



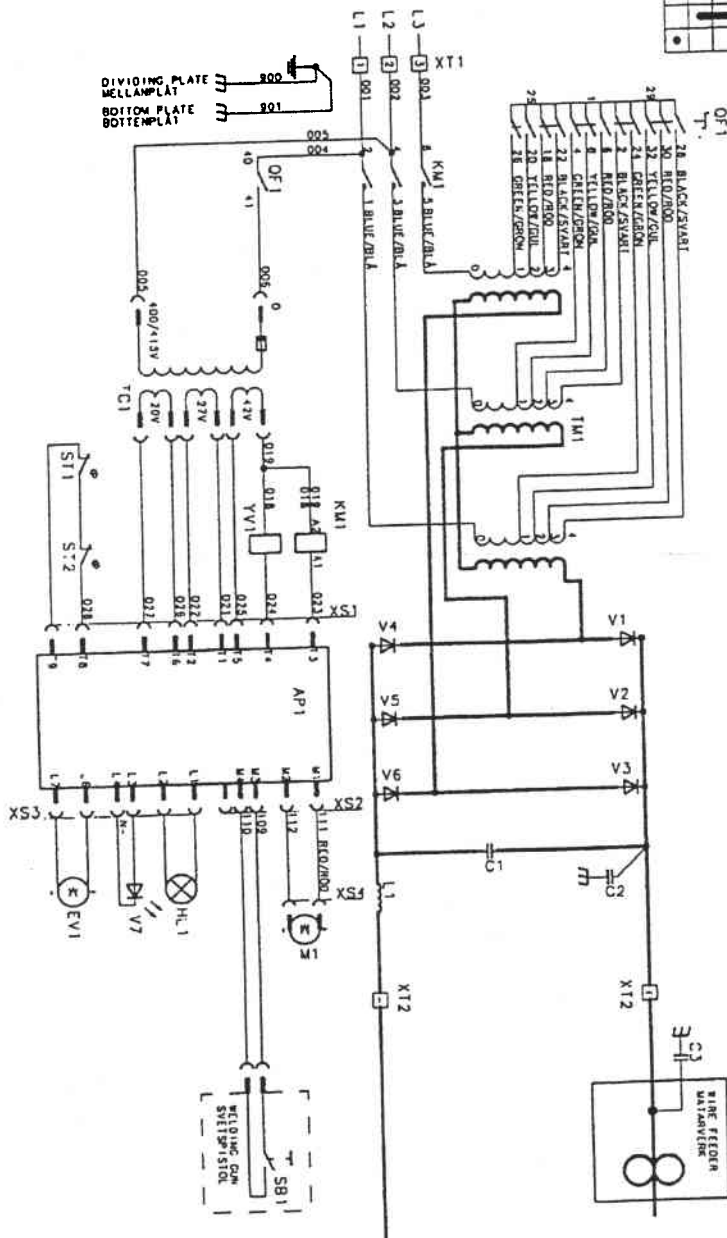
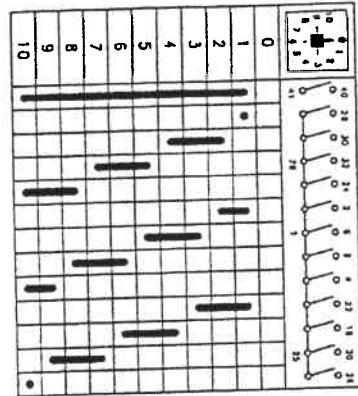
**TradesMarc 181/243**

