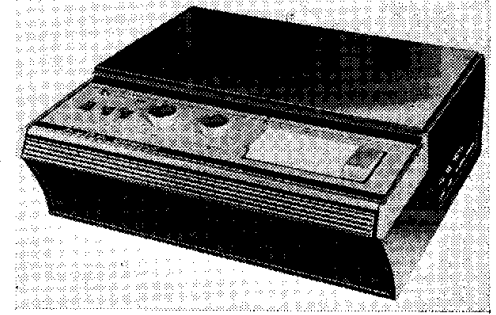




### ALBA R22 'Diplomat' two-track tape recorder



This is a 2-track, 2-speed ( $3\frac{3}{4}$  and  $1\frac{7}{8}$  i.p.s.) tape recorder employing seven transistors and three diodes. The semiconductor complement is as follows:

2SB303A preamplifier, 2SA303AA 1st audio amplifier, 2SB186G audio driver, 2SB492/2SB492 audio output pair, 2SB22 bias oscillator, 2SA203AA automatic level control, 1S188 VU meter diode, 1S1849R/1S1849R mains rectifiers. An SDT-04 thermistor is employed to stabilise the output pair.

Sockets are supplied for radio input ( $8\Omega$  impedance), microphone input ( $3k\Omega$  impedance), external monitor ( $8\Omega$

impedance). Frequency response is 70–8,000 Hz ( $3\frac{3}{4}$  i.p.s.), 70–4,000 Hz ( $1\frac{7}{8}$  i.p.s.).

The tape recorder may be powered from a.c. mains (115/240V 50–60 Hz) or from internal 9V battery ( $6 \times 1.5$  V). Power consumption is 15 W.

Audio output is 2.5W maximum (a.c. powered), 1.8W (battery powered), via an  $8\Omega$  speaker.

#### ELECTRICAL ADJUSTMENTS Battery Level

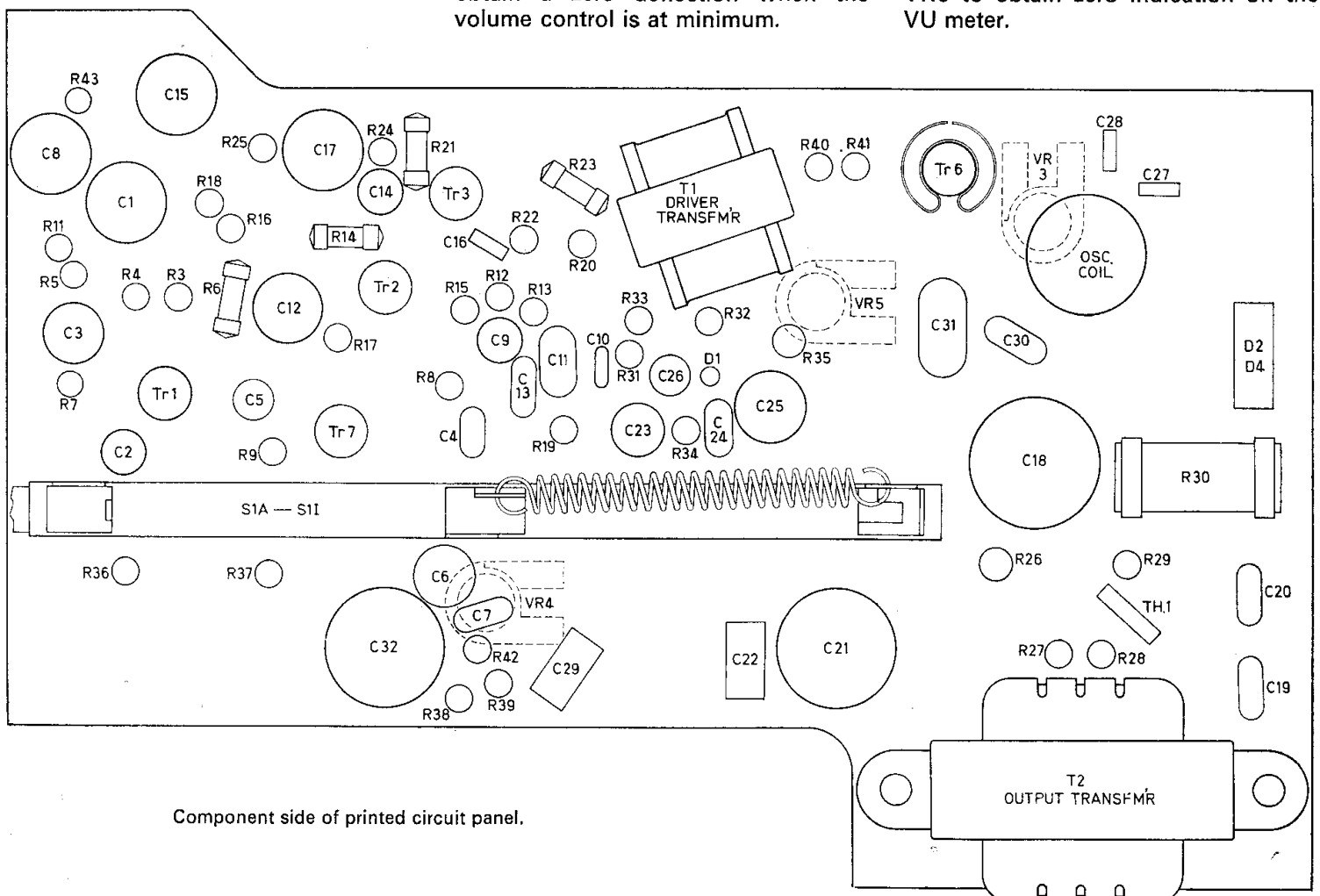
Connect 6.5V to the battery terminals and switch the tape recorder to Play. Adjust the preset control VR4 to obtain a zero deflection when the volume control is at minimum.

