

# Installation Instructions

# Sigma Delta

## MECHANICAL INSTALLATION:

### 1 REMOVE THE FRONT COVER FROM THE BASE

Loosen the chrome screws at the top and bottom of the unit, lift off the front cover, and unplug the 3 cable harness connectors (two are latched) from the base printed circuit board (PCB).

The base PCB may be removed to ease mounting and cable entry.

### 2 WALL MOUNTING THE POWERPACK

LEAVE AT LEAST 100mm (4") VERTICALLY BETWEEN PACKS to allow for ventilation. Screw the base to the wall using the 3 fixing holes provided, ensuring that the keyholes are at the top.

#### Cable Entry

4 x 20mm knockouts are provided in both the top and the bottom of the base; 2 x 25mm knockouts are provided on each side.

### 3 RACK MOUNTING THE POWERPACK

A kit of parts is available (Part No.139) to enable three power packs to be bolted together and fitted in a 19" rack. The kit includes a heat deflector to ensure adequate ventilation. The assembled units are 6N (10 1/2") high. If less than three powerpacks are to be mounted in a 19" rack, a Rack Spacer (Part No.138) is available to 'fill in the gaps'.

#### Cable Entry

4 x 25mm knockouts are provided in each base to allow for cable entry from the rear; the 2 x 25mm side knockouts may be used for wiring between packs.

## ELECTRICAL CONNECTIONS

\*\*\*\* IMPORTANT \*\*\*\*

These power control packs use semiconductor power control devices and MUST be wired in conjunction with a separate isolator.

### MAINS CONNECTIONS

All electrical connections are made to the PCB in the base. Each power pack is factory set to 200-250Vac or 100-120Vac.

#### FOR CONTROLLING MAINS LOADS:

Connect mains supply live to ELECTRONICS LIVE and LOAD LIVE; mains neutral to one of the CHANNEL NEUTRAL connections and to ELECTRONICS NEUTRAL. Mains earth to one of the earth connections.

#### FOR CONTROLLING LOW VOLTAGE LOADS:

Connect mains supply live to ELECTRONICS LIVE; mains neutral to ELECTRONICS NEUTRAL. Mains earth to one of the earth connections.  
Connect a suitable low voltage a.c. supply to LOAD LIVE and CHANNEL NEUTRAL.

A GOOD EARTH CONNECTION IS ESSENTIAL.

### OUTPUTS

Connect each of the four channel loads to a CHANNEL OUTPUT and a CHANNEL

## SIGNAL CONNECTIONS

All powerpacks require a zero to +10V control signal at the connector at the bottom of the unit.

All signal connections should be made using cable with mains rated insulation.

### PIN CONNECTIONS

- 0V - Zero volts reference
- 1-4 - Channel control:
  - Sigma (switching pack): 0v=OFF; 10v=FULL ON; switching point 2.5V +/- 0.5V
  - Delta (dimming pack): 0v=OFF; 10V=FULL ON; linear dimming law, ie 5v=50%
- INH - Inhibit (see below)
- V<sub>o</sub> - 20V 50mA supply for powering external controllers (eg. Touchlight 12 or fader panel)

### INHIBIT (INH)

This feature enables the powerpacks to be switched on and off remotely. It may be used one of 2 ways determined by the position of link D/E on the electronics board. (See back page for A/B link setting)

### LINK SET TO:

- D Powerpack normally ON  
INH will normally be at about +5V and must be taken to 0V to turn OFF the powerpack.  
This is the normal setting if the inhibit function is not used.
- E Powerpack normally OFF  
INH will be at 0V and must be taken to +10V to turn the powerpack ON.  
This is used for example for switching a whole pack on and off using a touchpanel.

### TESTING

When wiring is complete, reconnect the three plugs to the front cover assembly. Ensure that the connections are made correctly, ie the connector on the white harness in the centre of the unit. One of the large connectors is colour coded orange to make this easier.

