

STAGE 2

- 12 channel, 2 preset lighting desk
- Dipless crossfade.
- Variable and programmable fade rate
- 168 scenes as 14 pages
- Variable speed and sound activated scene chases
- DMX output
- 0-10V analogue output
- Midi input and output

IMPORTANT

Installer and Users please note:

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

The STAGE 2, Professional Lighting Desk, offers an amazing selection of control facilities. Its 12 channels can output their information in DMX, MIDI & 0-10 volts. This combination of outputs enables the user to control anything from standard stage PAR Cans to intelligent lighting and provides a versatility previously unavailable for a desk of this size or price.

The STAGE 2 is capable of being used as a 2-pre-set lighting desk with A/B select or as a programmable desk with up to 168 scenes. Other facilities include "sequencing", "Sound Activation" and "Single Step" selection, "adjustable dipless crossfade", "Master Dimmer", "Blackout" and MIDI activation over all channels or selected scenes.

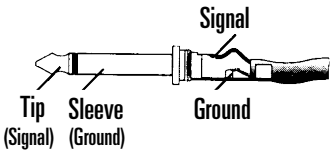
Whilst the STAGE 2 has been designed to operate most manufacturers' lighting, special software has been included in this product to enable the individual control of up to six NJD CHROMA HX professional colour changers, providing a perfect combination of modern intelligent stage lighting with the most versatile control possible.

Installation

The Stage 2 must be installed by a competent electrician in accordance with the current IEE wiring regulations.

Connect the Stage 2 to the 230V mains supply with the lead provided.

- **Brown = live**
- **Blue = neutral**
- **Green/yellow = earth**
- **The Stage 2 must be earthed.**



If sound activated operation is required, connect a sound signal, either 0dBm from the line-level output of a mixer, or the speaker output of an amplifier, to the sound input jack.

Great care should be taken not to connect the sound input to the DMX output socket or the footswitch sockets, as this will destroy the internal circuitry.

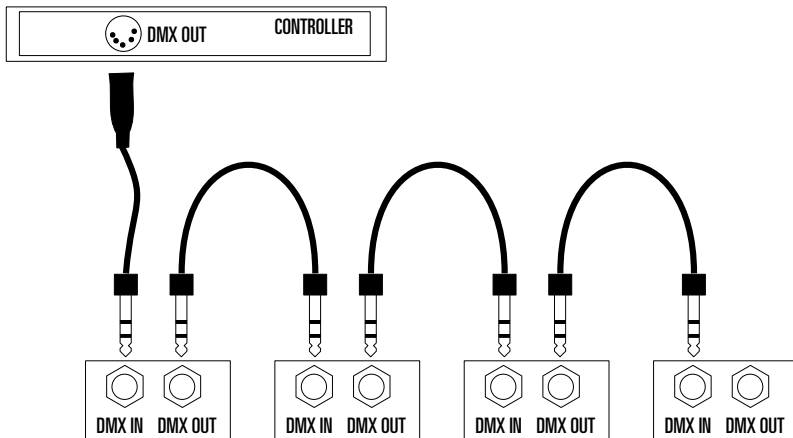
Outputs.

The Stage 2 has three types of output: DMX, 0-10V analogue, and MIDI. All twelve channels are output in all three modes simultaneously.

If you are using the DMX outputs, connect the DMX input of the nearest lantern, or dimming pack to the DMX output of the Stage 2.

- Pin 1 = ground
- Pin 2 = data -
- Pin 3 = data +

Connect the DMX output of the first lantern or DMX slave pack to the DMX input of the next, and so on, as shown below.



Setting the DIL switches.

Refer to the manufacturer's instructions on the products that you are using. The Stage 12 outputs on DMX channels 1 to 12.

If connecting to Chroma HX, separate outputs are provided to allow the Chroma HX (which normally occupies 4 DMX channels) to be controlled by two sliders.

Connect as shown opposite:

Lantern	Sliders	DMX channels	Switches ON
1	1,2	13-16	8,4
2	3,4	17 - 20	16
3	5,6	21 - 24	16,4
4	7,8	25 - 28	16, 8
5	9,10	29 - 32	16,8,4
6	11,12	33 - 36	32

The first slider controls the brightness, the second controls the colour.

