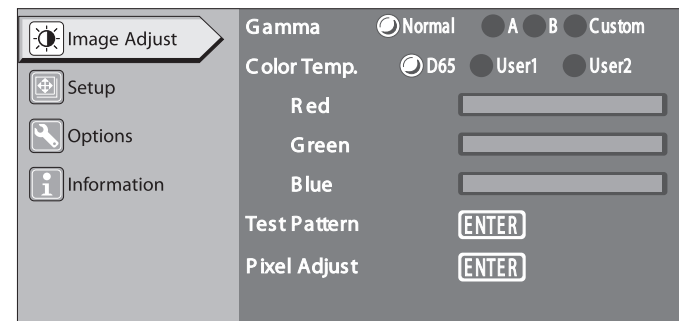
Adjustments and settings using menus

The menus displayed on the screen are used to perform adjustment and setting for this unit.

To display the main menu

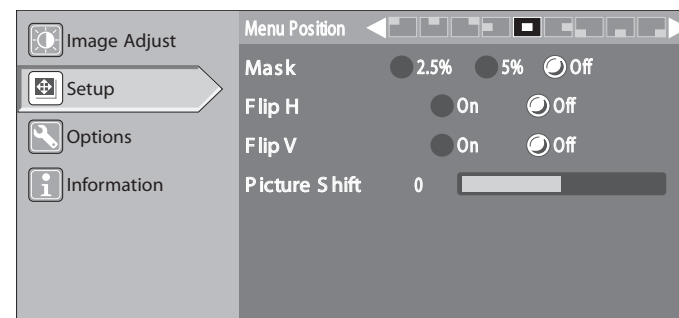
- Press **MENU** on the control panel or remote control.

The main menu will be displayed with the Image Adjust menu initially highlighted:



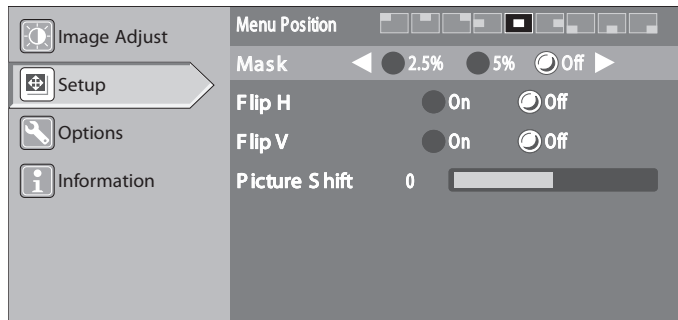
To select a menu

- Press **▲** or **▼** on the control panel or remote control to highlight the menu you want to use.
- Press **ENTER** on the control panel or **Enter** on the remote control to select it:



To change the setting of an adjustment item

- Press ▲ or ▼ on the control panel or remote control to highlight the item you want to adjust:



- Press ◀ or ▶ on the control panel or remote control to change the setting.

The effect of the adjustment will be seen on the image immediately.

To return to the previous menu

- Press **EXIT** on the control panel or **Bypass/Exit** on the remote control.

Pressing **EXIT** or **Bypass/Exit** also removes the menu or test pattern from the screen.

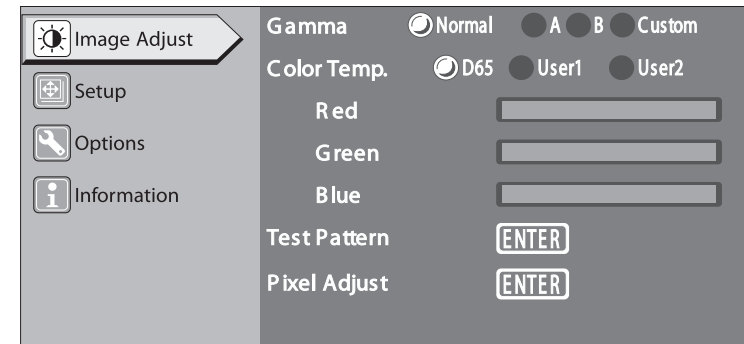
To display the test pattern

- Select **Test pattern** on the **Image Adjust** menu.
- Press **ENTER** on the control panel or **Enter** on the remote control.