#### Recording Bias

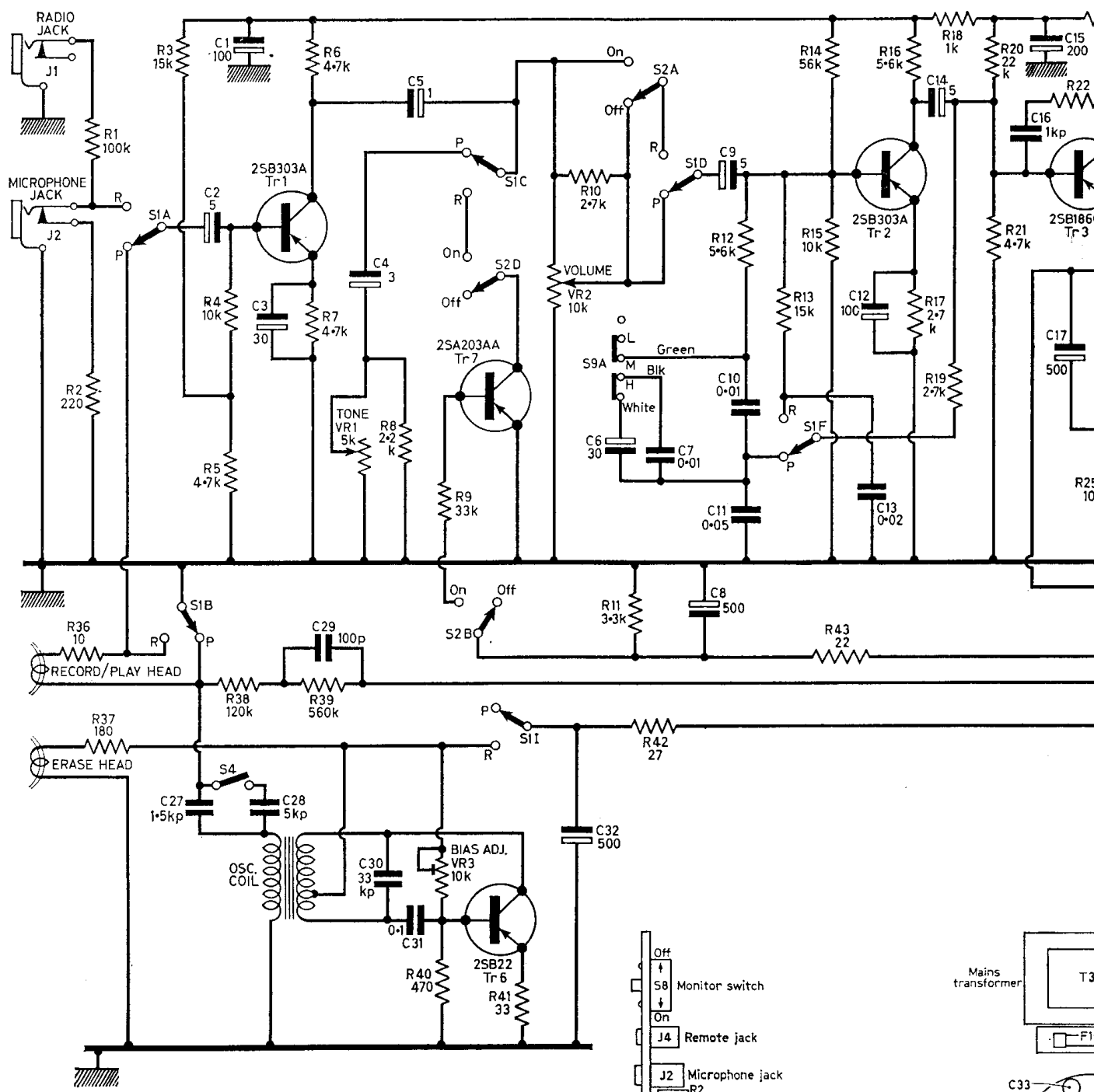
Connect a valve voltmeter across R36 (in series with R/P head). Switch tape recorder to Record. Then adjust the preset control VR3 to obtain a reading of 8mV on the valve voltmeter.

