

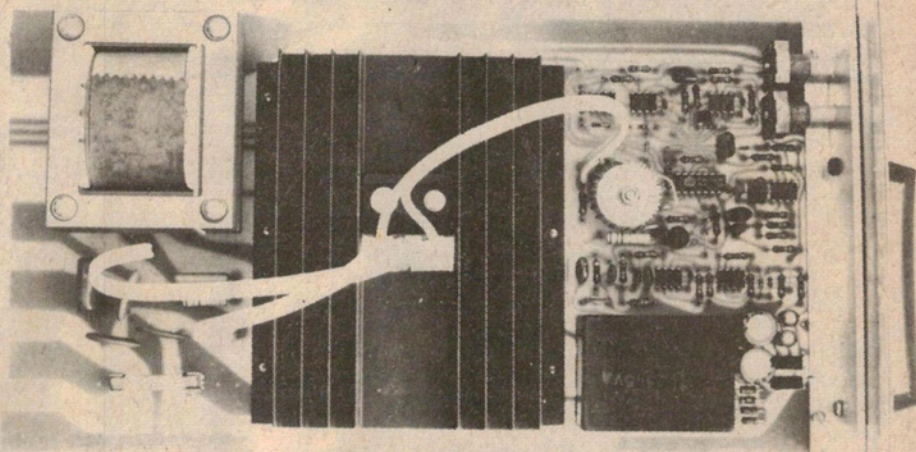
THEATRICAL LIGHTING CONTROLLER

Pt.4 Final Details

THIS MONTH WE FINALISE the series on dimmers with the mechanical description of the control desk. Although the mechanical drawings of the rack are too large and complex to reproduce here, and some parts, like the 20A edge connector, are specially made, we have made arrangements with Nebula Electronics Pty. Ltd. to supply these items. If the dimmer modules are not required to be connected through sockets, the total cost can be reduced by connecting directly to the modules and mounting them in a box. In the 20A unit the heavy wires, should be bolted on to the appropriate pads to ensure contact to both sides of the board.

One modification we have made to the control desk is the addition of a black-out switch which allows all lights to be blacked out without moving the master control. This is simply done by switching the supply voltage on the master potentiometers from the -8V supply as set by RV3 to 0V. RV3 should be adjusted such that with one master at maximum, the second at minimum and one individual control at maximum that its output voltage should be + 10 volts.

With the dimmer module the trim potentiometer has to be adjusted so that the output pulse from IC7 occurs at the very end of each half cycle as shown in Fig. 3 (page 69, Dec 77). This is easiest set using an oscilloscope although an approximate setting can be made without one.



If the dimmer is connected up to a reasonably heavy load and adjusted for about 1/3 level it will probably be found that with RV3 at one end the light level is not stable and tends to flash. This is caused by the sync pulse occurring after the end of the half cycle and the trigger pulses from the previous half cycle triggering the next. The trim potentiometer RV3 should be turned back about 1/4 turn from the position at which this effect stops.

When adjusting the maximum and minimum levels the minimum should be adjusted first. Note that the control potentiometer must be slightly up off zero to get any light and minimum should be adjusted at this point. The maximum should be adjusted with both the master and individual control at maximum and set to the point where the light level is just starting to drop.

Theatrical Lighting Controller

Nebula Electronics Pty. Ltd.

