

## Vayron Cluster 3D / Fire Star / Nebular Laser

### Specification

Weight: 1.8kg

Dimensions: 172 x 175 x 63cm

Input Power: 120v/240v AC, 60/50Hz.

Power consumption: 20w

Laser: 40mw (Green) 532nm & 100mw (Red) 650nm LED Laser Diodes

Fuse: 2A / 250v

### Features

Built-in microphone, with sound sensitivity control

Fan Cooled

70 deg Scan Angle

For indoor use only

Auto laser safety shutoff after 8 seconds without signal

**IMPORTANT: Read the laser safety guide at the end of these instructions before attempting to operate this laser display unit.**

**DO NOT LOOK DIRECTLY INTO THE LASER APERTURE AT ANY TIME WHEN POWER IS APPLIED TO THE UNIT.**

### Laser Operation

#### Auto Run

Set the rear mounted switch to the Auto-run position.

Carefully site the laser projector as per the laser safety guidelines detailed below before applying power to the unit.

Plug in the laser projector, the unit will then go through a self diagnostic program before light is emitted from the laser aperture.

When the unit completes the diagnostic check the laser will emit an ever changing pattern of laser beam effects from the aperture. This auto run sequence will continue until power is removed from the unit.

#### Sound to Light Operation

Set the rear mounted switch to the Sound to light position.

Carefully site the laser projector as per the laser safety guidelines detailed below before applying power to the unit.

Plug in the laser projector, the unit will then go through a self diagnostic program before light is emitted from the laser aperture.

When the unit completes the diagnostic check the laser will emit a pattern of laser beam effects from the aperture.

If no sound input is detected the laser beam will be switched off. This is a safety measure. Once the sound source has been switched on, the laser will switch on again and the sound sensitivity control can be adjusted to produce the best effects to suit. Turn the sound level knob clockwise to increase the sensitivity and anti-clockwise to decrease the sound sensitivity. If set correctly, the laser should display the various patterns in time to the base notes of the music.

**Important Note:** We recommend that the unit is powered down for 10minutes after every 30minutes of operation. This will maximise the life of the laser diodes.

There are no user serviceable parts inside the laser unit and your warranty will be void if the unit is tampered with.

## Laser Safety

**DO NOT LOOK DIRECTLY INTO THE LASER APERTURE WHILE POWER IS APPLIED TO THE UNIT, OTHERWISE IRREVERSIBLE EYE DAMAGE COULD RESULT.**

This is a Class 3b Laser projector and has the potential to damage eyesight if not used correctly. Please follow the following instructions which are designed for your safety and that of your audience.

Laser Lighting Effects are safe to watch providing they are installed and operated correctly. The following information is based on the current UK health and safety guidelines for the safe use of lasers when used for public displays purposes and should be used as a guide only.

We would recommend reading the official health and safety guidelines set out by the Health and Safety Executive: HS(G)95 *The Radiation Safety of Lasers Used for Public Display Purposes*.

### Installation of Laser Equipment

This laser projector should only be installed and operated by persons who are fully compliant in the operation and performance of this laser projector.

The laser projector should be mounted in a stable position where it cannot be interfered with by anyone other than the operator. It should be monitored at all times during its operation by a dedicated responsible laser operator.

The projector should be placed so that the laser beams that are projected from the laser aperture are 3m away from the audience in all directions.

Before installation care should be taken to consider the direction and movement (scanning) of the laser beams, paying particular attention to beams that are likely to be aimed into the audience. This includes any reflected beams from mirrors and other shiny surfaces. These can be just as hazardous.

Ideally the laser beams should not contact the audience at any time during the show. However if audience scanning is to be part of the show then consideration of the laser power is important. Stationary laser beams should **not** be aimed into the audience and should be avoided at all costs as this could result in someone looking directly into the laser beam.

The general guide for safe operating distances for audience scanning using a typical class 3b laser projector is:

<u>Beam Effect</u>		<u>Fast Moving Effects</u>	
<u>Laser Power</u>	<u>Min Distance</u>	<u>Laser Power</u>	<u>Min Distance</u>
10mw	13m	10mw	6m
30mw	21m	30mw	10m
50mw	26m	50mw	12m
100mw	37m	100mw	17m
250mw	57m	250mw	27m
450mw	77m	450mw	36m

Please note these are estimated distances only and should be used as a guide. The charts have been compiled assuming a typical laser lightshow with a beam spread of 2mradians. Beam effects are when static beams are scanned into the audience. The fast moving effects are when a laser is used to project "Tunnel" and "Fan" type effects which are moved about in the audience.

Note: When laser effects are used in smoke, the laser beam intensity is decreased and so the distances above could be reduces slightly.

Important: We would highly recommend that the operator of any laser equipment used for public display purpose attend a training course on laser safety.

Please contact your local college or University for further details.