There are 10 types of test patterns. Press **ENTER** or **TEST** to alter the test pattern to be projected. Press **EXIT** to clear the menu screen. Press **EXIT** again to clear the test pattern.

Image Adjust menu

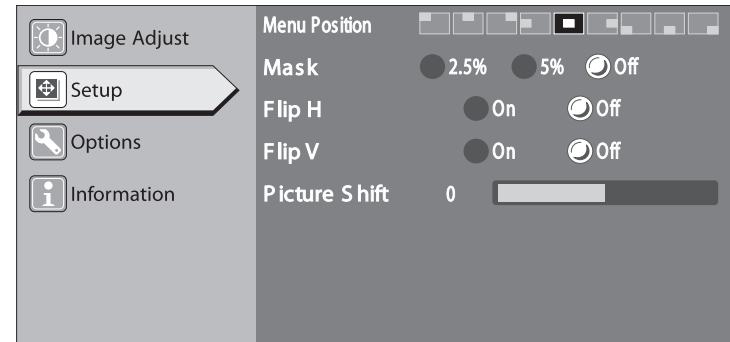
Permits image adjustment.



Option	Description	Setting values	Default value
Gamma	Switches the gradation characteristics of the image. Your projector has been individually calibrated with technology by William Phelps. Please refer to the William Phelps calibration sheet included with your projector. This will indicate to what settings Normal , A , B , and Custom have been calibrated. These settings are fixed and cannot be changed.	Normal, A, B, Custom	Normal
Color Temp.	Adjusts the colour temperature of the projected image.	D65, User1, User2	D65
Red, Green, Blue	Red, Green and Blue can be adjusted when Color Temp. is set to User1 or User2 .	-255 to 0	0

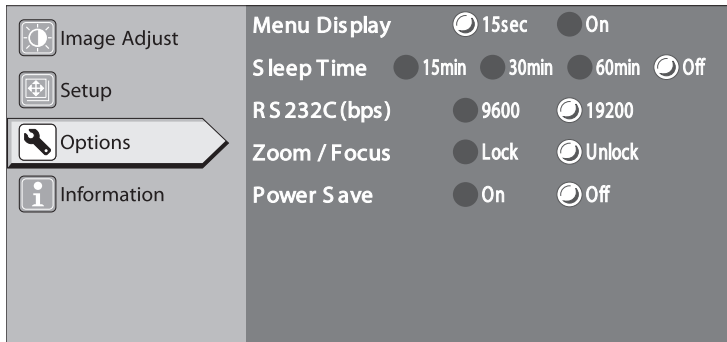
Option	Description	Setting values	Default value
Test Pattern	Use to adjust the focus, screen size or picture quality. There are 10 types of test patterns. <ul style="list-style-type: none"> Press ENTER or TEST to alter the test pattern to be projected. Press EXIT twice to clear the test pattern. 		
Pixel Adjust	Allows fine-tuning of images in the horizontal and vertical directions up to ± 3 pixels, at intervals of 1 pixel for each of Red, Green and Blue. Display a still image with a clear outline during adjustment. This feature is intended for fine-tuning of images and therefore the effect upon adjustment may not be visible to the eye. Not required under normal circumstances.	H: 1 to 7 V: 1 to 7	H: 4 V: 4

Setup menu



Option	Description	Setting values	Default value
Menu Position	Adjusts the display position of the menu screen.		
Mask.	Masks (hides) the outer area of the projected image	2.5%, 5%, Off	Off
Flip H	Horizontally transposes (inverts) the image.	On, Off	Off
Flip V	Vertically transposes (inverts) the image.	On, Off	Off
Picture Shift	When projecting letterboxed images (with black bands at the top and bottom, due to the aspect ratio of the image being wider than that of the projector), this setting can be used to move the image up or down and thus eliminate one of the bands or centre the image between them as desired	-30 to 30	0

