



INSTRUCTION MANUAL

IMPORTANT: Read carefully. It is essential for the correct and safe use of the equipment that erectors and operators should be fully conversant with the information and instructions given in this manual.

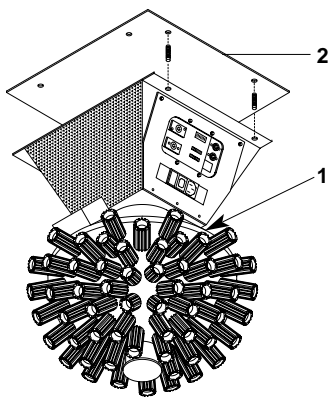
1 INSTALLING THE PROJECTOR

• Unpacking

Open the box, remove the projector from the packing and place it on a flat, horizontal surface.

Unpack the standard accessories supplied with the equipment. Inspect the lamp change label (1) and replace it with one of the optional language versions if necessary.

Make certain that the label is never removed, as it displays important safety information.



• Fitting the lamp

Refer to directions for replacement of the lamp given under heading 4 MAINTENANCE.

• Installing the projector

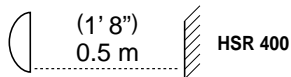
The projector can be mounted in any position without its operating characteristics being affected.

Secure the perforated plate (2) to the supporting structure and then fix the projector to the plate using four M8 nuts and four lock washers.

Make certain that the anchorage is stable before positioning the projector.

• Minimum distance from target objects

The projector must be positioned in such a way that objects struck by the beam are separated from the lens by a distance of at least m 0.5 (1' 8").



• Minimum distance of inflammable materials from any part of the equipment: m 0.10 (4").

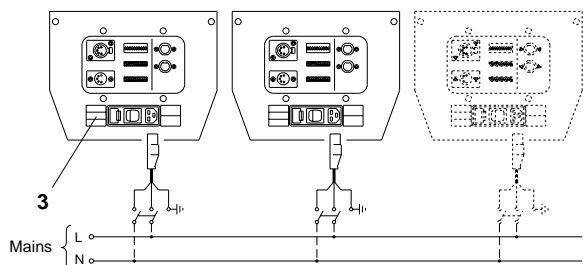
F The projector may be mounted on normally inflammable surfaces.

IMPORTANT: For better and more reliable operation of the projector, the ambient temperature must not exceed 35° C (95° F). Protection factor IP 20: the appliance is protected against penetration of solid bodies more than 12mm (0.5") in diameter (first digit 2), but can be damaged by spray, jet, drip or rain water (second digit 0).

2 POWER SUPPLY AND INTERFACE

• Connecting to the electrical power supply

The operations described in this heading must be carried out by a licensed electrician. Connect the projector to the power supply by means of the supplied socket. It is good policy to connect projectors to the power supply by way of dedicated switches, so that each can be turned on and off individually from a remote station.



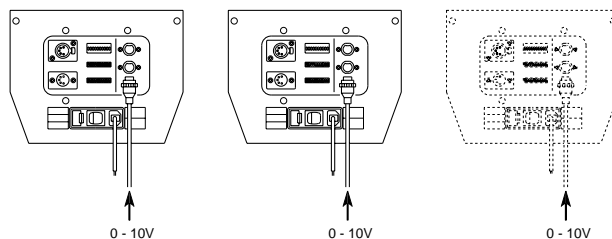
The projector is designed to operate at the voltage and frequency indicated on the electrical data plate (3) affixed to the rear end. Check that these two values correspond to the mains voltage and frequency.

IMPORTANT: the projector must be connected to a power supply circuit having a proper earth system (Class I appliance).

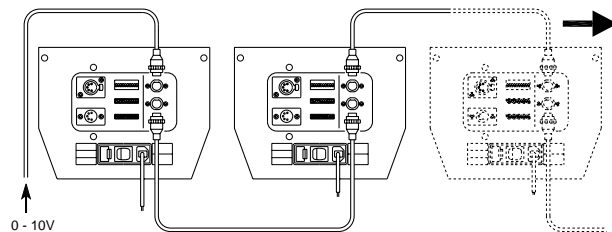
• Connecting the control signals

0-10V CONNECTION

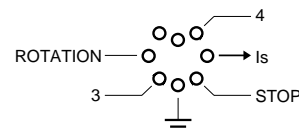
- Independent operation



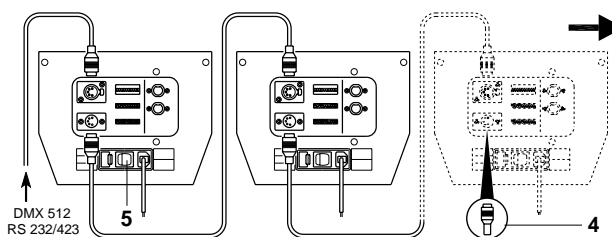
- Projectors operating simultaneously and identically



