SECTION 8

UNSTABILISED POWER SUPPLIER PS3/8

8.1 Introduction

The PS3/8 supplier is designed to provide h.t. and l.t. for either two or three Type-B amplifiers, such as the AMC/5. Its special feature is an arrangement which permits alteration of the mains-transformer primary turns by external switching of tapping connections additional to those for adjustment to suit mains-input voltages between 200 and 250 volts. The switch has two settings for working under alternative loading conditions, as follows:

Loading	*H.T. Current* (*mA*)	*L.T. Current* (*A*)
Three amplifiers	55	2·0
Two amplifiers	38	1·3

For both conditions the nominal values of h.t. and l.t. are 285 volts and 6·3 volts.

The supplier is $7\frac{3}{4}$ in. high, $4\frac{3}{4}$ in. wide and 6 in. deep, on dimensions appropriate to the intended accommodation of four units on a PN3/6 (19 in.) panel. All external connections are taken through an 18-way plug and socket, including three terminating at a toggle switch for selecting a working condition consistent with loading. The switch is fitted on the PN3/6 panel so that it becomes concealed beneath the chassis of the associated supplier, and therefore it must be set before that unit is plugged into position. This feature enables immediate substitutions to be undertaken, either by the insertion of a spare supplier or by transposition of those carried on the panel. Similar arrangements are usually adopted with suppliers mounted on panels other than the PN3/6.

8.2 Circuit Description (Fig. 8.1)

The diagram in Fig. 8.1 shows a conventional circuit in which h.t. is derived from a full-wave rectifier using a valve. The C-A section of the mains-transformer primary winding is in circuit when there are two dependent amplifiers, and is bypassed for the three-amplifier condition. Thus the requisite changes are effected with an s.p.d.t. switch connected to link terminals 14 and 13 (B-A) in the first instance, and terminals 14 and 15 (B-C) in the second.

8.3 Output-voltage Test

In conducting this test it is essential to ensure accurate correspondence between the mains-supply voltage and the mains-transformer primary tapping connections that are used. The measured h.t. voltage should be 285 volts ± 15 volts, and the r.m.s. voltage across the l.t. output terminals should be 6·3 volts ± 0·15 volt, under the following conditions:

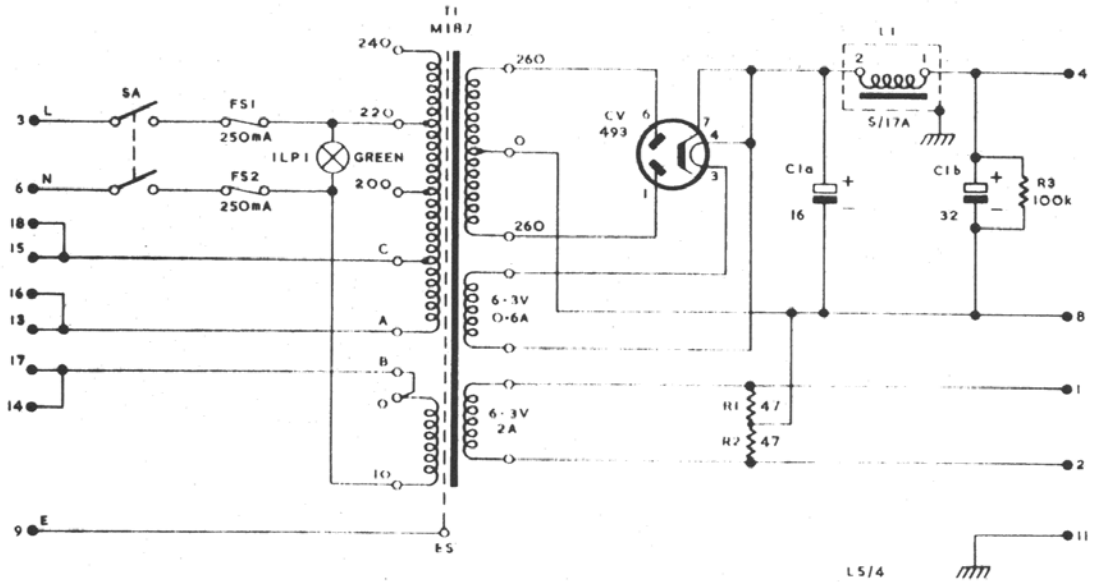
Temporary strapping of 18-way plug	*H.T. Current* (*mA*)	*L.T. Current* (*A*)
(a) Pin 14 connected to Pin 15	55	2·0
(b) Pin 14 connected to Pin 13	38	1·3

8.4 Measurement of Ripple

Ripple is measured across the h.t. supply by an amplifier-detector (AD/4) connected through a 2-μF capacitor to give isolation from the d.c. It should not exceed −15 dB volts when the unit is working under condition (a) above.

JR/0465

FIG 8.1
(ALSO IN L5)



COMP	TYPE	TOLERANCE PER CENT
C1a, C1b	PLESSEY CE9/11	
FS1	BESWICK TDP134/·250	
FS2	BESWICK TDP134/·250	
ILP1	NEOFLEX ZGL230 L&T	
R1	ERIE 8	10
R2	ERIE 8	10
R3	PAINTON P302A	5

NOTE
FOR 1 OR 2 AMPLIFIERS STRAP PINS 17-13
FOR 3 AMPLIFIERS STRAP PINS 17-15

UNSTABILISED POWER SUPPLIER PS3/8 : CIRCUIT