

# DMX250

## Kit

### **Features of the DMX250**

- X/Y (Horizontal/Vertical) mirror control
- 7 gobos  
(squares, tunnel, dots, star, triangle, segments, spiral, circle)
- 7 dichroic colours  
(magenta, yellow, cyan, pink, red, green, blue) and white
- Blackout shutter and lamp on/off control
- 250W halogen lamp with dichroic reflector
- Adjustable Focus
- DMX control
- 0-10V Analogue Control

### **Features of the DMXCon1**

- Full control over colour and beam movement
- Controls up to 32 NJD Scanners
- Operates DMX250, Microbeam, Predator, IQ-250
- Colour changing sequences for four Scanners
- Control of maximum area swept by the beams
- Slow movement effects
- Needs no separate power supply when run from a DMX250
- Built in microphone for sound activation

## 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 DMX250 with the hanging bracket provided. To conform to Health & Safety Regulations, a safety wire must also be employed.

**The DMX250 must be installed by a competent electrician in accordance with the current IEE wiring regulations.**

Connect the DMX250 to the mains supply with the lead provided. The wires are colour-coded as follows:

- Brown = Live (phase)
- Blue = Neutral
- Green/Yellow = Earth
- The DMX250 must be earthed for safe and reliable operation.

The supply must be fitted with an isolating switch, or plug and socket, and protected by fuse or circuit breaker rated at between 6A and 16A. If the DMX250 circuit is connected via an MCB then it is recommended that a time-delay MCB is used (Type 3 or Type C to BS3871). This will reduce the possibility of "nuisance tripping" due to the large inrush current of the halogen lamp.

 This symbol means that in order to reduce the risk of fire, the DMX250 should be installed more than 0.8 metres from any object that it is illuminating.

It is also possible to connect the DMX250 to a switching pack such as the NJD SP10000 but this is not recommended. If connecting via a power pack, the outputs of the power pack should be de-rated by 50% from its "resistive load" capacity to allow for the large inrush current of the halogen lamp. The DMX250 should not be connected to a dimming pack or light dimmer. The DMX250 is an inductive load.

Adjust the hanging bracket until the light beams are in the best position. The DMX250 may be moved whilst it is operating provided that it is done carefully, the lamp is most vulnerable mechanical damage immediately after it has been switched off, before it has fully cooled. It is recommended that the DMX250 is allowed to cool for 5 minutes after switching off before moving.

### **Changing the lamp.**

Disconnect from the mains supply. Unscrew the fixing knob from the lamp cover on the front of the product and withdraw the lamp assembly. Remove the lamp from the fixing clip and remove the connector from the lamp. Replace with a new lamp, type A1/259, being careful not to touch the glass envelope of the lamp. Connect the lamp connector to the lamp and replace in the fixing clip. Replace the lamp cover and tighten the fixing knob.

### **Changing the fuse.**

Occasionally, when the lamp fails the fuse may also blow. If this occurs, replace with a new fuse type 20mm x 5mm 3.15 Amp antisurge, high breaking capacity. This type of fuse has a ceramic case. Do not replace with any other type or value of fuse. If the new fuse blows consult a dealer. The fuse is located next to the incoming mains cable.

### **Focusing.**

To focus slacken the focusing control on the front of the unit, move forwards or backwards as required, and re-tighten the screw when the best image is obtained.

### **Cleaning.**

The DMX250 should be cleaned periodically as the light output will become less intense as smoke fluid residues build up on the mirror and lenses. Disconnect from the mains supply and remove the cover. Clean the lens and the mirror using a soft lint-free cloth and methylated spirit, isopropyl alcohol or hi-fi cleaning fluid. Also, make sure that the fan is not becoming obstructed - use a brush to remove any build-up of dust.

## Connection.

Connect the DMXcon1 to the DMX250 using the RJ11 to 5-pin XLR lead provided. Connect the two DMX250s together using the 5-pin XLR male to female lead provided.

## Setting up

Note: all diagrams show switches up as OFF and down as ON.

### 1. To make all scanners operate identically.

Set all address switches OFF.

Set the "Master/slave" switch ON.

Set the "Terminator" switch OFF on all scanners except the last one in the chain.

On the last scanner in the chain, set the "Terminator" switch ON. This correctly terminates the DMX line, preventing interference and data errors.

On earlier scanners fitted with 1/4" jacks, there are no switches labelled Master/Slave and Terminator. This is set automatically by the scanner.

If the scanners are facing each other, then it is possible to reverse the direction of beam movement of one unit, so that the movement of beams in the air is the same. To do this, set the switch labelled X-reverse ON.