#### Recording Level

Connect an audio oscillator (high impedance output) to the Microphone input socket J2. Switch the tape recorder to Record and turn the volume control to maximum. Inject a signal of 1kHz at 1V, attenuated to -70dB, and adjust the preset control VR5 to obtain zero indication on the VU meter.



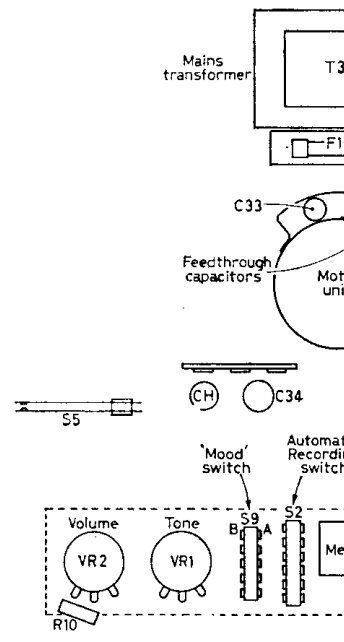
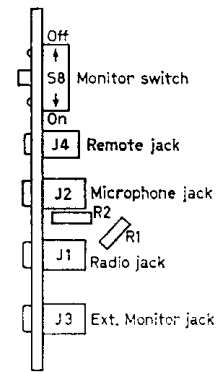
Component side of printed circuit panel.