Options menu

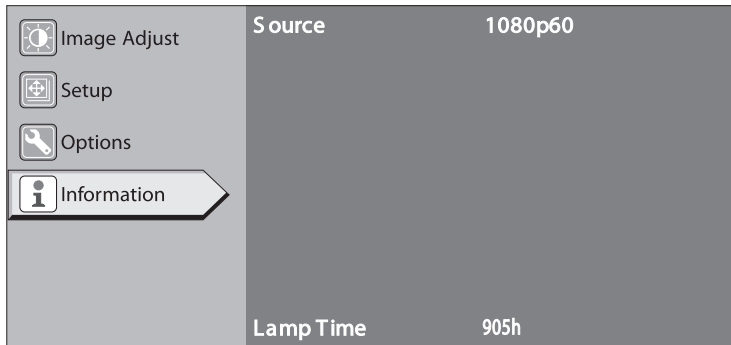


Option	Description	Setting values	Default value
Menu Display	Adjusts the display duration of the menu screen. The menu screen display will not disappear automatically when this is set to On. Instead, press the EXIT button to clear the menu screen.	15sec, On	15 sec
Sleep Time	Sets the length of time after cessation of video input before automatically switching the unit to the standby mode	15, 30, 60, Off	Off
RS232C (bps)	Sets the data rate when communicating via the RS232C port. Ensure that this is the same as the rate set at the device at the other end.	9600, 19200	19200
Zoom/Focus	Locks/Unlocks the power zoom/power focus functions of the projection lens.	Lock, Unlock	Unlock

Option	Description	Setting values	Default value
Power Save	<p>Lowers the power (brightness) of the lamp.</p> <p>Lowering the brightness of the lamp (Power Save On) will save power, but the image will not be as bright. Adjustment of setting is disabled for 1 minute after being changed. Wait a minute before trying to make further adjustments.</p> <p>Altering the Power Save setting does not affect the lamp usage time (lamp life) of the light-source.</p>	On, Off	Off

Information menu

Options under this menu show information only: no settings are available.



Option	Description
Lamp Time	Displays the accumulated hours of usage of the light-source lamp.
Source	<p>Automatically identifies the input video signal at the projector's DVI input, and displays the signal name (1080p50 or 1080p60).</p> <ul style="list-style-type: none"> No signal name will be displayed when no signal is present, or if the signal is not one of the above types (Out of range will be displayed in the latter case). <p>Note: When the input video signal is switched, a blue screen will appear for about 2 seconds. When nothing is connected to the [DVI] terminal, or if there is no video signal, a No Signal DVI-D message will be projected. In the case of a video signal that cannot be used with this unit, an Out of Range message will be projected. Video input signals that can be used with this unit are 1080/50p and 1080/60p signals via the DVI-D input.</p>

Option	Description
Control panel indicators	<p>Note: Cool Down Mode</p> <p>After projection, the hot lamp goes through a 60-second cool-down process known as 'cool down mode'. This mode is designed to prevent damage and deformation that heat from the heated lamp may cause to the internal components of the projector. It also minimises the chance of lamp breakage and shortened lamp life.</p> <p>The cool down mode is indicated by the blinking STANDBY indicator. When in the cool down mode, OPERATE ON is disabled.</p> <p>After the cool down process is completed, the unit will automatically switch into standby mode.</p> <p>CAUTION: When in the cool-down mode, do not pull out the plug from the power socket. Also, do not block the air inlets/ exhaust vents by standing this unit on its end or laying it on its side.</p>

Maintenance and troubleshooting

Replacing the lamp

The life of light-source lamps used for this unit is about 2000 hours.