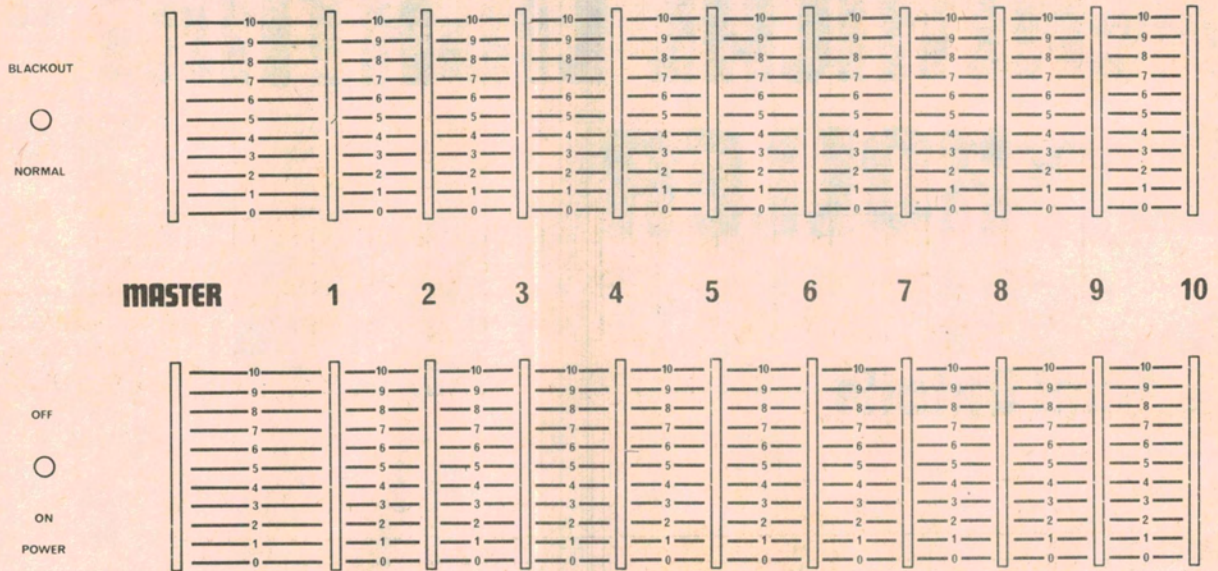


Fig. 1. The front panel artwork for the 10 way control desk. Full size is 440 mm x 250 mm.

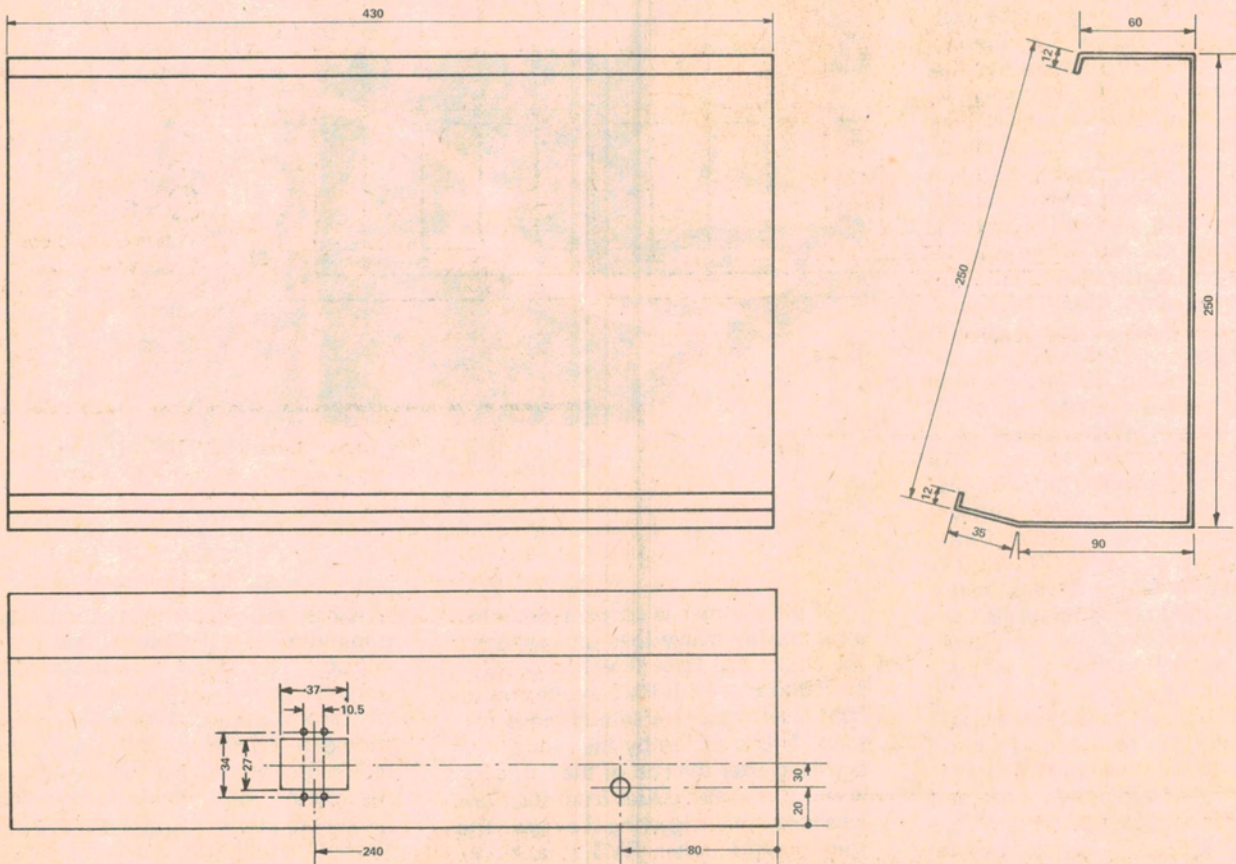


Fig. 3. The control desk box dimensions.