0-10V Analogue outputs

If you are using the 0-10V analogue outputs, connect each of the three 5-pin DIN sockets to the analogue inputs of a four channel dimming pack. Three four-channel dimming packs are required altogether, if all twelve channels are to be used. If using a DP10000x, a 5-pin DIN-DIN lead may be connected between the output socket and the 7-pin input socket of the DP10000x, (pins 6 and 7 are not required)

Midi input and output

The Stage 2 inputs and outputs MIDI on Channel 16, on the octave below middle C (note numbers 48 to 59).

Channel	Note	Midi note number
1	C	48
2	C#	49
3	D	50
4	E b	51
5	E	52
6	F	53
7	F#	54
8	G	55
9	G#	56
10	A	57
11	B b	58
12	B	59

The velocity (loudness) of the note corresponds to the brightness of the lamp.

There are three MIDI connections to the Stage 2, MIDI in, MIDI through, and MIDI out.

The MIDI Through connection outputs the same data as is connected to the MIDI in socket. MIDI input data is not re-transmitted by the MIDI out socket.

Footswitches.

Footswitches may be connected to the STEP and BLACKOUT jacks on the rear panel, using a latching switch for blackout, and a momentary switch for STEP. These will then take precedence over the front panel BLACKOUT and STEP switches, i.e. if *either* the front panel switch *or* the footswitch is set to BLACKOUT, then the Stage 2 will be in blackout; if either the front panel STEP switch or the STEP footswitch is pressed, the Stage 2 will step on to the next scene.

Operation

Manual operation.

The Stage 2 can be operated as a two-preset manual lighting desk. This allows the user to set up a new scene on one set of sliders whilst an existing scene is output to the audience, and then change from scene "A" to scene "B" either instantly, or at a selected fade rate.

For manual operation, set the PAGES switch to 0, and operate the A/B switch either once or twice to select the bank of sliders you wish to use.

The A/B control selects whether sliders "A" or "B" control the outputs. The green LED lights when bank A is operational.

The MASTER control sets the overall brightness.

Blackout reduces all outputs to zero.

If the fade rate is set above zero, then crossfade between banks "A" and "B", and fade out to blackout will take place at the rate set. Clockwise rotation of the fade control increases the time taken to fade in or out.

The crossfade is described as "dipless" because the levels go straight from the bank A to the bank B level without going to zero in between.

The flash buttons may be used to force any channel to full brightness at any time. The flash buttons override the A/B selection, the master slider and the blackout switch.

Alternatively, a latching switch may be connected to the BLACKOUT jack on the rear panel; this will override the front panel BLACKOUT switch.

Storing Scenes.

There are 168 scenes available, consisting of 12 scenes in each of 14 pages.

Select the page on which the scene is to be stored using the PAGES switch. Operate the A/B select switch twice to load the page number into both slider banks. Scenes cannot be stored to

page zero. In order to store scenes the PROGRAM keyswitch should be turned to its clockwise position, and the adjacent red LED should light, and the A/B select switch should be in the "A" position.

Each of the twelve sliders represents one of the twelve scenes in the selected page.

Set the channel levels required for the scene, and press the flash button below the slider on which the scene is to be stored. The LED above the flash button will flash to indicate that there is a scene stored on that slider.

If it is intended to include a channel in a scene, and the slider operating that channel already has a scene stored on it (e.g. to include channel 2 in scene 3, where scene 2 has already been programmed) then proceed as follows:

Turn the SCENE switch off, and set the SPEED control to zero. This will prevent the Stage 2 from displaying any stored scenes whilst programming is taking place.

Replaying Scenes.

To replay a scene, the SCENES switch must be on (the adjacent green LED should be lit). The LED below a slider on which a scene is stored will flash.

Select the page on the PAGES switch, and operate the A/B switch either once or twice to select the bank of sliders which you wish to use to replay the scene.

Operating the slider will replay the stored scene, when the slider and the master slider are both at 100% the replayed scene will be exactly the same as it was stored. Scenes may be recalled using either bank of sliders. The channel LEDs will display the output scene. A slider with no scene stored on it will operate the channel manually. The flash buttons override the channel at all times, they do not replay the scene stored on the slider.

Page selection.

If the A/B switch is set to A, then operating it will allocate the page set on the PAGES switch to bank B. If it is set to B, then operating it will allocate the page set on the PAGES switch to bank

A. Operating the switch twice will allocate the page set on the PAGES switch to both banks of sliders.

Operating the PAGES switch whilst in scenes has no effect until the A/B switch is pressed. (This is why that it is necessary to operate the A/B switch twice if changing page without changing slider banks.)