- The lamp life of 2000 hours is merely the average life span of light-source lamps and we do not provide any guarantee for this figure. The lamp life may not reach 2000 hours depending on the operating conditions. Deterioration progresses rapidly when the remaining lamp usage time is short. Get ready or replace with a new lamp unit when the accumulated usage time exceeds 1900 hours. Depending on the operating conditions, the lamp may have to be exchanged earlier. If the image is dark or colour tone abnormal, replace the lamp as soon as possible.
- You can also check the accumulated hours of usage. Please refer to **Lamp Time** in the **INFORMATION** menu.
- Setting **Power Save** in the **OPTIONS** menu to **On** does not affect the usage time of the light-source lamp.

Please consult your authorised dealer when purchasing a new lamp unit.

Replacement Lamp (Lamp Unit) Part No.: BHL5008-S

IMPORTANT: The lamp unit resembles that used in other projectors of this type. However the lamps are quite different and the lamp housings are not interchangeable. Install only the correct lamp assembly for this projector: attempting to force a different lamp unit to fit may permanently damage the projector or cause a serious malfunction. It will also void your warranty.

When the lamp usage time exceeds 1900 hours (but is under 2000 hours)

The LAMP indicator lights up and the TEMP indicator starts blinking upon turning on the power (standby mode).

A **Lamp replacement** message will be displayed on the screen when projection starts.

- The message can be cleared by pressing any button on the remote control or this unit.

When the lamp usage time exceeds 2000 hours (but is under 2010 hours):

The LAMP indicator lights up and the FAN indicator starts blinking upon turning on the power (standby mode).

When the lamp usage time exceeds 2000 hours during projection, a **Lamp replacement** message will be displayed on the screen when projection starts and the 'Warning' mark will appear blinking.

- Press **EXIT** to clear the display. However, the same **Warning** and **Lamp replacement** messages will be displayed after 1 hour.
- When the unit is switched to the standby mode or turned off after the lamp usage time exceeds 2000 hours, it cannot be switched back to the projection mode again.
In this case, replace with a new lamp unit and reset the lamp time.

When the lamp usage time reaches 2010 hours

The unit exits from the projection mode (operating mode) and switches into cool down mode.

- The LAMP indicator will light up and the TEMP and FAN indicators will appear blinking.
- The projection mode (operating mode) cannot be restored until a new lamp unit is installed and the lamp time reset.

About lamp replacement

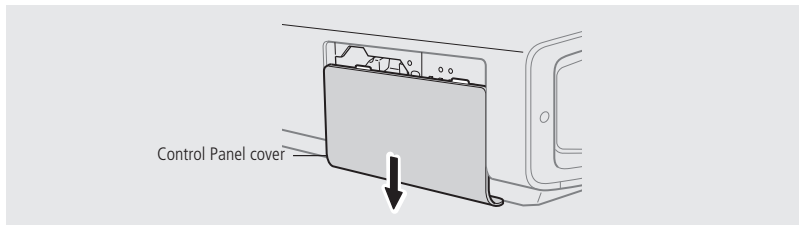
- If this unit is installed in a constricted place, attempting to replace the lamp *in situ* may be difficult or even cause injury. Move this unit to a place large enough to perform the operation.
- Use only genuine replacement parts for the lamp unit. Otherwise, malfunction may occur.

- Never attempt to re-use an old lamp unit. This may cause marked performance deterioration or lamp blowout, which may be explosive. Broken pieces of the lamp outside the projector may also be dangerous during lamp unit exchange.
- Do not replace the lamp immediately after the projector has been in use. The temperature of the lamp is still high and this may cause a burn. Allow a cooling period of 1 hour or more before replacement.
- Before replacing the lamp unit, pull out the power plug from the outlet on the rear of the unit while the Standby indicator is still on. Replacing a lamp with the plug connected to the outlet may cause injuries or electric shocks.