Screw on the front cover.

If the looms are incorrectly connected the pack will work backwards and all the fuse blown indicators will glow.

### USING DELTA TO DRIVE NEON LOADS

The standard Delta pack is designed to control neon with 40W to 60W of resistive load (eg a Pygmy bulb) wired in parallel with the neon.

If you cannot wire in the resistive load, follow the procedure below:

- 1 Fit a 100k 2W resistor between each load output connection and neutral.
- 2 Route the control signal through a 10k preset potentiometer to reduce the control range.

To set up the preset:

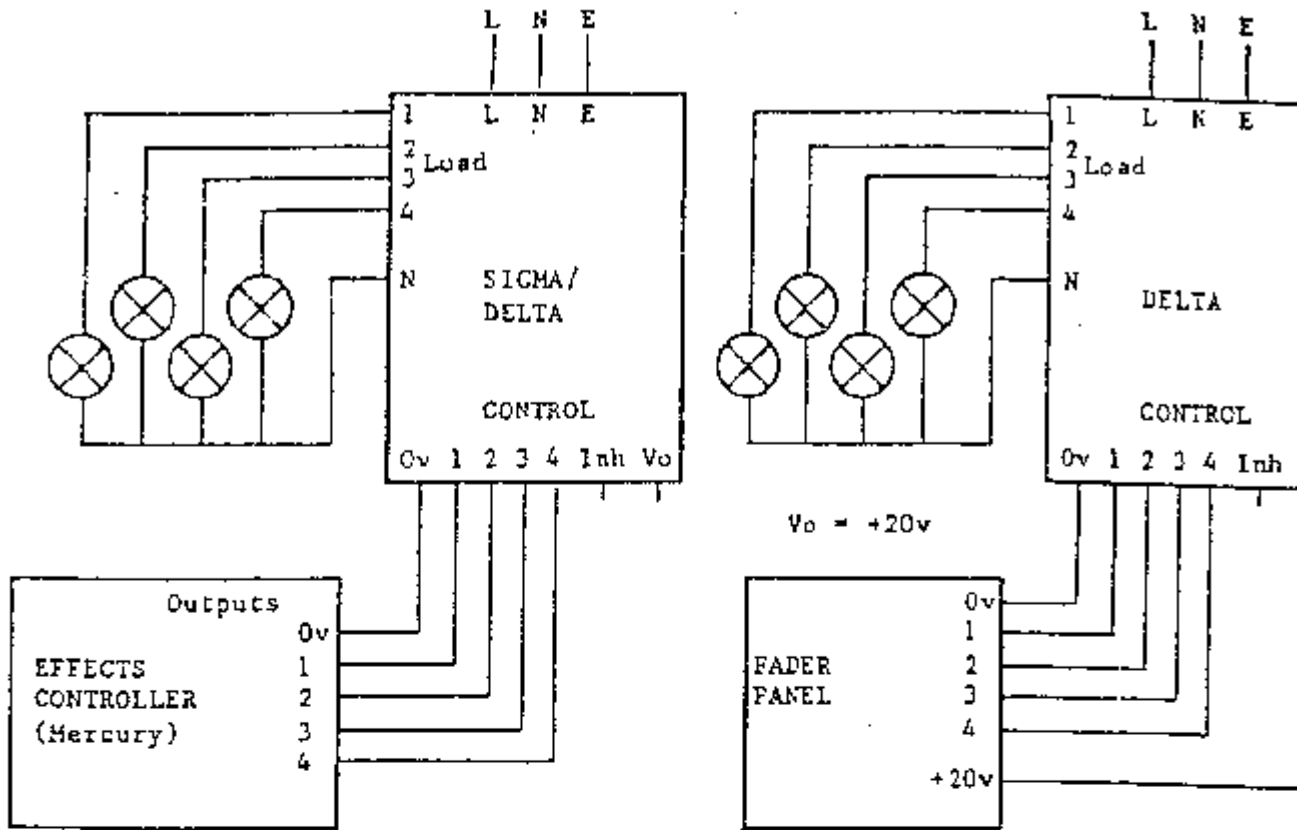
Set incoming control signal to zero and preset to maximum.

