

REGENTONE TAPE RECORDER Model RT20

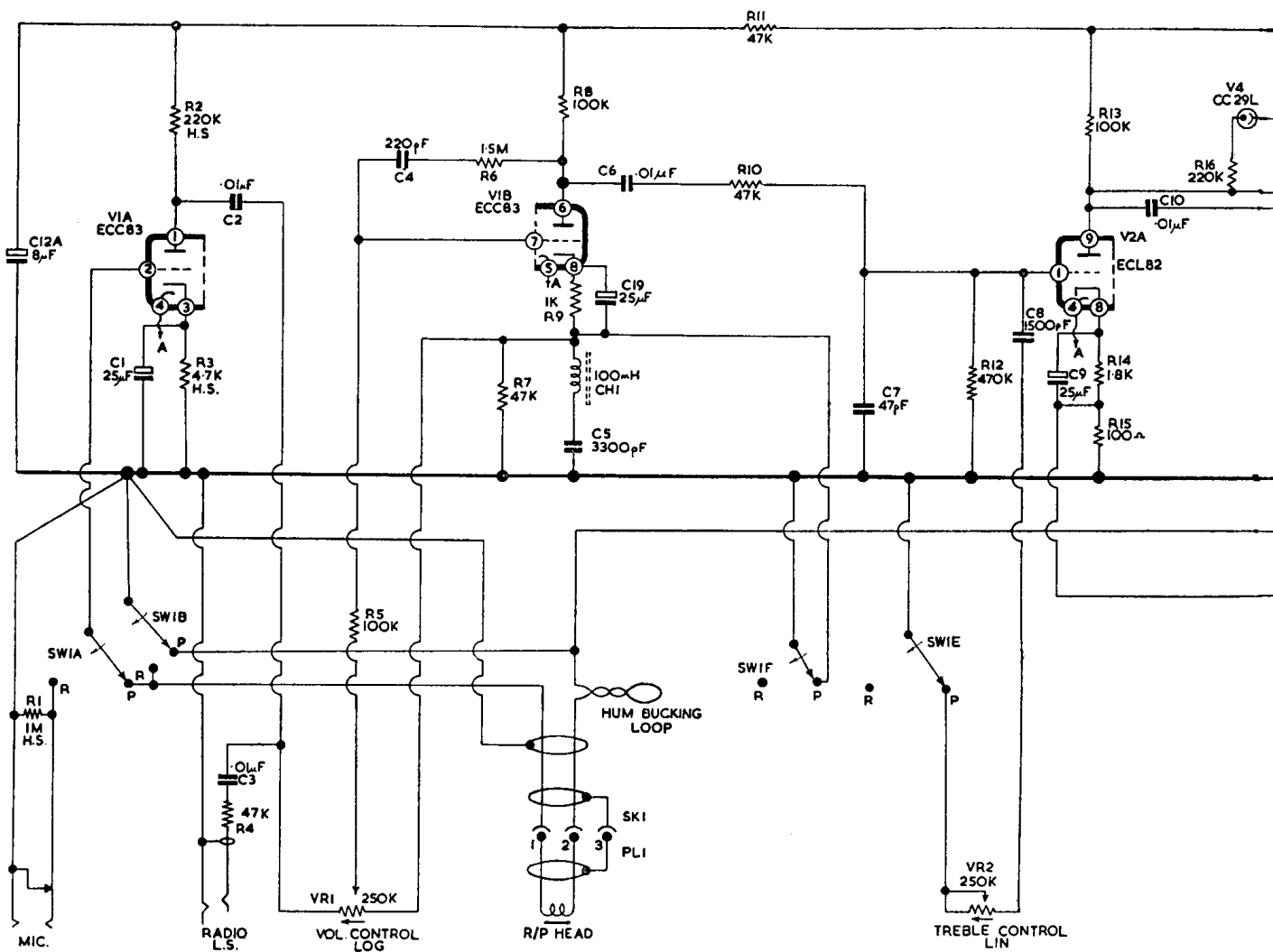
General Description: Single-speed ($3\frac{3}{4}$ in./sec.), dual-track portable tape recorder with maximum spool diameter of $5\frac{3}{4}$ in., using B.S.R. Monardeck.

Power Supply: A.C. mains, 200–250 volts, 50 c/s. Consumption about 55 watts.

H.F. Oscillator: 54 kc/s. ± 3 kc/s.

Valves: (V1) ECC83; (V2) ECL82; (V3) EZ80. Neon level indicators, two CC29L. Voltage checks, junction R23/R24 110 volt (playback), 122 volt (record); junction R21/C12B 260 volts (P), 272 volts (R); junction R31/C18A 300 volts (R), 305 volts (P).