Lamp replacement procedure

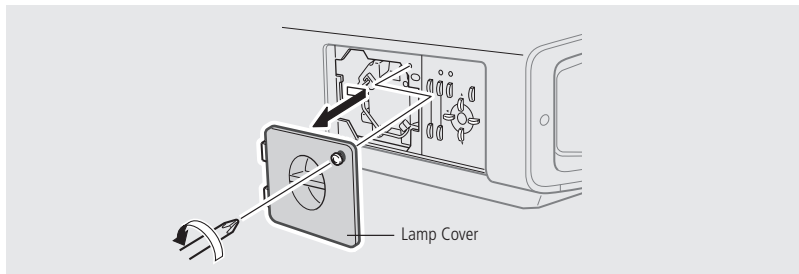
Remove the control panel cover

See *Controls – right side and rear*, page 10, for details on removing the control panel cover.



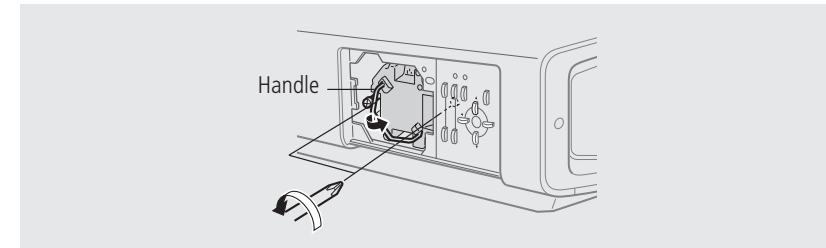
Loosen the screw and remove the lamp cover

- Undo the retaining screw with a Philips head screwdriver.

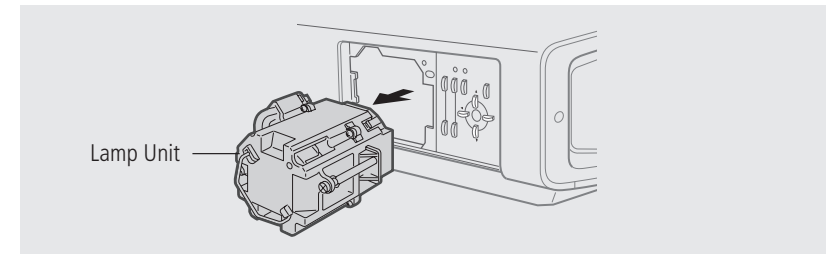


Loosen the screws on the lamp unit and lift up the handle

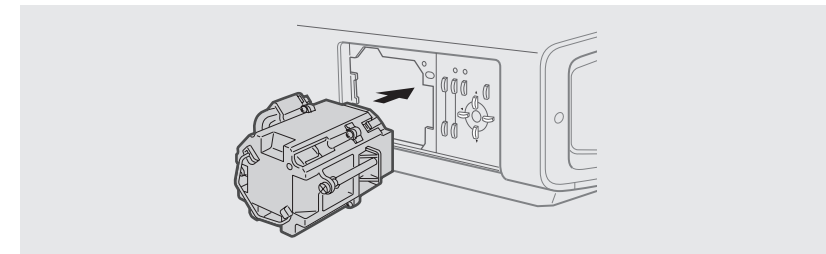
- Loosen the 2 screws with a Philips head screwdriver.



Pull out the lamp unit



Slide in the new lamp unit until it is fully inserted

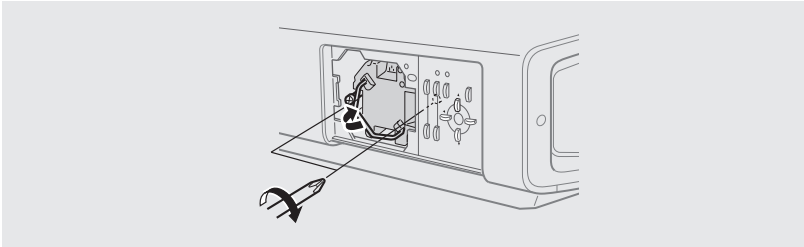


Handling the new Lamp Unit

Do not touch the glass surface of the lamp directly with your hand or stain it. Touching it with a bare hand may dirty the surface, hence shortening the lamp life, causing marked performance deterioration, image darkening, lamp blowout and other problems.

