

SECTION 6

STABILISED POWER SUPPLIER PS2/6

6.1 Introduction

The PS2/6 supplier produces four d.c. supplies for the Variable Resistance Frequency Modulator (V.R.F.M.) Drive Equipment type EP7/2; they are additional to h.t. and l.t. drawn from the PS2/5A supplier. The equipment is capable of use with mains inputs between 200 and 250 volts, and the outputs are at 50 volts, 8.9 volts, 6.8 volts and 24 volts. All but the last are voltage-stabilised supplies.

6.2 Circuit Description (Fig. 6.1)

Fig. 6.1 shows each supply derived from a bridge rectifier and stabilised, except in one instance, by either a shunt-connected zener diode or a gas-filled valve.

The 50-volt supply, smoothed by a CR combination and stabilised by a neon valve, is negative bias for the associated equipment; see Fig. 5 of Instruction T.3.

The 8.9-volt output is stabilised by a zener diode; the smoothing choke in this circuit has an inherent

resistance sufficient of itself to limit the diode current to a safe maximum value. Extra stabilising is effected with another zener diode in the transistor modulator operated by this supply and housed in a constant-temperature oven. The object is to ensure an exceptionally stable voltage as a contributory measure to maintaining the required frequency-stability of the modulator. Inclusion of the additional diode reduces the working voltage (on the negative rail) to 4 volts; refer to Fig. 2 of Instruction T.3.

The 6.8-volt supply also is stabilised by a zener diode. In this instance the smoothing components are disposed symmetrically in the two sides of the circuit to suit use of the supply as bias for a balanced bridge circuit, shown in Fig. 3 of Instruction T.3.

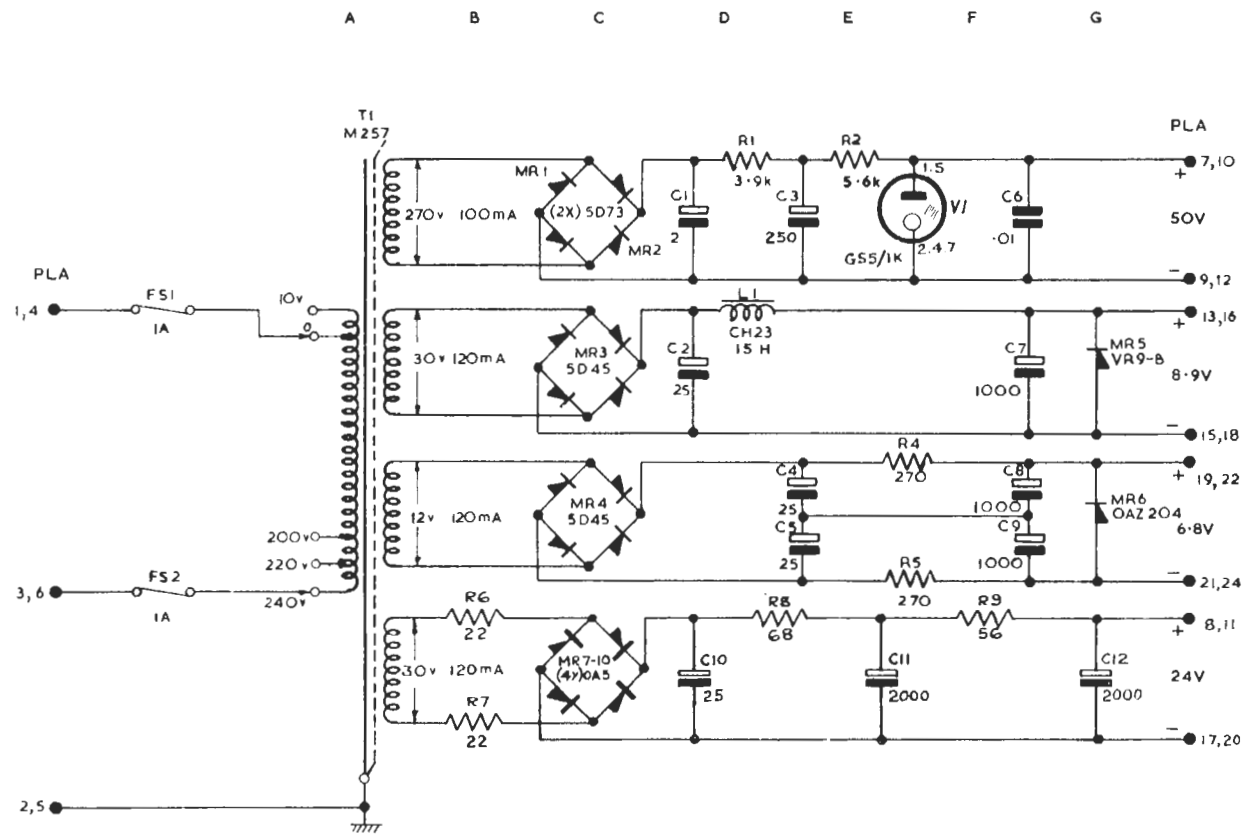
The 24-volt supply is unstabilised, but is smoothed by a two-section CR network. It is the operating supply for a transistor modulation-monitor which is an optional item in the EP7/2 complement of units; see Fig. 6 of the above-mentioned Instruction.

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COMPONENT TABLE: FIG. 6.1

Comp.	Loc.	Type	Tolerance per cent	Comp.	Loc.	Type	Tolerance per cent
C1	D2	T.C.C. SCE 76PE/PVC	-20 +50	R1	D1	Painton P301A	±5
C2	D3	T.C.C. SCE79DC/PVC	-20 +50	R2	E1	Painton P301A	±5
C3	E2	Plessey CE933/1	-20 +50	R4	E3	Painton P301A	±5
C4	E4	T.C.C. SCE79DC/PVC	-20 +50	R5	E4	Painton P301A	±5
C5	E4	T.C.C. SCE79DC/PVC	-20 +50	R6	B5	Painton MVIA	±5
C6	F2	Hunt BM21KV	±25	R7	B6	Painton MVIA	±5
C7	F3	Plessey CE1205/1	-20 +50	R8	D5	Painton MVIA	±5
C8	F4	Plessey CE1205/1	-20 +50	R9	F5	Painton MVIA	±5
C9	F4	Plessey CE1205/1	-20 +50				
C10	D5	T.C.C. SCE79DE/PVC	-20 +50	L1	D2	CH 23	
C11	E5	Plessey CE17165/13	-20 +50				
C12	G5	Plessey CE17165/13	-20 +50	T1	A3	M257	

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