Notes: Sensitivity "mic" 5 mV. for maximum level, "radio" 500 mV. for maximum level.



SWIA.
RECORD. MIC SWITCHED TO VIA GRID.
PLAYBACK. R/P HEAD SWITCHED TO VIA GRID.
SWIB.
RECORD. R/P HEAD TO EARTH.
PLAYBACK. R/P HEAD AND OSC. COIL TO EARTH.

SWIF.
RECORD. COMPENSATION SWITCHED IN.
PLAYBACK. COMPENSATION SHORTED OUT.
SWIE.
RECORD. TONE CONTROL SWITCH OUT.
PLAYBACK. TONE CONTROL SWITCHED IN.

CIRCUIT DIAGRAM—

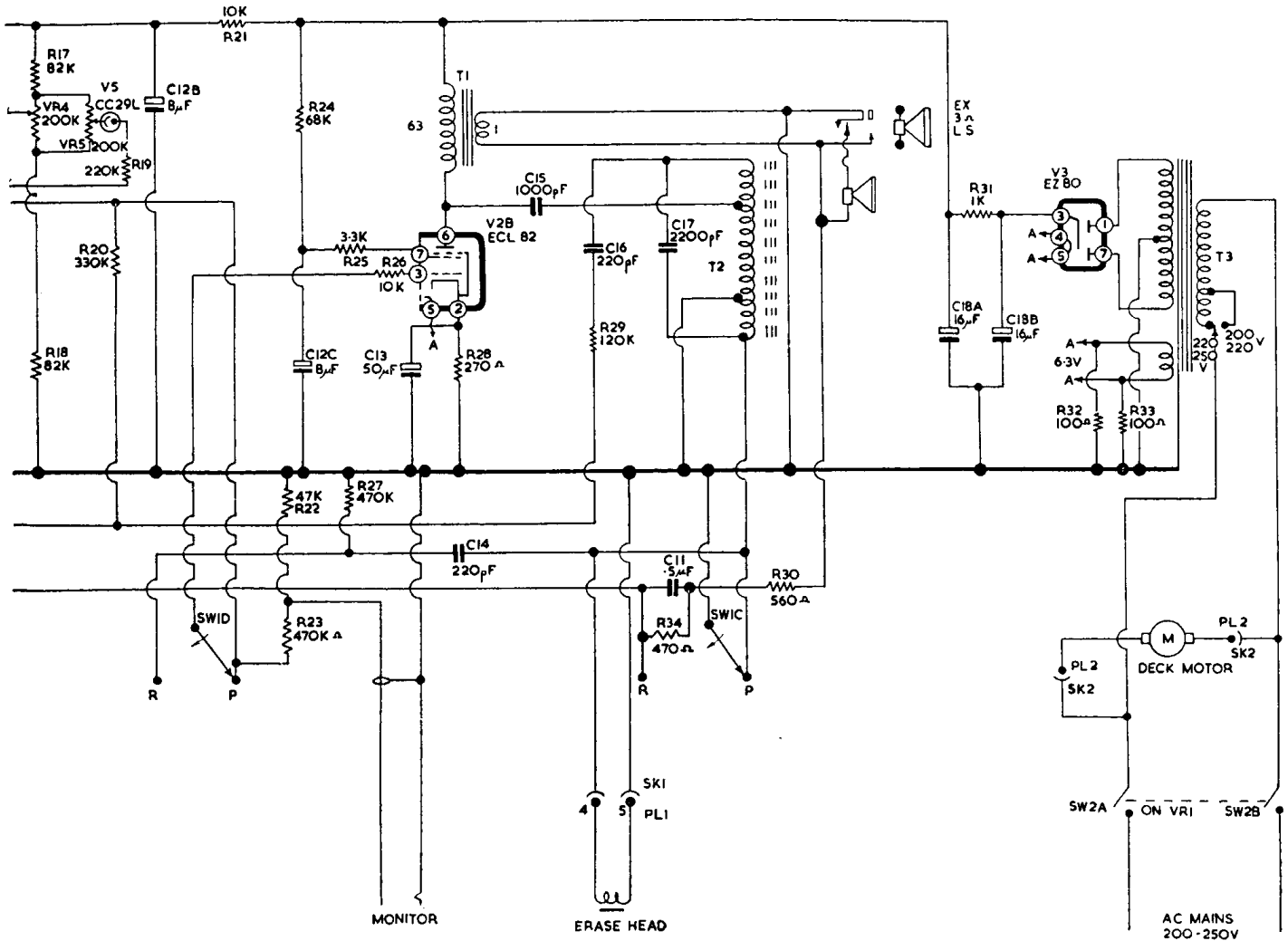
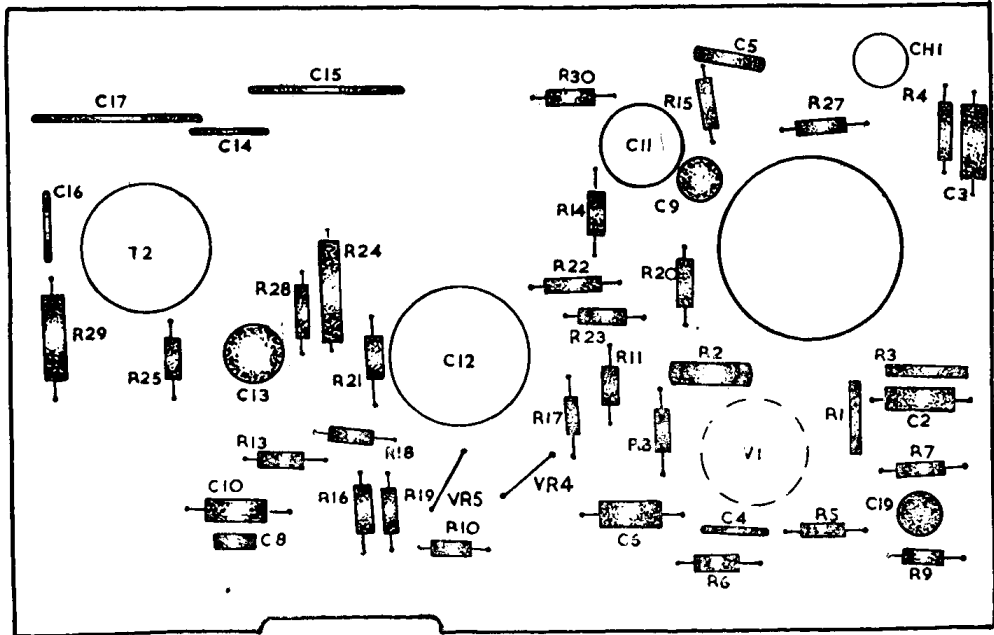
COMPONENT LAY-OUT