Crossfading between two scenes.

By selecting one scene on bank A and one scene on bank B, the Stage 2 will crossfade between the two. The two scenes do not have to be on the same page - the Stage 2 will remember the settings of the PAGES switch before the A/B switch was operated, to fade between the correct two scenes. If it is wished to return back to the original scene on the previous page, it is necessary to re-select the previous setting of the PAGES switch, before pressing the A/B switch.

Erasing Scenes.

To erase a scene, turn on the PROGRAM key-switch, hold down the CLEAR switch, and press the flash button below the slider on which the scene is stored that you wish to erase.

It is not necessary to erase a scene before re-writing it. Storing a scene will overwrite any scene already stored. Scenes are stored in non-volatile memory which will retain the information for 35 years and can be re-written up to 100,000 times.

Sequences.

With the SCENES switch off, the Stage 2 will sequence between all active scenes on the selected page. To do this, the A/B switch must be in the A position (LED lit). The Stage 2 will then sequence through all the active scenes on the selected page, at the speed set on the SPEED control, starting at the slider 1. Any slider not having a scene stored on it will be missed out. Alternatively, sequencing can be synchronized to the bass beat of the music by pressing the SOUND switch.

All sequence operations take place on the A bank of sliders. The B bank can be used for channel operation if required. If B is selected on the A/B switch sequencing is suspended.

When writing scenes for a sequence it is necessary to store them on the correct slider so that they sequence in the correct order.

If only one scene is stored, it will be output continuously, as the Stage 2 tries to produce a sequence using only one step!

Single Step.

The Stage 2 can step through the active scenes one at a time by using the STEP switch, or a footswitch connected to the STEP jack on the rear panel. To do this, the SOUND switch must be OFF, the SCENES switch OFF and the SPEED control set to zero.

Fade rates in sequences.

When a scene is stored, the fade rate is stored with the slider settings. In a sequence, this fade rate is used as the fade in time of the scene. If the fade rate stored was too slow to use with the chase speed that has been set for the sequence, the fade rate will be made quicker in order that the fade is completed in exactly the time for one step of the sequence.

Run

If RUN is selected on the PAGES switch, the Stage 2 will sequence through all the scenes that are stored, from page 1 to page 14, and then starting again at page 1. If a page has no scenes stored on it then it will be skipped.

Using the MIDI inputs and outputs.

The MIDI input can be used to override the position of any slider in the A bank. In order to use the MIDI input, the A/B switch must be set to A, and the SCENES switch ON.

Midi control cannot be used over sequences.

The twelve sliders in bank A are mapped onto notes 48 to 59. Operating any note in this range is equivalent to moving the slider. The velocity (loudness) of the note determines the slider level:

Velocity	Slider level
0	0%
32	25%
64	50%
96	75%
127	100%

All velocity levels are understood, and mapped to the appropriate slider level.

The midi input will activate a scene if one is stored on the slider that is being overridden. The MIDI input operates on a "highest takes precedence" system: if a level is already set on the slider, the MIDI will override only when the level from the MIDI input is higher than the level set on the slider.

All channel outputs are also output as MIDI so that the Stage 2 can operate the MP820 Midi power pack directly, or so that the outputs may be recorded on a sequencer. A **Midi Note On** command is sent every time the slider level is changed, with the velocity set to the slider position. **Midi Note Off** commands are not sent, but the Stage 2 will turn a channel off when either a **Note On** command with a velocity of zero, or a **Note Off** command is received.

Repairs and spare parts.

If you require spare parts or to return the unit for repair, please contact.

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Technical Specification:

Dimensions:		19" x 10½" (6U) x 2½" (483 x 267 x 65mm)
Minimum mounting depth:		100mm
Weight:		3.4kg
Power Supply:		230V AC 50Hz 6VA
Audio input:		775mV (OdBm) to 60V (+38dBm)
Input Impedance:		15kΩ
Input Connector:		¼" jack
Outputs:		
DMX:	5-pin XLR	pin 1 = ground pin 2 = Data - pin 3 = Data +
MIDI	5-pin DIN	
0-10V analogue:	5-pin DIN	pin 1 = Channel 1,5,9 pin 2 = 0V pin 3 = Channel 4,8,12 pin 4 = Channel 2,6,10 pin 5 = Channel 3,7,11
Channels:		12
Scenes:		168 (in 14 pages)

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-electronics.demon.co.uk

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