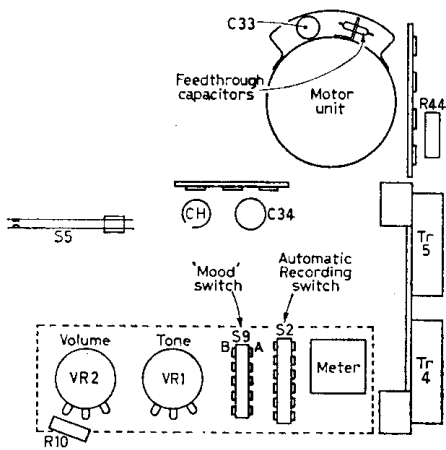
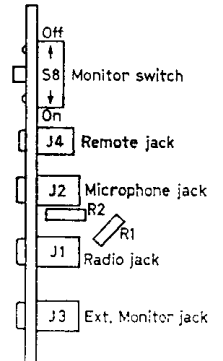
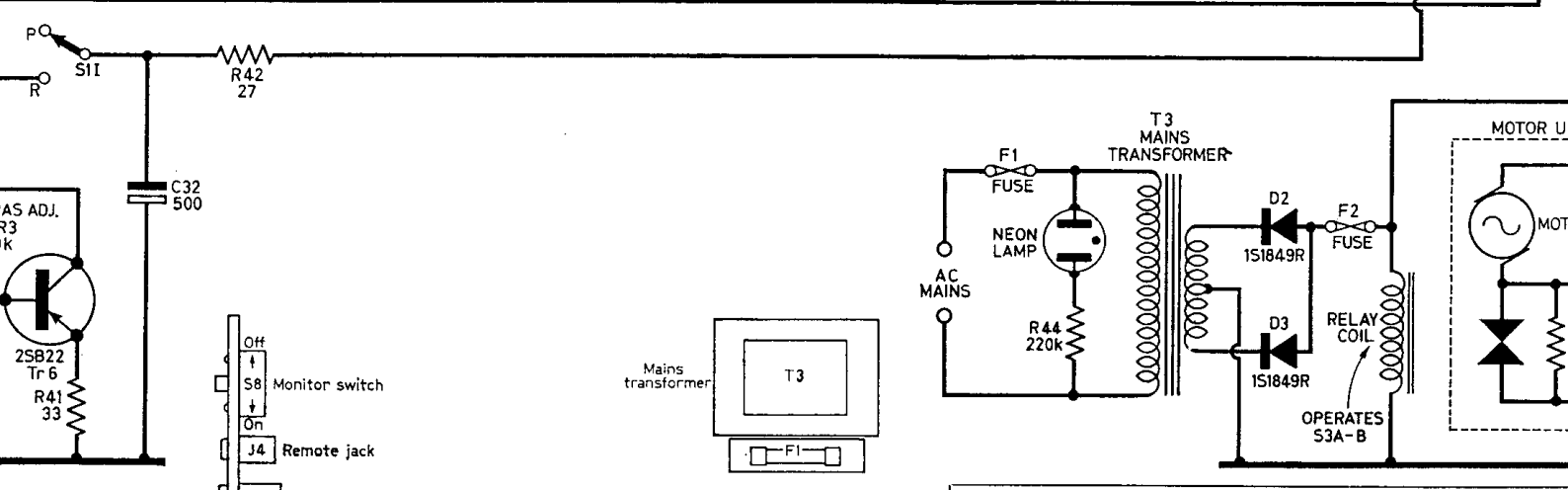
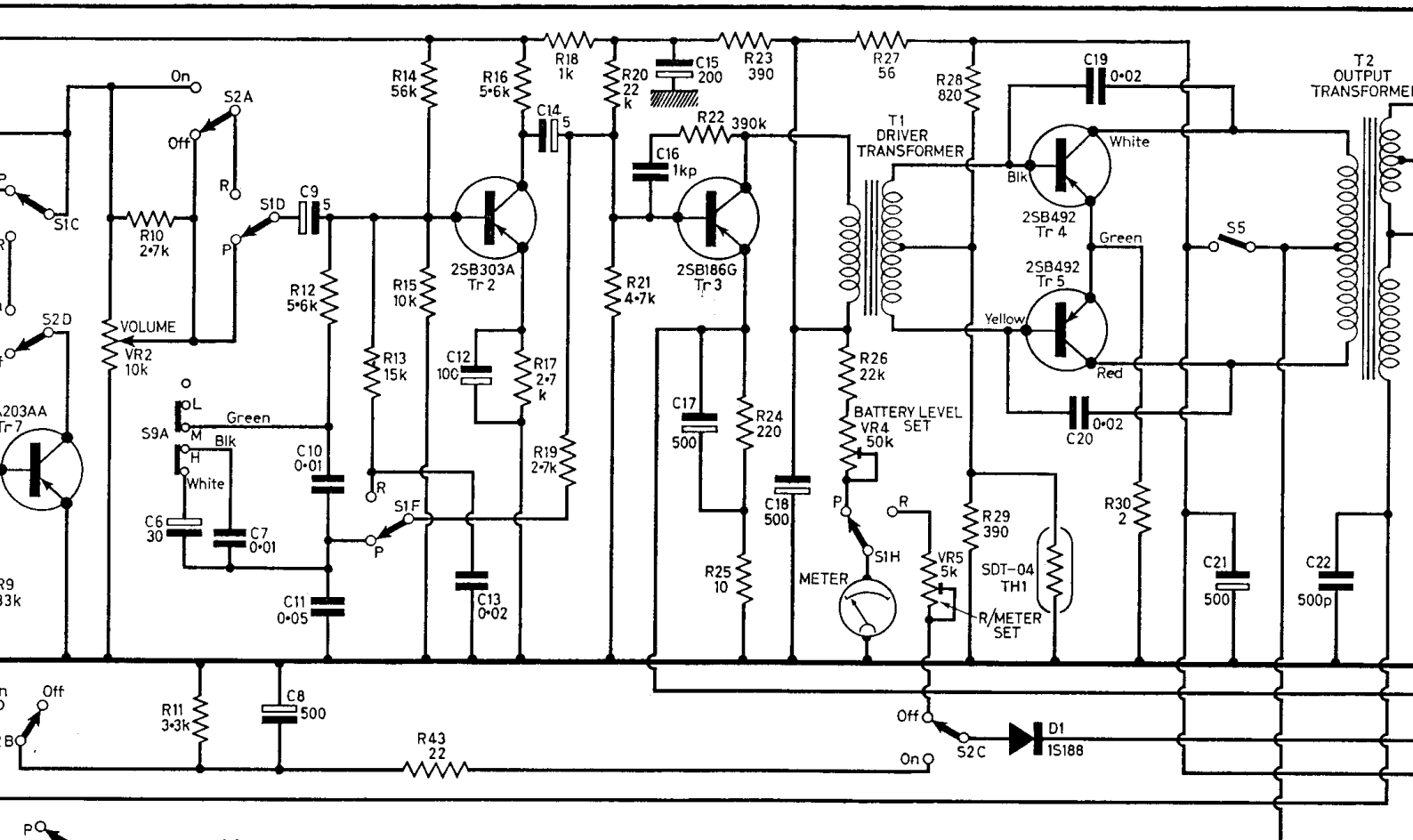