The connection between controller and projector must be made using a multi-core cable with 8 wires of 0.25mm² section and a DIN 8 PIN 45° plug/socket connector.



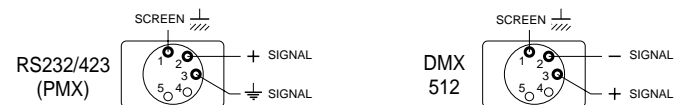
RS 232/423(PMX) - DMX 512 CONNECTION



Projectors are wired up to the controller and one to the next using two-core screened cable and Cannon 5 pin XLR type plug/socket connectors.

To connect a DMX line, a terminating plug (4) with a 100Ω resistor wired between pins 2 and 3 must be fitted to the last projector connected in series; the plug is not required when using an RS232/423(PMX) signal.

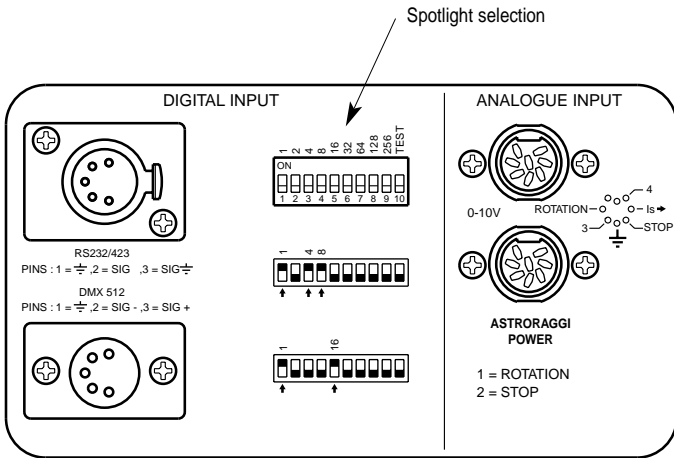
The wires must not come into contact with each other or with the metal casing of the plug. The casing of the plug/socket must be connected to the screen and to pin 1 of the connectors.



Having completed the operations described above, press the on/off switch (5). Check that the lamp comes on and that the auto-reset sequence starts.

• **Projector address codes (for digital signals)**

Each ASTRORAGGI POWER projector uses 2 control channels. To ensure that different projectors are addressed correctly by the controller, a code must be assigned to each one. This operation is carried out on each ASTRORAGGI POWER by setting the microswitches as indicated in the table below.



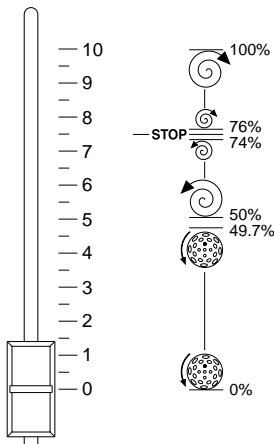
CODE	1	2	4	8	16	32	64	128	256	TEST
Projector 1 - Channels 1-2	ON	OFF	▼	▼	▼	▼	▼	▼	▼	▼
Projector 2 - Channels 3-4	ON	▲	▼	▼	▼	▼	▼	▼	▼	▼
Projector 3 - Channels 5-6	ON	OFF	▲	▲	▼	▼	▼	▼	▼	▼
Projector 4 - Channels 7-8	ON	OFF	▲	▲	▲	▼	▼	▼	▼	▼
Projector 5 - Channels 9-10	ON	OFF	▲	▼	▲	▼	▼	▼	▼	▼
Projector 6 - Channels 11-12	ON	OFF	▲	▲	▲	▼	▼	▼	▼	▼
Projector 7 - Channels 13-14	ON	OFF	▲	▼	▲	▼	▼	▼	▼	▼
Projector 8 - Channels 15-16	ON	OFF	▲	▲	▲	▼	▼	▼	▼	▼
Projector 9 - Channels 17-18	ON	OFF	▲	▼	▼	▼	▼	▼	▼	▼
Projector 10 - Channels 19-20	ON	OFF	▲	▲	▲	▼	▼	▼	▼	▼
	ON	OFF								▼

Setting the TEST switch to the ON position for a few seconds with the projector powered-up, an auto-reset routine is carried out. Leaving the TEST switch at the ON position for a longer period, a full self-test program will be completed; once the operation has terminated, return the switch to the OFF position.

