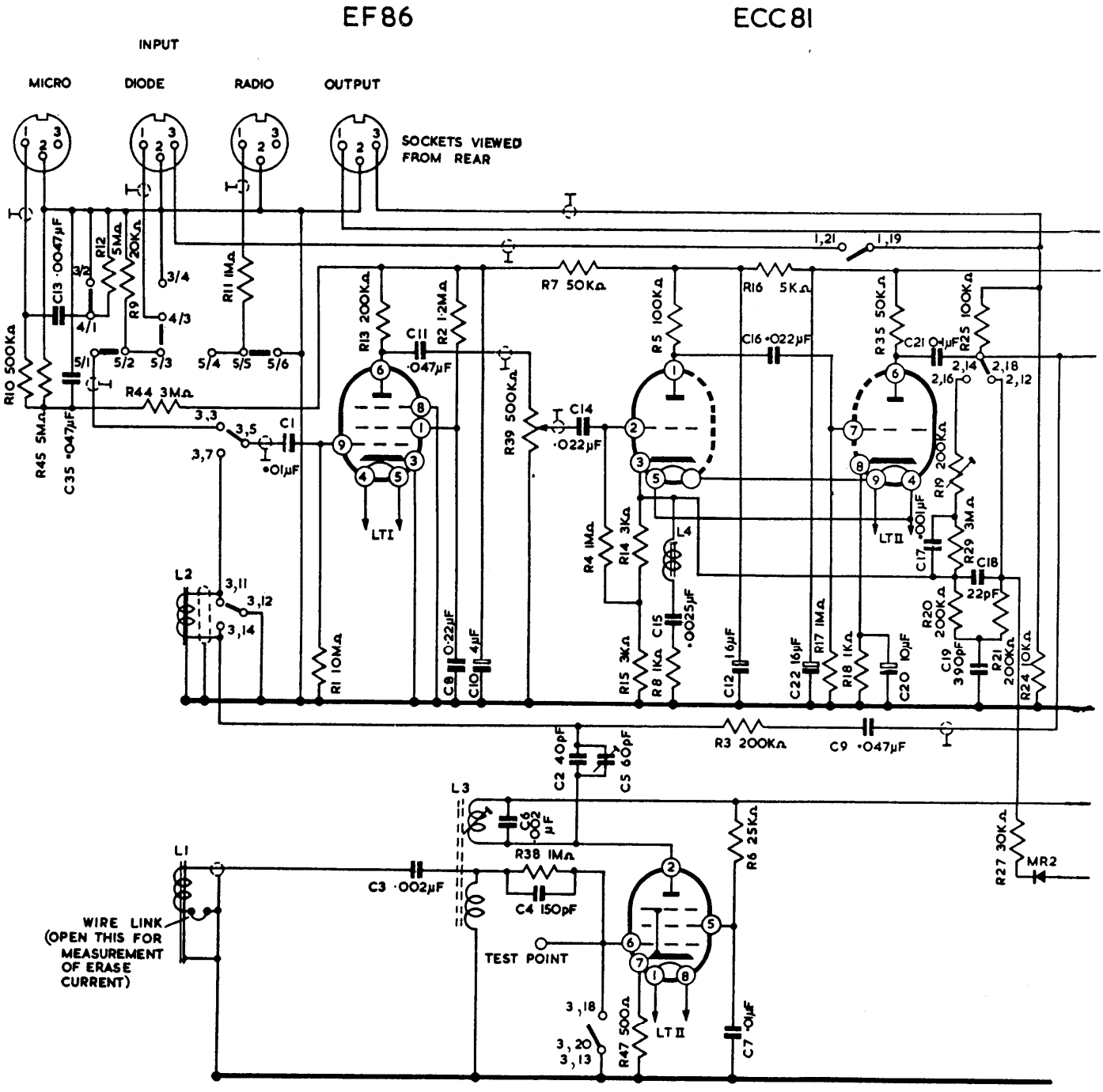
GRUNDIG TAPE RECORDER Model TK5 Mk II

General Description: Single-speed, portable, dual-track tape recorder with maximum spool diameter of $5\frac{3}{4}$ in. Weight $23\frac{1}{2}$ lb.