Set pack preheat as required.

Set incoming control signal to maximum and adjust the preset until the neon stops flickering.

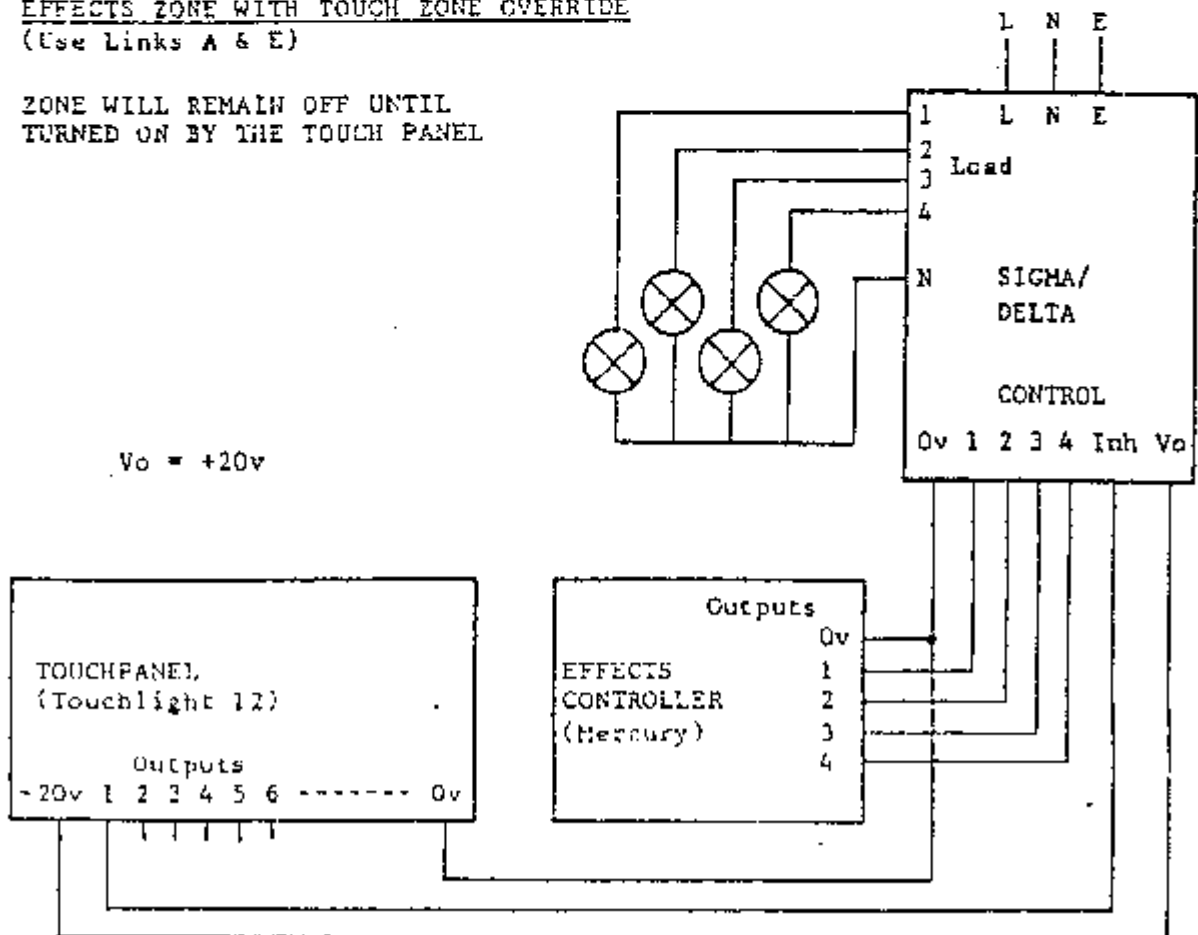
EFFECTS\_ZONE  
(Use Links A & D)