If all the scanners are operating identically then the full range of functions of the DMXcon1 will not be available.

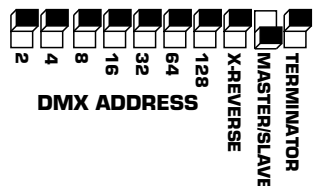
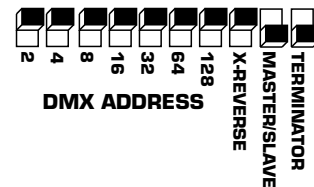
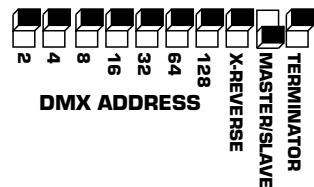
### 2. To obtain sequenced movement and colour changing patterns on two scanners.

On the first scanner:

Set all address switches OFF.

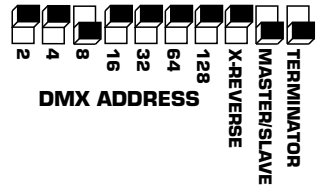
Set the "Master/slave" switch ON.

Set the "Terminator" switch OFF



On the second scanner:

Set all address switches OFF except for "8"



Set the "Master/slave" switch ON.

Set the "Terminator" switch ON.

If the scanners are facing each other, then it is possible to reverse the direction of beam movement of one unit, so that the movement of beams in the air is the same. To do this, set the switch labelled X-reverse ON.

If adding more scanners at a later date.

**To obtain sequenced movement and colour changing patterns on four or more scanners.**

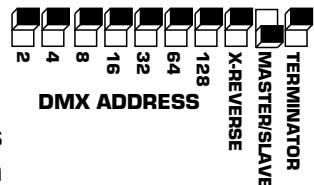
If using more than four scanners, then for each scanner, choose whether it will be channel 1, 2, 3 or 4.

On all scanners allocated to channel 1

Set all address switches OFF.

Set the "Master/slave" switch ON.

Set the "Terminator" switch OFF unless it is the last scanner in the chain, in which case, set it ON.

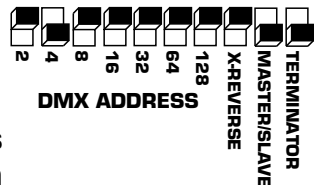


On all scanners allocated to channel 2

Set the address switches as shown.

Set the "Master/slave" switch ON.

Set the "Terminator" switch OFF unless it is the last scanner in the chain, in which case, set it ON.

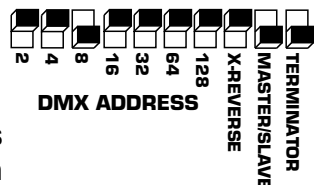


On all scanners allocated to channel 3

Set the address switches as shown.

Set the "Master/slave" switch ON.

Set the "Terminator" switch OFF unless it is the last scanner in the chain, in which case, set it ON.

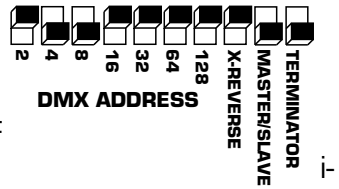


On all scanners allocated to channel 4

Set the address switches as shown.

Set the "Master/slave" switch ON.

Set the "Terminator" switch OFF unless it is the last scanner in the chain, in which case, set it ON.



**Sound activation.**

The DMXcon1 has a built-in microphone and needs no connection to the sound source,

## Operation

### Size.

**Off.** The lamps are switched off, but motors are kept in position, to avoid the need for the startup procedure next time the DMX250 is required.

**25%/50%/100%.** This control adjusts the maximum angle over which the beams scan, so that the effect can be kept within the bounds of a stage or dance floor.

### Colour control.

This sets the colour. Sync, Random, Fill and Shift are colour changing patterns. To display these patterns, two or more scanners are required. If set so that "all scanners operate identically" this patterns will not be displayed.

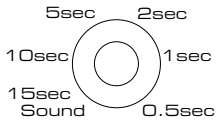
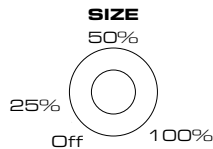
The colour speed control (above the colour control) sets the time interval between changes of colour. If set to "sound", colours change to the beat of the music.

**Sync.** A new colour is chosen at random, all four scanners are set to this colour.

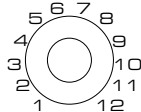
**Random.** All four scanners are different random colours.

