



Fig. 2.12. Constructional details of UNIT "A" Box

Cut plastic laminate to fit hardboard panels with $\frac{1}{8}$ in overlap, and glue to the box sides first. Reduce the overlap to size when the laminates are firm, before fitting the top and bottom surfaces. When trimming the top and bottom panels down to size, take care not to scratch and score the side pieces. For economy, the bottom plastic laminate layer can be omitted.

When satisfied with the laminated exterior, the 1.062 in dia. hole can be made by a series of small drillings and finished with a half-round file. The box interior and wood may be varnished, but the raised lip at the front of the box is best painted black, or some dark colour, to contrast with the front panel.

The finished box is quite strong, and will support the full weight of a normal adult when the front panel is in place. However, it is recommended that this test should not be applied too often!

FRONT PANEL WIRING

Attach the front panel to its box, which will act as a convenient mount when wiring the back of the panel.

The bare earth wire linking all green sockets runs along the top half of the front panel and down its left-hand side, looking from the back; this should be soldered in place before embarking on the sleeved wiring. (No matching green sockets were available for the prototype, so odd coloured sockets were painted green with cellulose model aeroplane dope.)

The 4mm red, green, and blue terminal sockets on the side of UNIT "A" are designed to take stackable plugs, and will make available the power supply outputs to external sub-units. Wiring can proceed from the terminal sockets along the voltage source (see Fig. 2.3) and then to the rest of the front panel.

Circuit diagrams for all the various "sections" incorporated in the front panel are given in Figs. 2.6 to 2.10 inclusive. Wiring details are given in Fig. 2.3 and Fig. 2.4.

The summer and operational amplifier sections are triplicated—although only one of each of these sections has been shown in the diagrams Fig. 2.2 to Fig. 2.5 inclusive.

The purpose of the miniature sockets, which appear in the above mentioned diagrams, is to take the plug-in programming components; explained by Fig. 2.11. Resistor leads are preformed in the manner shown. The distance between miniature sockets is standardised at 1 in, to allow the use of a special made-up two pin plug to support the bulkier components, such as large polyester capacitors.

When wiring up the operational amplifier sockets, ignore for the time being the coloured flexible wires shown in Fig. 2.4 as these are the flying leads from the operational amplifier panel, and will be referred back to when the time comes to mount the amplifiers.

Fit the mains connector PL1 and fuseholder for FS1 to the side of the box. Wire up the neon lamp LP1 and the fuse FS1 to PL1 as shown in Fig. 2.10.

CORRECTION.

In Part 1, Page 40, last line of the equation in the example at top of right-hand column should read:

$$E_0 = - \left(5 \frac{10}{10} - 3.5 \frac{10}{2} + 2 \frac{10}{100} \right) = - (5 - (3.5 \times 5) + 0.2),$$

therefore $E_0 = 12.3$.

Next month: Power supply and operational amplifiers