Speed: $3\frac{3}{4}$ in./sec.

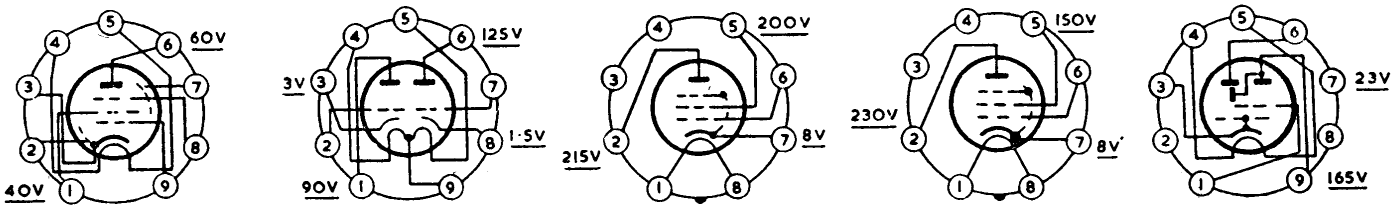
Power Supply: A.C. 110 and 200–250 volts.

Record-playback Times: Approximately 2 × 45 minutes.



Valves: EF86; ECC81; EL42 (output); EL42 (H.F. oscillator); EM81 (recording level indicator).