**Fill.** A new colour is chosen at random, this colour is displayed on the first scanner, followed by the second after the set time interval, followed by the third and the fourth. At that point all scanners will be displaying the same colour. After the next time interval, a new colour is chosen and the sequence repeats.

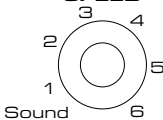
**Shift.** A new colour is chosen at random, this colour is displayed on the first scanner. After the set time interval, the colour from the first scanner is transferred to the second, the



**PATTERN**



**SPEED**



DMX Scanner Controller

NJ121D

N.J.D. ELECTRONICS.

MADE IN CHINA.



colour from the second scanner is transferred to the third etc, and a new colour is chosen for the first scanner.

### **Pattern Control.**

The DMXcon1 can display twelve different scanning patterns, including horizontal and vertical lines, triangles, circles, squares, stars and figures of 8.

### **Speed control**

This sets the speed at which the scanner draws the pattern. If set to sound, the light beam will move a small distance on each bass beat and then remain still until the next bass beat.

## Fault Finding

- No operation:
- Plugs not fully pushed into sockets
  - DIL switches set to wrong address, must be 1, 5, 9 or 13.
  - Size control set to OFF.
- Sync, Random, Fill and Shift do not operate:
- Scanners all set the same DMX channel

## Repairs and spare parts.

If you require spare parts or to return the unit for repair, please contact. **technical@njd.co.uk**

Part numbers for replacement leads or leads of different lengths are as follows:

RJ11 to XLR:	NJ310
3m XLR to XLR:	G038VH
6m XLR to XLR:	G038VJ
10m XLR to XLR:	G038VK

## Standards

The DMX250 complies with the following British and European Standards:

BS EN55015 - Electromagnetic Compatibility.

BS EN60598 - Electrical Safety Standard for Luminaires.

The DMXcon1 is a CLASS III product (Protection by Safety Extra Low Voltage) and is exempt from electrical safety standards, and complies with Electromagnetic Compatibility Standard EN55103.

## Technical Specification.

### DMX250

Power supply:	230V nominal @ 50Hz 300VA (1.25A) 210V minimum 255V maximum.
Fuse:	T3.15A (3.15 Amp anti-surge) 5×20mm HBC to BS4265/IEC127
A HBC fuse has a ceramic case.	
Switch-on surge:	2.1A (490VA)
Duration:	60ms (3 mains cycles)
Lamp:	A1/59 (ELC) 24V 250W dichroic reflector
Colours:	7 dichroic plus white
Gobos:	7
Beam intensity:	20,000 candela
Lamp life:	100 hours nominal @ 230V AC

Note: Although Britain has had a 230V mains supply since January 1st 1995, the voltage is usually 240V.

	60 hours nominal @ 240V AC
Beam width:	260mm diameter at 1 metre (3" diameter at 1 foot)
Beam Angle:	15°
Motors:	Unipolar Hybrid stepper: microstepping
Microstep size:	6'45" (1.95mrad)
DMX input/output:	complies with DMX512 (1990) 4µsec and EIA RS-485
Connectors:	5-pin XLR
	Data+: Pin 3
	Data-: Pin 2
	Earth: Pin 1
	+12V output: Pin 5

A +12V output is provided on Pin 5 to run controllers.

**DMXcon1**

Dimensions:	182mm x 65mm x 37mm
Weight:	0.3kg
Power Supply:	12V DC @ 15mA
Output:	DMX512 (conforms to electrical and data specifications)
Connections:	RJ11

## *Guarantee*

**This product is guaranteed for a period of 12 months against faulty components or manufacture from the date of purchase. Upon proof of purchase, NJD shall, at its own option, repair or replace the defective item at no cost to the purchaser.**

**This guarantee is contingent upon the proper use of the product in the application for which it is intended and does not cover products that have been modified, subjected to unusual physical conditions, or electrical conditions outside its specification, or damaged in any way.**

**This guarantee is limited to the product only and does not cover carriage costs, installation costs or travel expenses. Your statutory rights are not affected.**

**In the event of any problems with this product contact the retailer from which it was purchased for technical assistance, or e-mail [technical@njd.co.uk](mailto:technical@njd.co.uk)**

### **NJD Products are distributed by:**

Electrovision Ltd.,  
Lancots Lane,  
Sutton Oak,  
St. Helens,  
Merseyside,  
England.  
WA9 3EX

Telephone: +44 1744 745000

Fax: +44 1744 745002

E-mail: [sales@electrovision.co.uk](mailto:sales@electrovision.co.uk)

Web sites:

[www.njd.co.uk](http://www.njd.co.uk)

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