

## Vayron X4 Ultimax Laser Projector Instruction Manual

### **Specification**

Weight: 2kg

Dimensions: 210 x 240 x 89mm

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

Power consumption: 20W

Laser Power: 50mw (Green) 532nm & 100mw (Red) 650nm LED Laser Diodes

3 x Pin Male and 3 x Pin female XLR sockets for DMX IN / OUT

### **Features**

4 x effect modes: "Cluster", "StarBlitz", "Nebula" and "3D Cluster"

Built-in microphone, with additional sound sensitivity control

Fan Cooled

70 deg Scan Angle

6 x channel DMX 512 controllable

Master / Slave / Stand Alone Operations

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.**

**Note: Please ensure that this unit is operated at room temperature. If brought from a cold environment, we recommend that it is stood at room temperature for approximately one hour before use to allow any condensation within the unit to clear. Failing to do this may reduce the power of the laser diodes.**

### **Operation**

#### **Dip Switch Settings**

Stand Alone Operation: Set switches 1 & 10 to "On"

Sound activation: Set switch 10 to "On"

DMX Operation using dip switches: Set the DMX address using the dip switches



**Example 1:** To set the DMX address to 1

Set all switches to: "Off" then set switch 1 to "On" for DMX address 1

**Example 2:** To set DMX address 9

Set all switches to: "Off" then set switches 4 & 1 to "On" for DMX address 9

**5.** To set in Slave mode: Set all switches to: "Off" then set switch 1 to "On"

**Note:** This unit is a "Six Channel" DMX 512 unit.

#### **DMX Values**

Channel 1: DMX value 000 - 050. Function: Off

Channel 1: DMX value 051 - 101. Function: DMX mode control selection

Channel 1: DMX value 102 - 152. Function: Automatic Operation

Channel 1: DMX value 153 - 255. Function: Sound to Light Operation

Channel 2: DMX value 000 - 064. Function: "Cluster" effect

Channel 2: DMX value 065 - 128. Function: "Starburst" effect

Channel 2: DMX value 129 - 192. Function: "Nebular" effect

Channel 2: DMX value 193 - 255. Function: "3D Cluster" effect

Channel 3: DMX value 000 - 128. Function: "Clockwise" rotation

Channel 3: DMX value 129 - 255. Function: "Anti-Clockwise" rotation

Channel 4: DMX value 000 - 255. Function: Pattern Speed

Channel 5: DMX value 000 - 255. Function: Flash Speed

Channel 6: DMX value 000 - 255. Function: Colour Selection (Red, Green & Mix)

### **Auto Run**

Set the dip switches to auto-run (1 & 10 "On"). 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.

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

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 dip switches to Sound to light operation (Switch 10 "On"). 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.

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

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.

### **DMX Operation**

Set the dipswitches to the DMX address required (see instructions above).

**Note:** If no DMX signal is present for more than 8 seconds the laser beam will switch off. The laser will be switched on again automatically when the DMX signal is restored.

**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.

## **Important Laser Safety Information**

**WARNING: 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:

<b><u>Beam Effect</u></b>		<b><u>Fast Moving Effects</u></b>	
<b><u>Laser Power</u></b>	<b><u>Min Distance</u></b>	<b><u>Laser Power</u></b>	<b><u>Min Distance</u></b>
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.