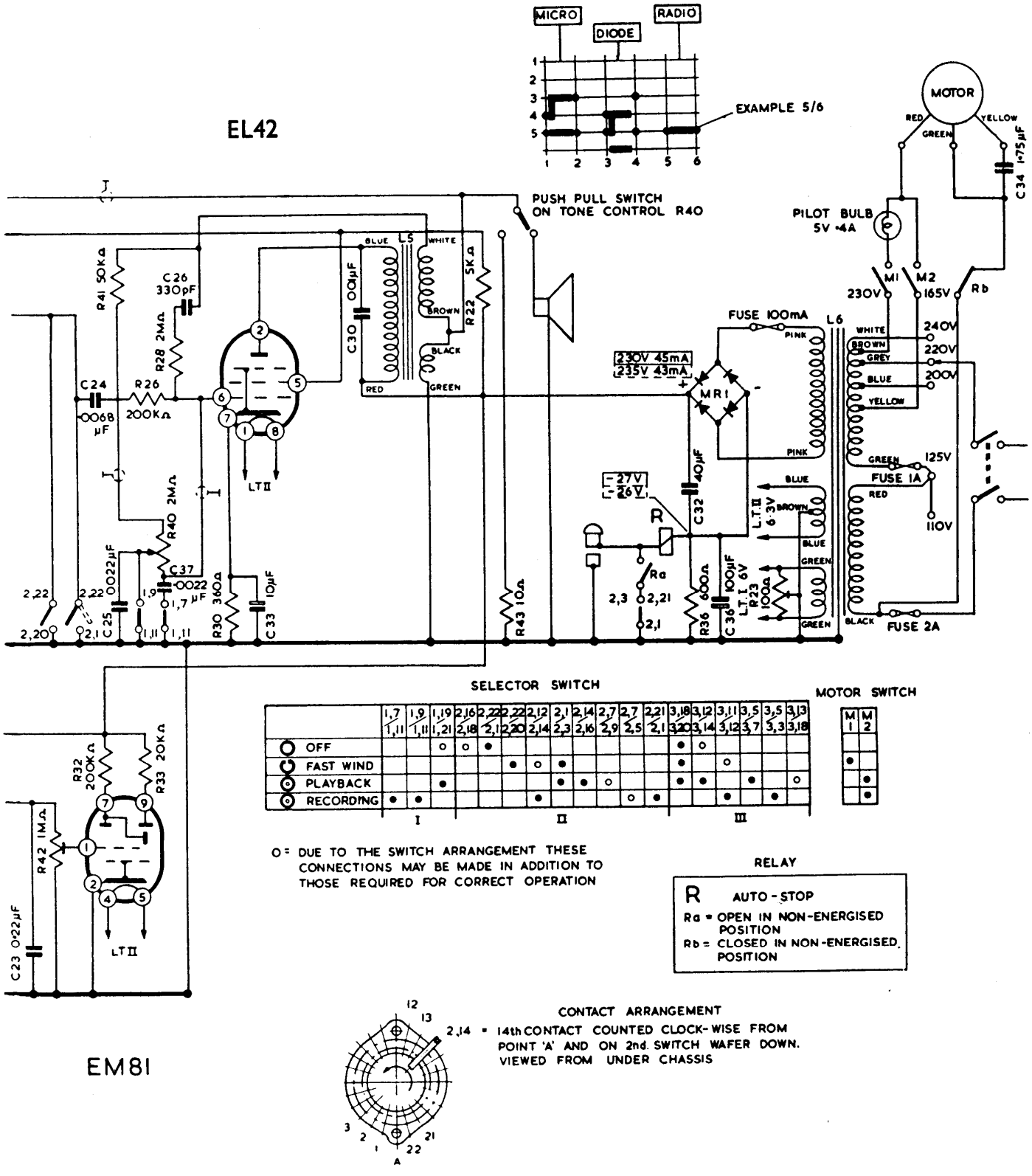
CIRCUIT DIAGRAM—GRUNDIG TAPE RECORDER MODEL TK5 Mk II



EF86 ECC81 EL42 OUTPUT EL42 H F OSC. EM81

READINGS TAKEN IN PLAYBACK POSITION
READINGS TAKEN IN RECORD POSITION

Notes: Circuit diagram applies to models Serial Number 629112370 onwards. Switches are shown with press button in diode position, selector switch off and the machine not turned on. D.C. readings are approximate and taken with Avo Model 7 (1000 ohms/volt).



Notes: Drive is obtained from an outer rotating cage split-phase induction motor. The tape is driven by friction between the ground tape capstan and rubber pressure roller, which is spring controlled. The self-lubricating bearings permit long periods of operation without servicing. The two spools are carried on top halves of two friction clutches, the lower half of right-hand clutch being driven from motor pulley by endless plastic belt. The friction clutching between the lower (driven) and upper (idler) halves being proportional to weight of tape on spool. Counter-type position indicator is fitted. Automatic stop at end of each spool. A separate L.T. supply for the EF86 has humdinger R23 for adjustment of hum level.

Head Currents and Voltages: H.F. bias current to recording/playback head when recording is about 1 mA., and it may be measured by inserting a 100-ohm resistor in series with chassis return lead of head. Potential drop across resistor should be 100 mV. ± 10 per cent. If current differs considerably from this figure, C5 should be adjusted until optimum condition is reached. H.F. voltage to erase head when recording should be 100 volts, and this can be measured with valve voltmeter. A.F. current to recording head should be about 0·2 mA. when using 333 c/s. fed into diode socket at full modulation level. With a 100-ohm resistor in series with chassis return lead of head, potential drop should be between 15 and 20 mV. (Remove EL42 oscillator during this test.)

Alignment of Heads: Positioning of recording/playback head assembly is very critical, and is particularly important if instrument is to be used with tapes made on other machines. Adjustment should be made with test tape or 6000-c/s. tape recorded on a standard machine.

The head is plugged into base-plate fixed to chassis by three screws. By altering the setting of these screws the head may be correctly aligned. Check by plugging valve voltmeter into Output II with test tape and adjust for maximum deflection.

Provision is also made for alignment of head in horizontal plane so that gap of head is brought into close contact with coating of tape. By unscrewing two mounting screws on mu-metal hood, the complete head with its hood may be freed and rotated. Always observe result on valve voltmeter or oscilloscope connected to Output II socket.

With tape running, top edge of head should be about 0·5 mm. above top edge of tape. If necessary, three tape guides should be adjusted.

The pole pieces of the erase head should overlap, 0·1 mm. above tape; slackening of fixing screws of erase head will allow slight vertical adjustment to achieve this. When machine is running, tape should be guided within guide posts in absolutely straight line.