

SWORD

Features of the Sword

The SWORD is a powerful yet compact fully automatic lighting effect. With focusable beams and a protective grill for the dichroics, this exciting lighting effect is four times brighter than its predecessor and its randomly produced dichroic colours are extremely strong and rich. The SWORD has two independently motorised dichroic mirrors which, depending on their position, can produce up to six random coloured beams of pure dichroic colour. These mirrors can be adjusted to allow the beams to sweep in parallel or diagonally and the whole SWORD can be mounted either vertically or horizontally to provide the user with a generous choice of effect presentation. The light source is provided by two inexpensive 100W 12V dichroic lamps, each individually fan cooled and focusable. Sound activation is totally automatic and requires no connection to a sound system. Simply connect the SWORD to the power and its internal electronics will sense the sound level and activate the mirrors accurately in time with the bass beat of any music.

IMPORTANT

Installer and Users please note:


These instructions should be read carefully and left with the user of the product for future reference.

Installation.

Fix the Sword with the hanging bracket provided. To comply with Health and Safety Legislation a safety chain should be employed.

The Sword must be installed by a competent electrician in accordance with the current IEE wiring regulations.

The Sword may also be used free-standing with its handle used as a foot. If this is required, move the handle, so that it rotates below the product instead of above. It may also be mounted vertically, to give a different floor-to-ceiling effect, by clamping the fixing bracket to a vertical pole.

This symbol means that the SWORD should be  installed more than 0.4 metres from any object that it is illuminating.

Connect the Sword to the mains supply with the mains lead supplied: connect the wires as follows:

- **Brown = live**
- **Blue = neutral**
- **Green/yellow = earth**
- **The Sword must be earthed**

If connecting via a switching or power pack, the outputs should be de-rated by 50% from its “resistive load” capacity

to allow for the large inrush current of the halogen lamp. If connecting via an MCB use a type C or type D, the type D is specially designed to withstand the surge of lighting loads without tripping. The Sword should not be connected to a dimming pack or light dimmer. The Sword is an inductive load.

It is recommended that a switch panel such as the NJD Euro 6s, Euro 8s, TS10R or Logic S12 is used to control mains powered effects such as the sword. A switch panel control the power to the effect electronically to prevent interference being generated when the effect is switched on or off.

For applications that require the Sword to be incorporated into a much larger lighting display controlled from a lighting desk such as the NJD Merlin, then the Sword should be switched from a switching pack such as the NJD SP10000, interfaced to the DMX output of the lighting desk by an IF16.

Sound activation

The Sword has a built-in microphone with automatic level control, so needs no connection to the sound source, and no adjustment. The Sword is designed for discothèque applications and requires quite a high sound level to activate the sound response.

Adjusting the beam angles.

Slacken the screws fixing the bracket for the dichroic reflector to the bush on the motor. Hold the reflector near the bracket and adjust to the required angle. Tighten the screws until the spring washer is just compressed.

Do not try to adjust the dichroic reflectors without first slackening the screws.

Adjust the angle of the hanging bracket to obtain the best effect and tighten the handle fixing screws. The SWORD may be moved whilst it is operating provided that it is done carefully, the lamp is most vulnerable to failure immediately after switching off. It is recommended that the SWORD is allowed to cool for 5 minutes after switching off before moving.

Focusing

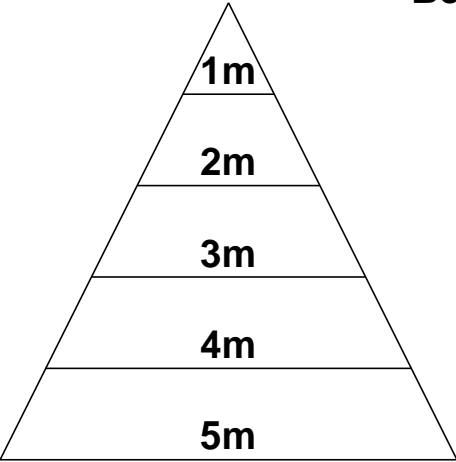
Slacken the focusing knob located on the top of the lid at each side of the unit, slide until the best focus is achieved and then re-tighten the knob. Repeat this procedure for both focusing controls. This may be easier if a piece of card is inserted in front of the lens at the opposite side to block the beam.

Warning. Although the dichroic reflectors are made of toughened glass and will not break during normal handling and use, care should be taken that nothing is dropped through the grille on to the reflectors during installation or use, as they are expensive to replace.

Changing lamps.

Disconnect from the mains supply. Slacken the lid fixing screws and remove the lid. The failed lamp can then be removed. Replace with a new lamp, type A1/231 (EFP). Do not touch the lamp capsule, hold it only by the outside of the reflector. If the lamp is touched, the glass should be cleaned before use using methylated spirit. Longer lamp life can be obtained at the expense of light output by fitting a type A1/232 (EFR) lamp.

Brightness		Beam Diameter
15000 lux	1m	260mm
3750 lux	2m	520mm
1670 lux	3m	780mm
950 lux	4m	1040mm
600 lux	5m	1300mm



Light levels at various distances from the Sword

Replacing the fuse.

Occasionally, when the lamp fails, the fuse may blow. If this occurs, replace with a new fuse type 20mm x 5mm 2 Amp Anti-surge, High breaking capacity. This type of fuse has a ceramic case. The fuse is located in the mains inlet connector. Do not replace with any other type or value of fuse. If the new fuse blows, consult a dealer.

Cleaning

The reflectors and rear mirrors should be cleaned periodically to remove any build up of smoke fluid residues. This should be done using a soft, lint-free cloth and methylated spirit, isopropyl alcohol or hi-fi cleaning fluid. The colours of the beams become less intense as the reflectors become dirty. The fans should be cleaned with a brush to remove dust. If the fans become blocked the Sword may overheat, reducing lamp life.

If the reflectors are removed, they must be replaced in the same position to achieve the correct colours. The blue filter is mounted at the left hand side, and the green filter at the right hand side, when the product is viewed from the front. Judge the colour of the filter, by looking *through* it at a light source, not by the colour that reflects off it.

Technical Specification.

Power Supply:	230V AC 50Hz
Power consumption:	240W
Operating Current:	1.04 A
Switch-on Inrush:	2.8 A (650 VA)
Inrush duration:	60ms (3 mains cycles)
Power factor (cos ϕ):	better than 0.99
Mains input:	Inlet connector to IEC320, BS4491
Internal Fuse:	T2A HBC 5mm x 20mm to IEC127 <i>(HBC means High Breaking Capacity, a HBC fuse has a ceramic case)</i>
Lamps:	2xA1/231 (EFP) 12V 100W halogen with dichroic reflector
Lamp Life:	100 hours nominal @ 230V AC <i>Note: Although Britain has had a nominal 230V supply since January 1995, the actual voltage is usually nearer 240V.</i>
Colours:	60 hours nominal @ 240V AC dichroic, 2 reflective, 2 transmissive
Beam divergence:	15°
Beam width:	260mm @ 1m
Beam brightness:	15,000 cd (yellow beam)

Safety Standards

The Sword complies with:

EN60598 (European Safety Standard for Luminaires)

EN55015 (Electromagnetic Compatibility Standard)

EN61000-3-2 (Mains Harmonic Currents)

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