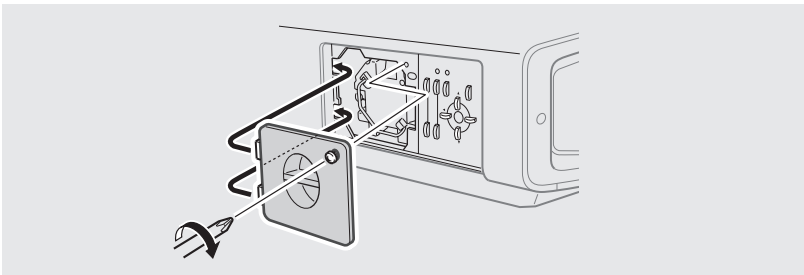
Tighten the screws of the lamp unit and fold down the handle

- Fasten the 2 screws with a Philips head screwdriver.



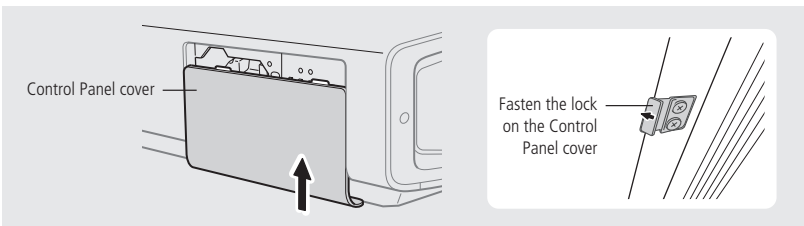
Re-attach the lamp cover and fasten the screw

- Fasten the screw with a Philips head screwdriver.



Note: When fitting the lamp cover, insert the left end (with 2 claws) of the lamp cover into the unit, followed by ensuring that the protruding part on the reverse side of the lamp cover fits snugly into the recess. As this protrusion acts as a switch, misfitting may stop the projector from operating.

Re-attach the control panel cover



Handling the Control Panel Cover

- The gap between this unit and the control panel cover is narrow. Be careful not to trap your finger in the gap between the projector body and the control panel cover.
- Be careful of the protrusions and corners of components to avoid injury.
- After attaching the control panel cover, check that the lock is fastened. The control panel cover may drop and cause injury.

Resetting lamp time

After installing a new lamp unit, the lamp time must be reset before the projector can be used. Resetting the lamp time resets the internal counter to zero hours.

Note: If the previous lamp had accumulated over 2000 hours of use, the projector will not operate until the lamp time has been reset.

Reconnect power to the projector

- The main power turns on and the Standby indicator on the unit lights up.

Point the remote control unit at one of the sensors on the projector.

- Press **EXIT**, **ENTER** and **HIDE**, one after the other, on the remote control.
- Press **▼** for 2 seconds or more.
- The **STANDBY** and **OPERATE** indicators will blink alternately for a total of 3 seconds.

After the blinking stops, lamp time resets and the unit returns to the standby mode (**STANDBY** indicator lights up). The lamp time counter has now been reset and a new count will start.

If the accumulated lamp time has reached 2000 hours, the projector will not function (lamp will not light up) unless the lamp time is reset.

Check the lamp time has been reset

The lamp time can be checked via the **Lamp Time** option on the **INFORMATION** menu.

WARNING

Reset the lamp time only when you have replaced the lamp. Never reset it when the lamp is still in use. Otherwise, the approximate standard for gauging replacement time may be inaccurate, lamp performance may deteriorate and lamp blowout may occur.

Cleaning and replacing the filter

Clean the filter regularly. Otherwise, air intake efficiency may deteriorate and the projector may overheat. If the filter is extremely dirty and cannot be cleaned, or if it is damaged, replace the filter with a new one, part number: LC32058•002A).

