SECTION 9

MAINS UNIT MU/59

Introduction

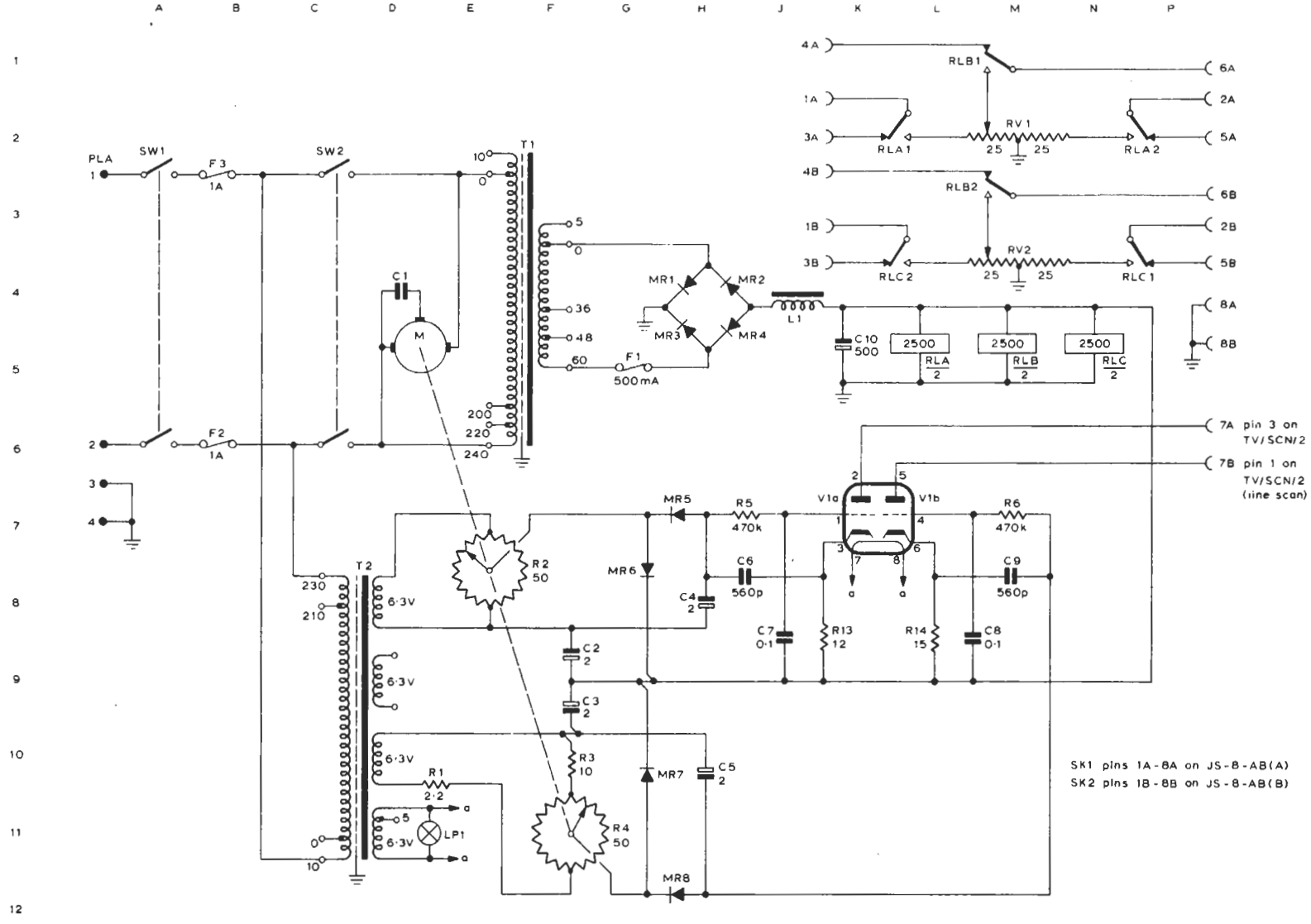
The Mains Unit type MU/59 provides a continuously varying d.c. potential for use in the scanning circuits of a flying-spot caption scanner. The orbiting rate is a 2 revolutions per minute.

Circuit Description (Fig. 9)

Switch SW1 applies power to transformer T2. Switch SW2 (which is remoted to a control panel on the front of the caption scanner and labelled *Orbiting On/Orbiting Off* applies power to the rheostat-operating motor and transformer T1. The voltage developed across the secondary of T1 is rectified by the full-wave bridge circuit MR1-MR4 and provides a negative potential of 50 volts which is used to energise relays RLA, RLB and RLC. This voltage is also applied to the common junction of the voltage-doubling circuits associated with the rheostats and, via resistors R13 and R14, to the cathodes of V1a and V1b. The operated contacts of the three relays disconnect the normal line-shift and field-shift controls, in the scanning circuits of the associated flying-spot scanner, and replace them with the variable resistors RV1 and RV2. Thus, in the *Orbiting On* condition, RV1 and RV2 function as shift controls.

The shaft of motor M is mechanically coupled to the wipers of the two rheostats and the rheostat wipers are positioned at an angle of 90 degrees with respect to each other. Thus when the voltage present at the wiper of R2 reaches its maximum value the voltage on the wiper of R4 has only reached half of its maximum value, and conversely. The outputs from the two rheostats are rectified in voltage-doubling circuits and applied to the grids of valves V1a and V1b and the signals developed at the anodes of V1a and V1b also differ in phase by 90 degrees. These varying potentials, when applied to the associated scan circuits, have an orbiting effect on the display.

The orbiting signals are routed via a Scanning Unit type TV/SCN/2. Valves V1a and V1b also derive their h.t. supply from this unit.



MAINS UNIT MU/59 : CIRCUIT

V4

FIG 9