**PLAYBACK VOLTAGES**

	Collector	Base	Emitter
Tr1	5.1	1.1	1.5
Tr2	4.5	0.77	0.88
Tr3	8.1	1.25	1.27
Tr4	9.1	0.15	0.2
Tr5	9.1	0.15	0.2

Voltage from external monitor jack, 0.78.  
 Readings obtained with volume and tone controls at maximum.

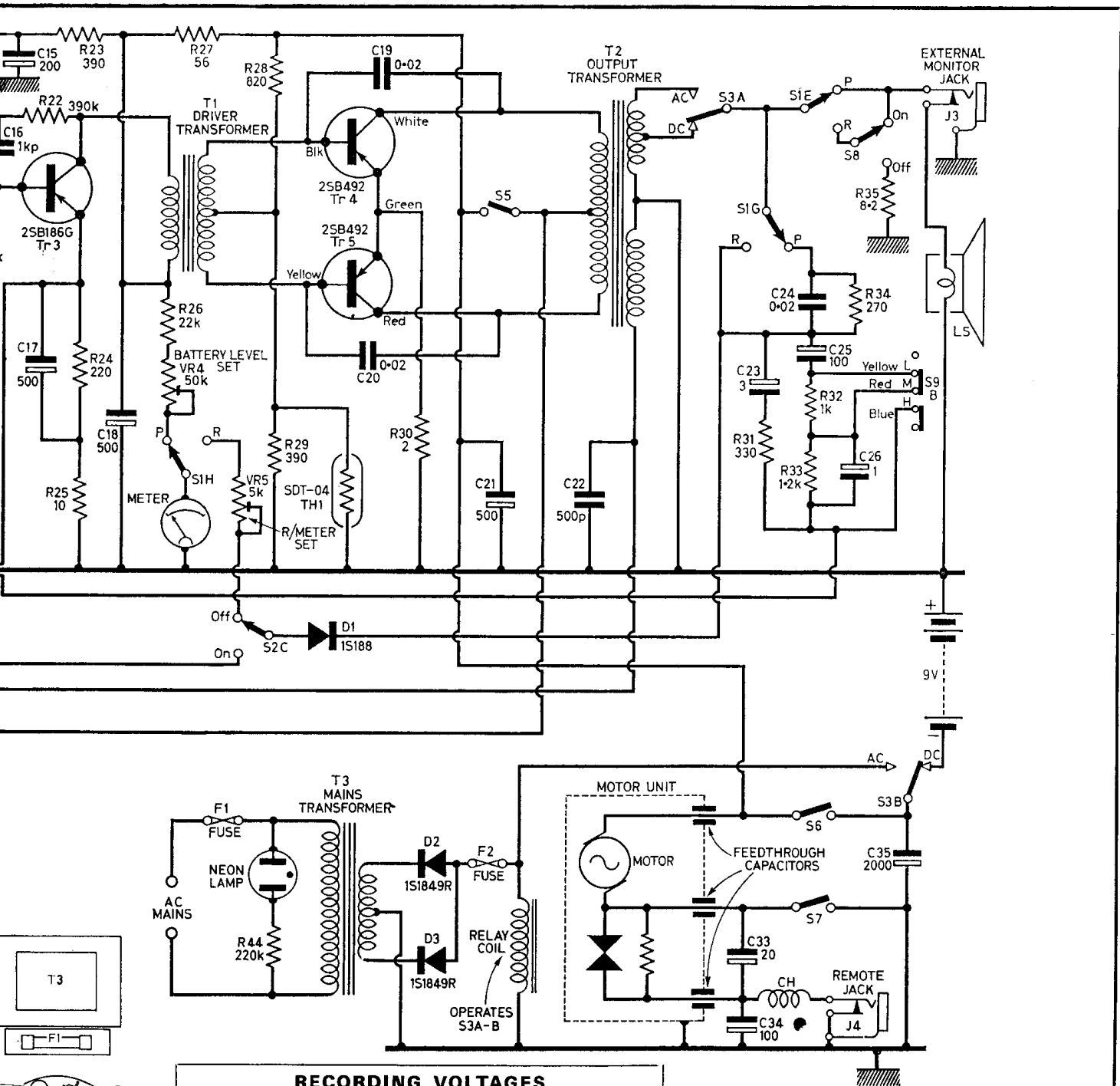




**RECORDING VOLTAGES**

	Collector	Base	Emitter
Tr1	4.9	1.07	1.45
Tr2	4.0	0.87	0.95
Tr3	7.8	1.17	1.17
Tr4	8.7	0.15	0.19
Tr5	8.7	0.15	0.19
Tr6	8.2	0.75	1.0
Tr7	—	0.07*	—

Voltage from monitor output, 0.78. Readings obtained with volume control at maximum, ALC in the Off position, monitor switch in the On position, except where indicated (\*) = ALC switched on.