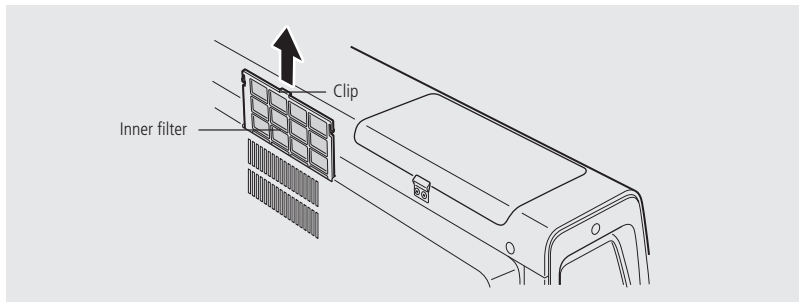
Running the unit with a damaged filter (or without one at all) may allow dust to enter the projector and appear on the screen, preventing you from enjoying the video fully. If dirt has entered the unit or if you need information about the filter, please consult your authorised dealer.

Disconnect power from the projector

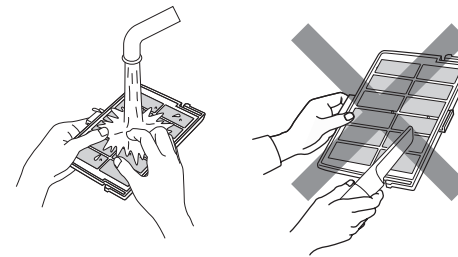
- Pull out the power plug from the connector on the rear of the unit while the Standby indicator is still on.

Remove the inner filter

- Push up and lift the clip at the base of the inner filter, and draw out the filter assembly.

**Clean the filter**

Clean the filter with water and dry it, avoiding direct sunlight. If it is extremely dirty, use a neutral detergent. Do not scrape or use a vacuum cleaner.

**Reinstall the inner filter**

- Check that the 2 clips at the left and right of the inner filter are locked to the body of the projector.

CAUTION:

- If you are using a detergent to clean the filter, we recommend wearing rubber gloves.
- After cleaning the filter, do not reinstall it until it is perfectly dry. Otherwise, electric shocks or malfunctions may occur.
- Do not clean the filter with a vacuum cleaner. The filter element is soft and may be damaged by the suction.

On-screen warning messages

No Signal DVI-D

No device is connected to the DVI interface.

The DVI-D cable is connected to the DVI terminal but there is no signal input.

Out Of Range

A video signal that cannot be used with this unit has been input. The projector only accepts 1080/50p or 1080/60p video signals.

A representation of a lens is shown with an 'X' through it and the words, 'not available'

Shown when pressing the ZOOM T/W or FOCUS +/- button when the **Zoom/Focus** setting in the **OPTIONS** menu is set to **Lock**.

- Go to the **OPTIONS** menu and set **Zoom/Focus** to **Unlock**.

Lamp replacement

As soon as the accumulated lamp time reaches 1900 hours, a **Lamp replacement** message is displayed. In addition, when the accumulated lamp time reaches between 1900 hours to 2000 hours, the **Lamp replacement** message will be displayed each time the projector is turned on.

- The message can be cleared by pressing any button on the remote control or on this unit.

Get a new lamp unit ready in advance or replace as soon as possible.

Lamp replacement Warning

The **Lamp replacement** message will be displayed and the word 'Warning' will appear blinking beneath when the accumulated lamp time exceeds 2000 hours.

- The message can be cleared by pressing the EXIT button. However, the same message will reappear every hour.

When the accumulated lamp time exceeds 2000 hours, the projector cannot be turned on again once it is switched to the standby mode or turned off. If continuous projection is performed after 2000 hours, the unit will shut down upon exceeding 2010 hours and projection will be disabled.

Install a new lamp unit and reset the lamp time.

Warning indicators

About warning indicators

If a problem occurs in the unit during projection, the warning mode will be triggered and the type of problem will be identified by a combination of indicators displayed on the top surface of the projector.

- The projector will then automatically cease projection and run the cooling fan for about 60 seconds.

