

**POWER SUPPLIER PS2/80**

**Introduction**

The PS2/80 forms part of the Video Matrices MA2M/501 and MA2M/502 and variants. It provides regulated outputs of  $\pm 15$  volts at 3 amperes and a separate supply of +50 volts 50 milliamperes. Protection is provided against excessive input voltage and against short-circuit conditions at the outputs.

**General Specification**

**15-Volt Supplies**

Output Voltage  $+15V(+0V -100mV)$   
 $-15V(+100mV -0V)$

Maximum Output Current (both supplies) 3 amperes

Output Impedance at Low Frequencies less than 0.1 ohm  
 Temperature Coefficient less than 2 mV per °C  
 Output Ripple Component at 3 amperes less than 5 mV p-p

**50-Volt Supply**

Output Voltage  $+50V \pm 0.5V$  at 50mA  
 Ripple Component at 50mA output less than 10mV p-p

Mains Supply 1.0A at 240V, 50Hz

**Fuses**

15V Supplies 5A fast blow  
 50V Supply 250mA anti-surge  
 Mains Input 1A anti-surge

**General Description**

Fig. 1 shows unit interconnections and Fig. 2 on page 3 the complete circuit diagram.

The supplier consists of two mains transformers and two circuit cards, UN1/117 Power Supplier Regulator and UN3/23 Power Supplier Control Unit, all mounted on half a PN3/23 panel.

Remote voltage sensing is used on the 15-volt supplies to overcome the unknown voltage drop in the supply cables to the associated matrix and to ensure that the impedance of the power supplies at the matrix mother-board bus rails shall be minimised.

The excess-voltage protection on both of the 15-V supplies, consists of a thyristor (see UN3/23) which is triggered if the output voltage rises to 16.5 volts or above, the current through the thyristor immediately destroying a 5A fast-blow fuse. No over-voltage protection is provided on the 50V supplier.

Overload protection is provided which causes the circuits to function as constant current suppliers, the limiting current being between 10A and 15A for the 15-volt supplies and 120mA for the 50-volt supply. Under overload conditions, the 5A fuse in the 15-volt supplies will fail.

A relay in the 50-volt circuit operates when the supply is present, causing ILP3 to glow. ILP1 and ILP2 signal the presence of the 15-volt supplies.

**Maintenance**

Routine maintenance is not required but the output voltages should be checked occasionally.

**References**

1. Designs Department Specification No. 8.357(69).
2. Designs Department Technical Memorandum No. 8.277(69).

AIB 9/70

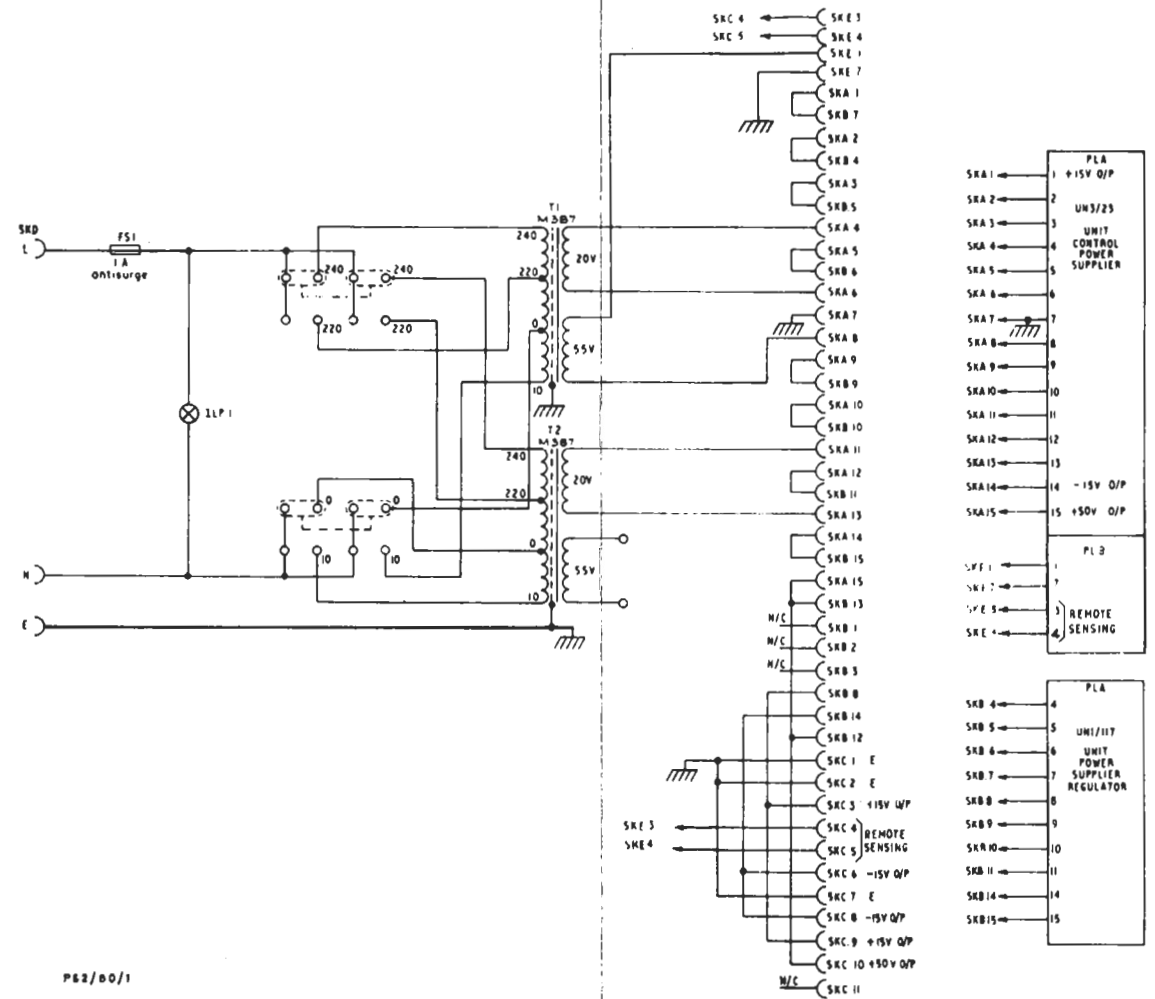


Fig. 1. Interconnections in the Power Supplier PS2/80