3 CHANNEL FUNCTIONS

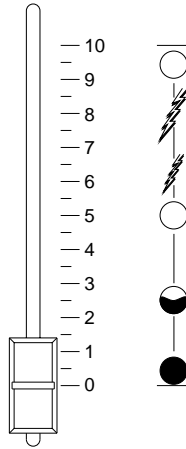
CHANNEL	FUNCTION
1	DOMES ROTATION
2	DIMMER/STOPPER/STROBE

• **DOMES ROTATION - channel 1**



From 0% to 49.7% the internal dome turns anti-clockwise through 360°. When the slider reaches 50% the dome starts spinning at maximum speed and then it gradually slows down until it comes to a stop on 74%. At 76% the dome starts turning in the opposite direction starting from minimum speed and gradually accelerating up to maximum speed when the slider is on the 100% position.

• **DIMMER/STOPPER/STROBE - channel 2**



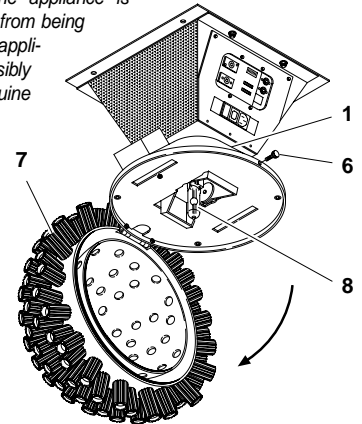
In the 0% to 50% range of adjustment, the dimmer opens gradually to maximum aperture. Strobe effect is produced from 54.7% to 95%, with frequency increasing from 1 flash/4 seconds to 2 flashes/second. The aperture remains fixed between 95% and 100% of the range.

4 MAINTENANCE

IMPORTANT: isolate the projector from the electrical power supply before commencing maintenance work of any description. The maximum temperature on the outer surface of the projector under normal operating conditions is 120°C (248° F).

After switching off, do not remove any part of the projector for at least 5 minutes, as indicated on the lamp change label (1). Once this time has elapsed, the risk of a lamp exploding is practically zero. If the lamp needs changing, wait a further 15 minutes to avoid the risk of burns.

In the event of a lamp exploding, the appliance is designed to prevent fragments of glass from being scattered. The lenses supplied with the appliance must be fitted at all times, and if visibly damaged, must be replaced with genuine spares.



• **Changing the lamp**

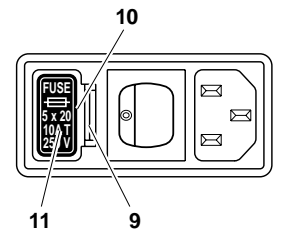
Unscrew knob (6) and open cover (7) to access the lampholder. Remove the lamp (8) from its fitting by gripping it at the base and pulling it upwards. Locate the new lamp in the fitting and ensure that the pins are positioned correctly.

CAUTION: The projector uses a high pressure discharge lamp with external starter.

- When fitting a new lamp, read the manufacturer's instructions carefully.
- The lamp must always be changed without delay if damaged or deformed by heat.

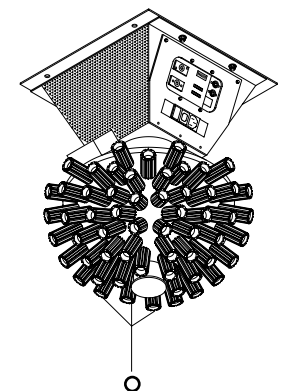
• **Replacing fuses**

To replace the fuses, press the tab (9) and pull out the fuse holder (10). Replace any blown fuse with one of the same type and rating as indicated on the label (11) attached to the holder (10). Insert the fuse holder and push in to engage the tab (9).



• **Routine cleaning**

To maintain the light output of the projector undiminished, parts that tend to accumulate dust and grease must be cleaned periodically. In most circumstances, the projector will give long and trouble-free service if these simple guidelines are followed. To remove dirt from the lenses and filters, use a soft cloth moistened with any liquid detergent suitable for cleaning glass.