MANUAL\_DIMMER  
(Use Links A & D)



EFFECTS\_ZONE WITH TOUCH\_ZONE OVERRIDE  
(Use Links A & E)

ZONE WILL REMAIN OFF UNTIL  
TURNED ON BY THE TOUCH PANEL



## USING SIGMA/DELTA FOR MATRIX OPERATION

### MAINS CONNECTIONS

#### SUPPLY wiring:

X Direction: Wire pack normally as described above.

Y Direction: Reverse live and neutral supplies to the load connections.  
 ie: Connect mains supply live to ELECTRONICS LIVE and CHANNEL NEUTRAL; mains neutral to ELECTRONICS NEUTRAL and LOAD LIVE.

Mains earth MUST be connected to both packs.

#### LOAD wiring:

X Direction: Wire load LIVE connections to CHANNEL OUTPUTS

Y Direction: Wire load NEUTRAL connections to CHANNEL OUTPUTS

### SIGNAL CONNECTIONS (For a Mercury Controller)

The OV connection of both powerpacks and the OV reference on the Mercury Controller should be connected together. Similarly each channel of both packs should be connected to the appropriate channel of the Mercury. The INH connection of the X pack (with the 'live' wiring) should be connected to the appropriate zones X terminal on Mercury and the INH connection of the Y (neutral) pack should be connected to the Y terminal.

### SIGMA/DELTA LINKS (A/B D/E)

The links on the electronic boards of both packs should be in position B & E.

### DIL SWITCHES (on Mercury Controller)

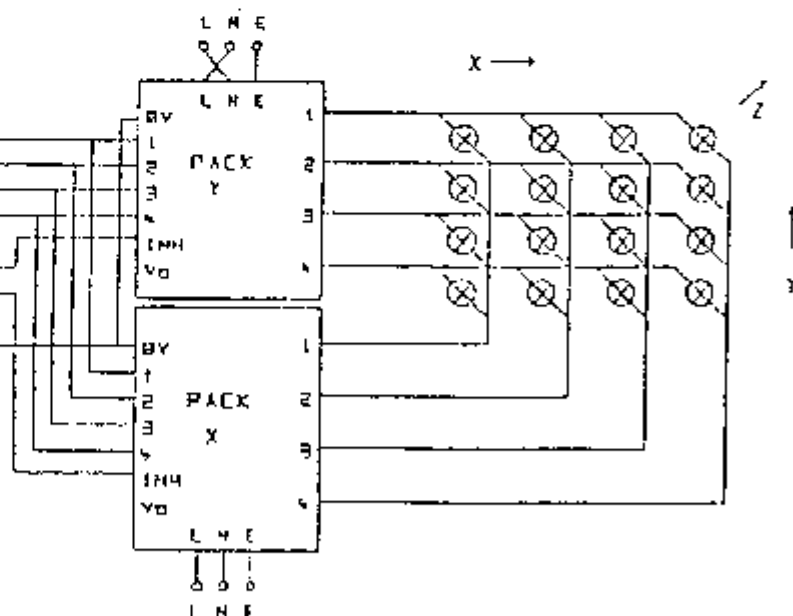
The DIL switches on the rear of the Mercury should be set to matrix operation on the appropriate zone.

### MATRIX CONTROL

#### HERCURY pin connections

MATRIX1	MATRIX2	MATRIX3	MATRIX4
1	5	9	13
2	6	10	14
3	7	11	15
4	8	12	16
18	20	22	24
17	19	21	23
25	26	27	28

use links D and E  
inside packs



Zero 88 Lighting Ltd reserves the right to change or improve any of these specifications without prior notice.