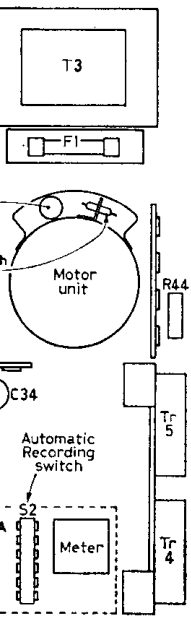


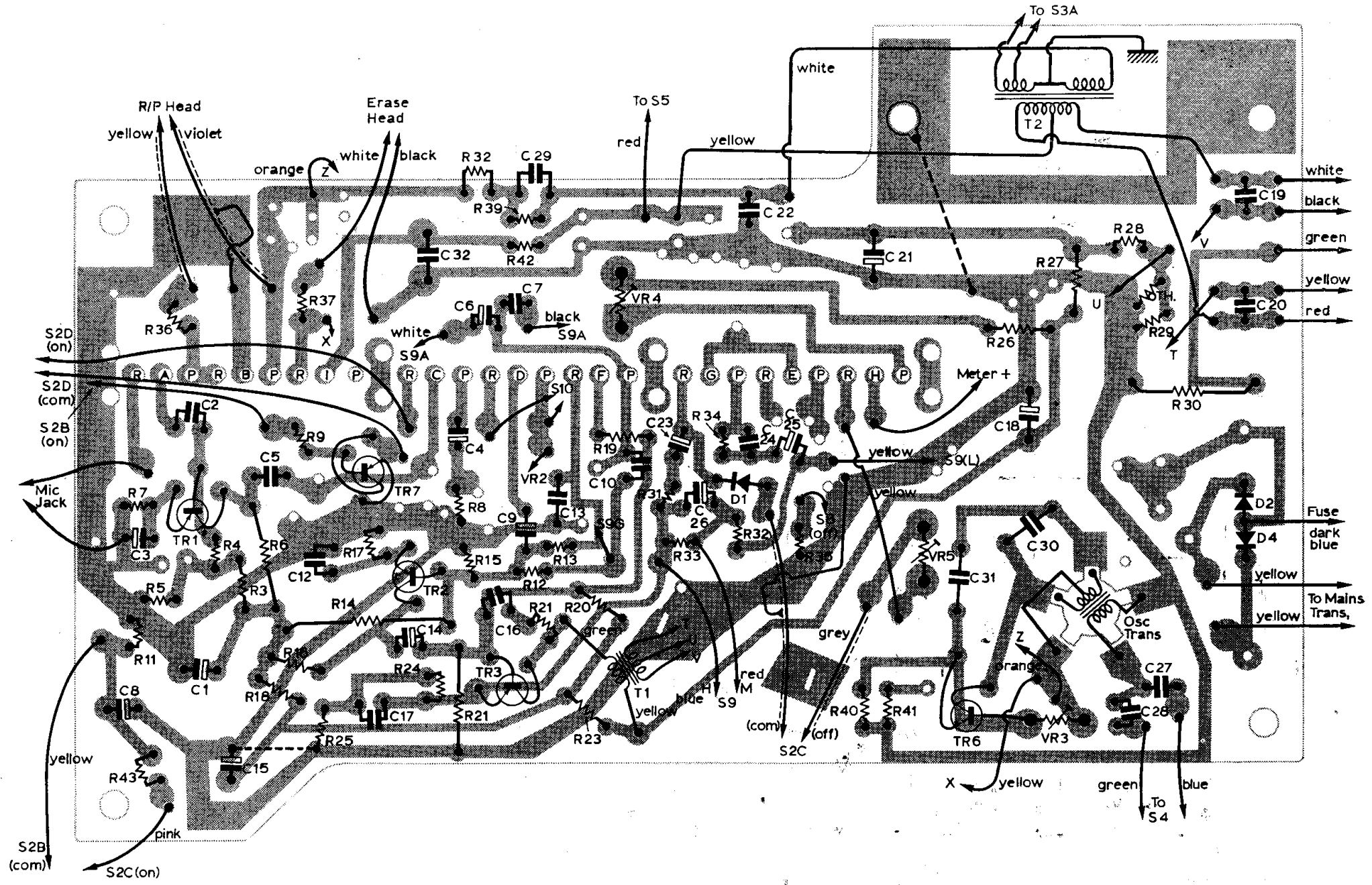
**RECORDING VOLTAGES**

	Collector	Base	Emitter
Tr1	4.9	1.07	1.45
Tr2	4.0	0.87	0.95
Tr3	7.8	1.17	1.17
Tr4	8.7	0.15	0.19
Tr5	8.7	0.15	0.19
Tr6	8.2	0.75	1.0
Tr7	—	0.07*	—

Voltage from monitor output, 0.78. Readings obtained with volume control at maximum, ALC in the Off position, monitor switch in the On position, except where indicated (\*) = ALC switched on.

- Switching Key**
- S1 Recording/Playback switch (main slide switch)
  - S2 Automatic Recording switch
  - S4 A.C./D.C. changeover switch
  - S4 Compensating switch (on at 1 7/8 i.p.s.)
  - S5 Switch on at Playback and Record
  - S6 Switch off at Stop
  - S7 Switch on at Rewind and Fast Forward
  - S8 Monitor switch
  - S9 Mood switch (shown in Speech position)





Printed circuit board viewed from the tindip side, with components shown as seen through the board.