**COMPOSITE MIG  
Welding Power Sources**

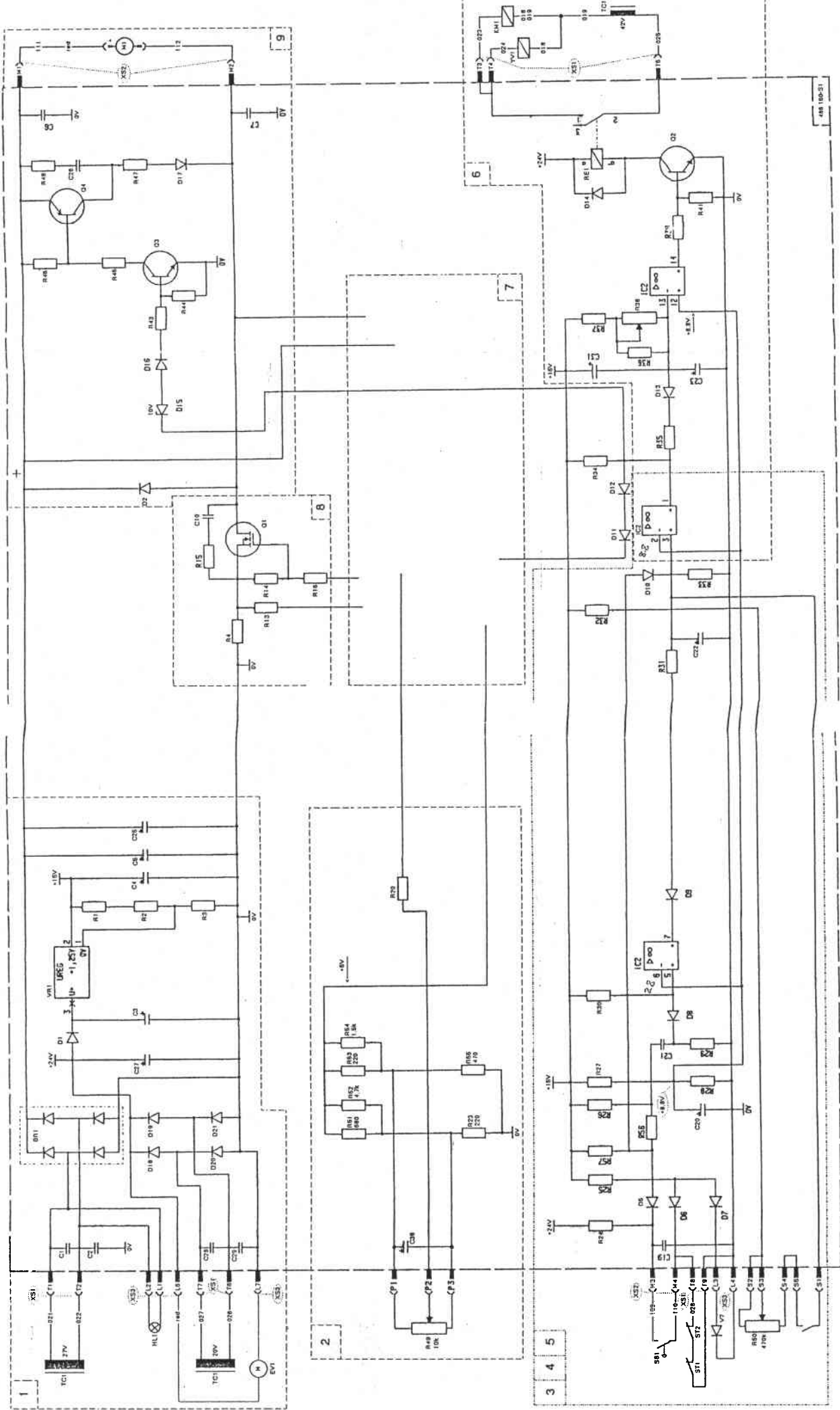
**SERVICE MANUAL**



TradesMarc 243



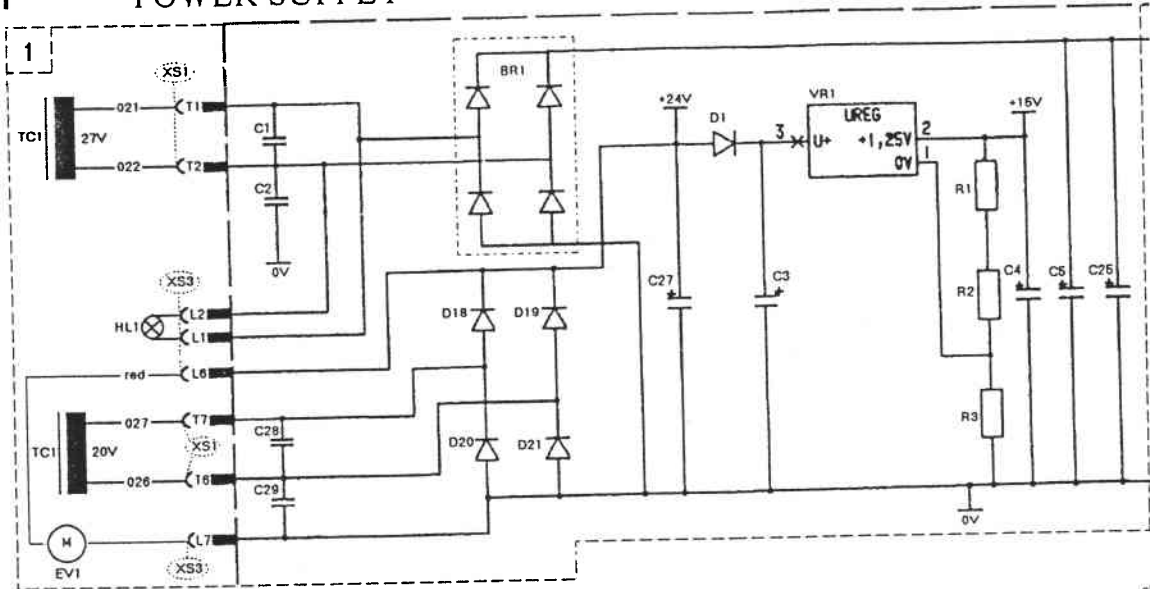
CIRCUIT DIAGRAM, CIRCUIT BOARD AP1



# DESCRIPTION OF OPERATION, CIRCUIT BOARD AP1

Only those items connected to the inputs and outputs of the board are described here. If the board is faulty, it must be replaced.

## 1 POWER SUPPLY



clka1e06

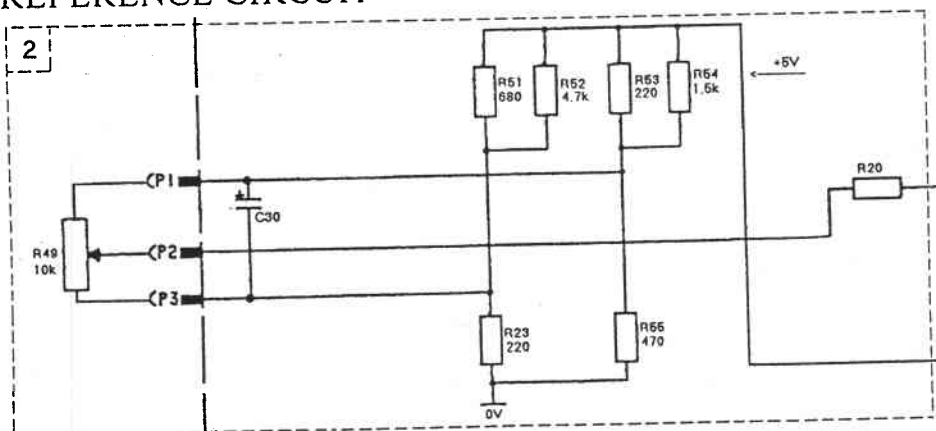
Transformer TC1 supplies indicating lamp HL1 and rectifier bridge BR1 with 27 V AC. The unsmoothed DC output from BR1 is smoothed by capacitors C5 and C25 to produce an open-circuit voltage of  $38 \text{ V} \pm 10\%$ . This provides the power supply for the wire feeder motor.

Connections T6 and T7 supply 20 V AC from transformer TC1 to diodes D18 - D21. The rectified voltage is about 24 V

This supply powers fan EV1 in the fan-cooled machines.

Voltage regulator VR1 is supplied via diode D1 to provide a regulated  $15 \pm 0.6 \text{ V}$  supply.

## 2 REFERENCE CIRCUIT



clka1e07

Potentiometer R49 controls the wire feed speed and is connected to terminals P1 - P3. It is energised via resistors R51 - R55 and R23. The reference voltage is supplied through resistor R20 to the error amplifier.