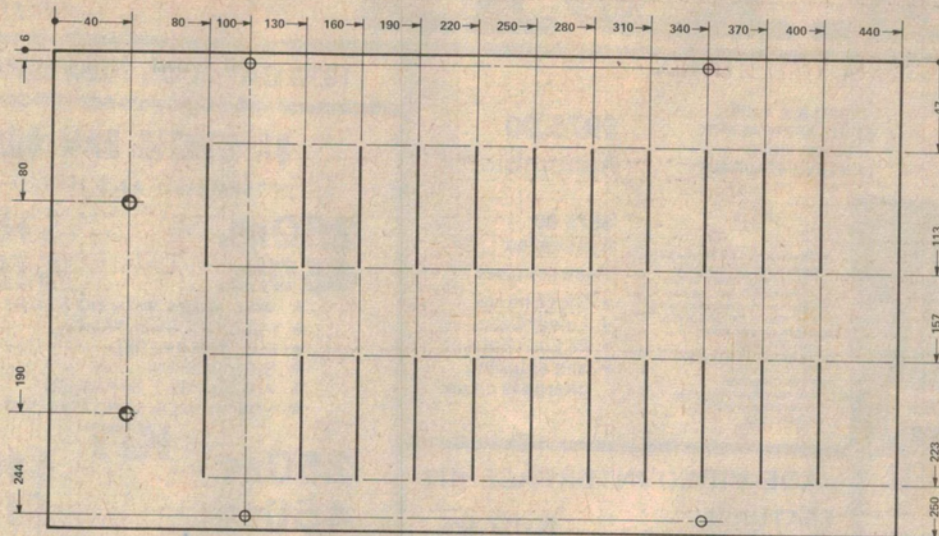


Fig. 2. The mechanical dimensions for the front panel.

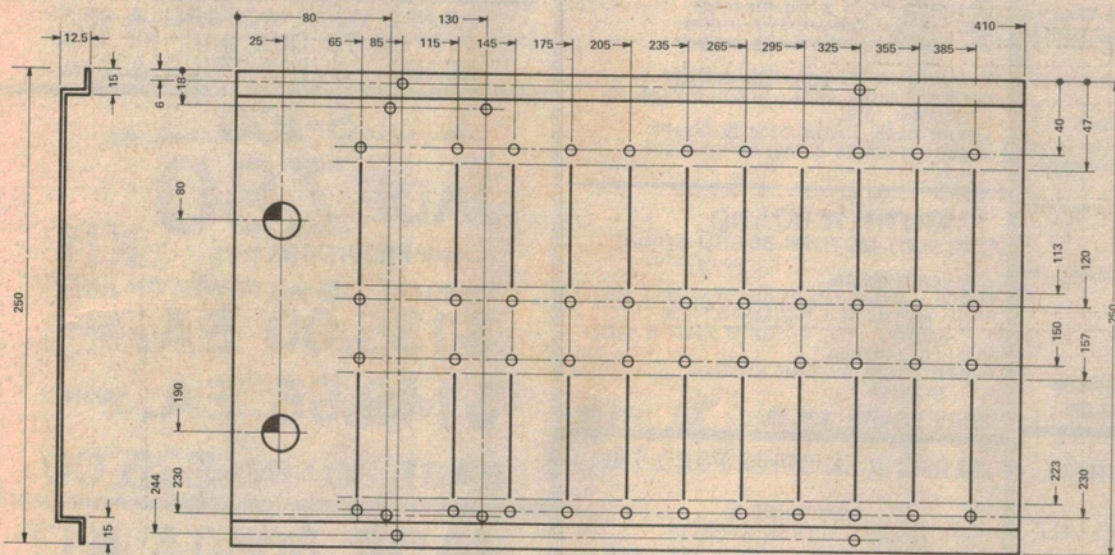


Fig. 5. The potentiometer support panel.

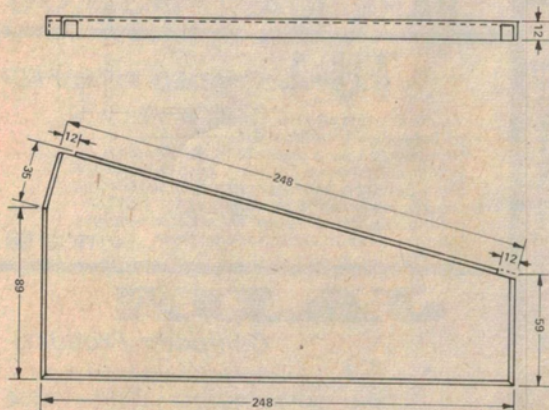


Fig. 4. The end pieces for the box. These should be fitted into the ends of the box as shown in Fig. 3. The two ends should be of opposite hands.

THEATRICAL LIGHT DIMMER

The following components for these dimmers are available from Nebula Electronics, 15 Boundary St. Rushcutters Bay 2011.

BTW41-400 TRIAC	\$ 9.50
10A or 20A choke	\$ 10.50
20A Amptrap fuse	\$ 2.50
20A Amptrap fuse clips	\$ 0.80
Philips 4322-020-36630 core	\$ 0.65
20A PCB	\$ 13.00
10A PCB	\$ 11.00
10A Module (complete kit)	\$ 60.00
20A Module (complete kit)	\$ 69.00
10 Way control desk	\$ 125.00
20 Way control desk	\$ 195.00

Prices of other components available on request.

Add 15% sales tax, 5% postage

NEBULA ELECTRONICS PTY LTD.
15 BOUNDARY STREET
RUSHCUTTERS BAY 2011
ph. 335850