Component Notes

R24, R29 1/2 W.
R31 1 W.

Otherwise all resistors 10%, 1/4 W.

C18 El. 450 v.
C12 El. 350 v.
C1, C9, C12 12 v.
C13 25 v.



SWID.
RECORD. V2B SWITCHED TO OSCILLATOR FUNCTION.
PLAYBACK. V2B SWITCHED TO A.F. AMPLIFIER.

SWIC.
RECORD. NEGATIVE FEED BACK SHORTED OUT.
PLAYBACK ERASE HEAD SHORTED OUT
NEGATIVE FEED BACK SWITCHED IN.

Neon Adjustment: Switch to "record". Insert a 100-ohm resistor in series with the earthy lead to the record playback head. Note that the earthy lead on record becomes the live lead on playback. Connect valve voltmeter across this resistor. Check that bias voltage is 100 mV. r.m.s. Short out the bias at the erase head. Set volume control to maximum and feed 1-kc/s. signal to "mic" socket. Adjust input voltage until reading of 3.2 mV. r.m.s. on valve voltmeter. Adjust slider of VR5 ("normal" yellow lead) until neon just strikes, then back off until neon just extinguishes. Increase input voltage until 8 mV. r.m.s. reading is obtained. Adjust VR4 ("excess" orange lead) until neon strikes, then back off until neon just goes out.

Hum Bucking Adjustment: Adjust the wire loop near the motor for minimum hum, either by viewing on an oscilloscope, reading direct on an output meter, or by listening.

Chassis Removal: To gain access to the chassis first remove mains lead from supply point. Remove the four feet from the underside of the recorder, which then allows the deck complete with printed circuit board to be lifted from the cabinet.

To Separate Tape Deck and Printed Wiring Board. The mains supply lead for motor should be unplugged from socket located on underside of framework, together with record/playback plug from respective socket. Deck is fitted to amplifier framework by hexagonal-headed screws; the screws should be loosened, the Phillips-headed locking screws removed and the four flat metal locking pieces unlocked. Note on some versions, the Phillips screws are replaced by "pop" eyelets. Fold two support struts inwards so that tape deck can be lifted away from framework to allow access to underside of printed wiring board.