No.	Indicator				WARNING
	LAMP	TEMP	FAN	HIDE	
1	Light on	Blinking		Blinking	Lamp does not light up and unit is unable to project.
2	Light on		Blinking	Blinking	Lamp turned off during projection.
3			Blinking	Blinking	Circuits are not functioning properly (Microcomputer Circuit Operation).
4		Blinking		Blinking	Circuits are not functioning properly (Drive Circuit Operation Error).
5	Light on			Blinking	Lamp cover is not installed.
6		Light on		Blinking	Internal temperature is abnormally high (Internal Temperature error).
7		Light on	Blinking	Blinking	Temperature at air inlets is high (External Temperature Error).
8			Light on	Blinking	Internal fan has stopped (Fan jammed).

Actions to be taken following display of warning indications

Please follow the procedures below.

For Nos. 1 - 4

No. 1: Perform procedures to turn off/on the power again.

No. 2: After checking if an impact shock has not occurred during operation, perform procedures to turn off/on the power again.

Nos. 3, 4: Perform procedures to turn off/on the power again.

For Nos. 5 - 8:

First, disconnect power to the unit while the Standby indicator is still on.

No. 5: Ensure that the lamp unit is correctly mounted onto this unit. Next, ensure that the lamp cover is correctly mounted. After that, restart according to the basic operation procedures.

No. 6: Check that nothing is blocking the air inlets, and wait until the inside cools down. After that, restart according to the basic operation procedures.

No. 7: Check the ambient temperature. If it is normal, leave the unit until it cools down. After that, restart according to the basic operation procedures.

No. 8: Leave the unit until it cools down. After that, restart according to the basic operation procedures.

If the warning indication is displayed again, wait for the cooling fan to stop. Check that the Standby indicator is on, followed by removing the plug from the power outlet. Call your authorised dealer for repair.

Troubleshooting

Before sending the unit for repair, check the following chart.

Symptom	Probable cause	Corrective action
Unit does not power up	Is the power cord connected	Insert the power cord properly.
	Is the lamp cover properly shut?	Remove the plug when the STAND BY indicator is on. Close the lamp cover properly and insert the plug again.
	Has the lamp life expired (lamp usage reached 2000 hours)?	Remove the plug when the STAND BY indicator is on. Install a new lamp unit. After doing so, reinsert the plug and reset the lamp.

Symptom	Probable cause	Corrective action
Projected image is dim	Is the lamp near exhaustion?	Check the lamp usage time on the menu. Prepare a new lamp (lamp unit) or replace as soon as possible when the lamp is near exhaustion.
	Is "Power Save" on the setting menu set to "On"?	Set the Power Save setting to Off.
Unit works when the power is turned on but stops abruptly after a few minutes	Are the air suction openings (air inlets) and exhaust vents blocked?	Remove any blocking object. After doing so, reinsert the plug.
	Are the filters dirty?	Clean the filters.
Video image does not display	Are devices properly connected?	Connect devices correctly.
	Is the lens cap removed?	Remove the lens cap.
	Are correct signal (1080/50p or 1080/60p) being output from the connected devices	Set connected devices correctly.
Video image is blurred	Is the video image temporarily turned off when the HIDE button is being pressed?	Press the HIDE button to display the video image again.
	Is the focus correctly adjusted?	Adjust accordingly using the focus button.
	Is the unit placed too near or too far away from the screen?	Set the unit at a correct distance from the screen.

Symptom	Probable cause	Corrective action
Video images are missing	Has setting been performed for screen mask?	Set the Mask setting of the Setup menu to Off.
	Has setting been performed for picture shift?	Alter the Picture Shift value in the Setup menu to ensure that images are not missing.
Remote control unit does not work	Are batteries installed correctly?	Match the polarities (+ or -) correctly when inserting batteries.
	Are batteries exhausted?	Replace with new batteries.
	Is there any obstruction between the remote control unit and remote sensor?	Remove any obstruction.
	Is the remote control held too far away from the sensor?	Hold the remote control closer to the sensor when using.

- This projector employs a microcomputer. Excessive external electrical and RF noise may cause it to lock up. If this happens, turn the unit off, disconnect the power, wait at least ten seconds and then re-power the unit. Check the projector's operation again and if problems persist, contact your dealer.

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