IMPORTANT: do not use solvents or alcohol

- Parts that need cleaning frequently. Internal components should be cleaned once a year by dislodging dust and dirt with a brush and removing it simultaneously with a vacuum cleaner.

5 TROUBLESHOOTING

PROJECTOR DOES NOT LIGHT UP		FAULTS
ELECTRONICS NOT WORKING		
REDUCED BRIGHTNESS		
	POSSIBLE CAUSES	CHECKS AND REMEDIES
●	No electrical power supply.	Check that power is available at the mains socket and/or that fuses are intact.
● ●	Lamp expended or faulty.	Change lamp (see instructions).
●	Signal transmission cable short-circuiting or disconnected.	Change cables.
●	Address codes incorrect.	See projector coding instructions.
●	Defect in electronic circuits.	Contact an authorized technician.
●	Dust or grease deposit.	Clean (see instructions).

6 TECHNICAL DATA

ELECTRICAL / MECHANICAL SPECIFICATIONS

Power supplies available

- 220 - 240V 50Hz
- 200 - 220V 60Hz
- 200V 50Hz
- 200V 60Hz
- 260V 50Hz

The projector is designed to operate at the mains frequency and voltage given on the electrical data label on the base of the appliance.

Lamp

Metal halide with special built-in power supply.

- Type HSR 400W (MSR 400W)
 - Cap GX 9.5
 - Colour temperature 5600 K
 - Luminous flux 33000 lm
 - Average life 650 h

Power consumption

1600VA at 220V 50Hz

Motors

N. 3 step-by-step motors, operating in microsteps and totally controlled by a microprocessor.

CONTROL SYSTEMS

Channels

N. 2 control channels.

Inputs

ASTRORAGGI POWER is designed to accept analog or digital control signals from controllers or computers.

- RS232/423(PMX) or DMX 512 digital serial input
- 0 -10V analog input

CONSTRUCTION FEATURES

Safety devices

Power shuts off automatically in the event of overheating or cooling system failure.

Cooling

Forced ventilation cooling system using axial flow fans.

Housing

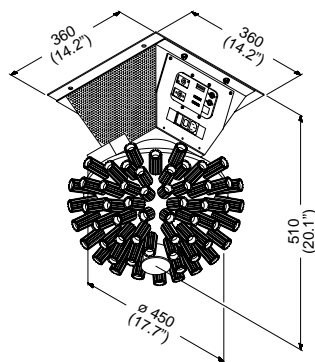
- Extruded diecast aluminium.
- Epoxy powder coated finish

Operating position

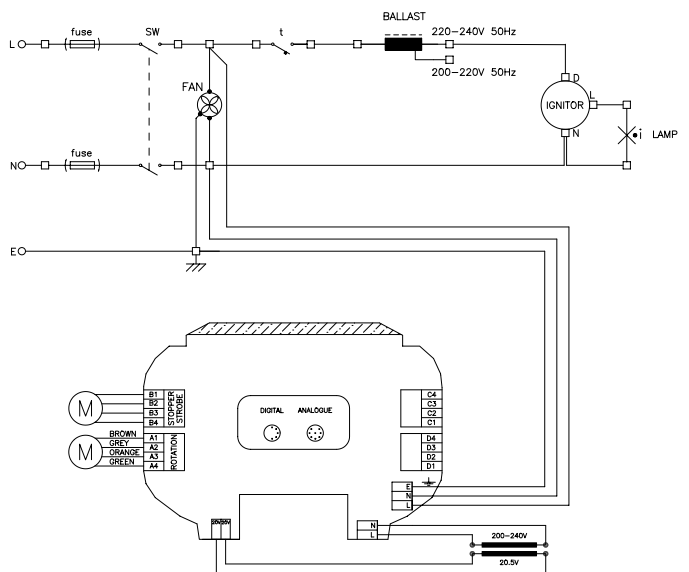
Will function in any position.

Weights and dimensions

Weight: 23 kg (50 lbs 10 ozs).



7 WIRING DIAGRAM



The specifications published in this manual are not binding, and may be revised or updated at any time by Clay Paky without notice in the interests of improving product quality.



The products referred to in this manual comply with EC Directives on:

- Low Voltage 73/23
- Electromagnetic Compatibility 89/336