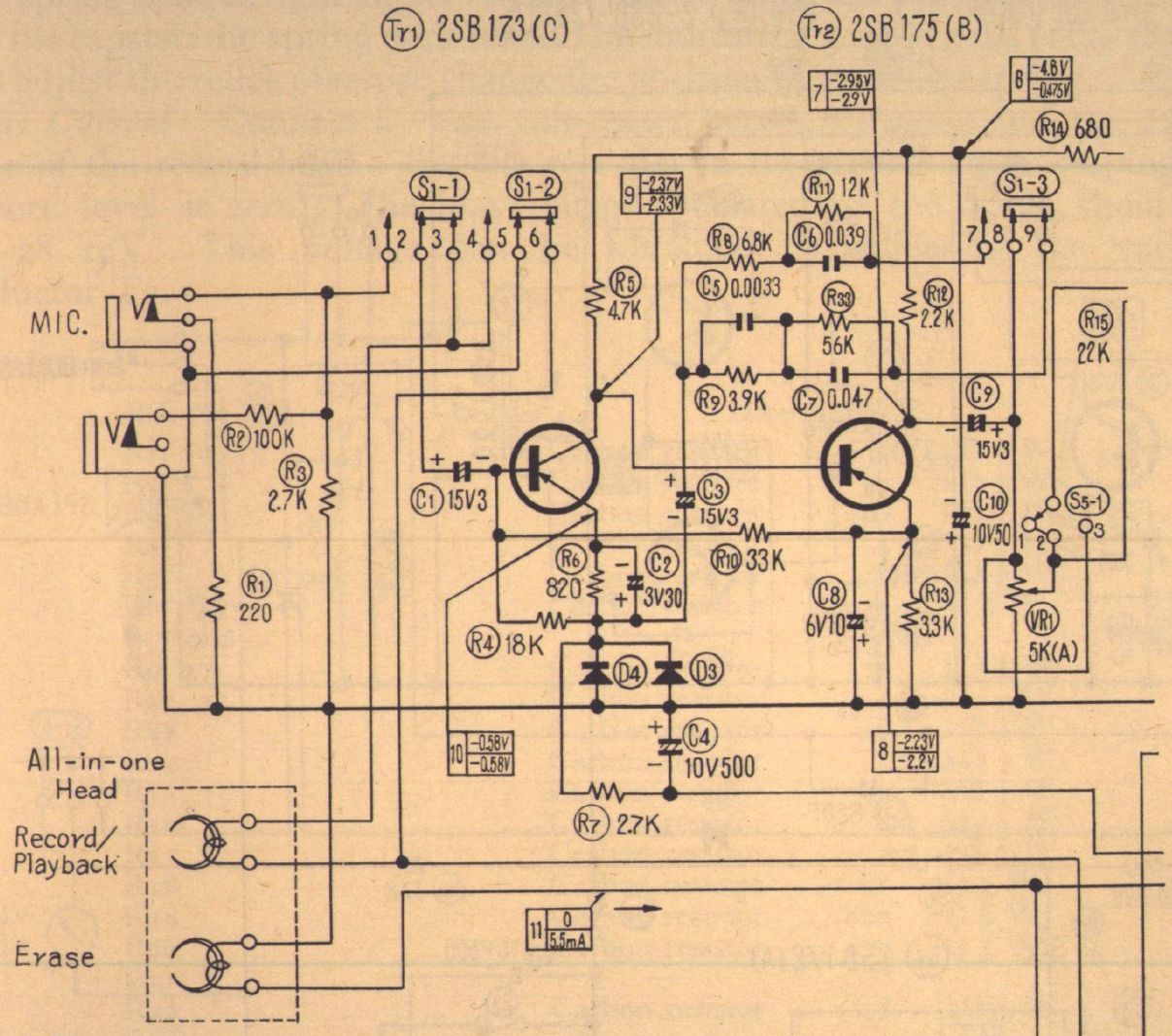
NATIONAL Model RQ-153S

General Description: Six transistor battery portable tape recorder. Power output 500 mW. (700 mW. maximum). 30 kc/s. A.C. bias with D.C. erase. Frequency response 120–7000 c/s. at $3\frac{3}{4}$ in./sec. and 120–4000 c/s. at $1\frac{7}{8}$ in./sec. Input impedance: microphone 2·7 kΩ; auxiliary 100 kΩ. Extension loudspeaker impedance 8 ohms.

Adjustments: Pressure Roller Shaft tension should be 5·6–7·8 ozs. at $1\frac{7}{8}$ in./sec. and 5·3–7·4 ozs. at $3\frac{3}{4}$ in./sec. Winding torque 0·28–0·42 ozs.



NOTE:

1. S1-1 ~ S1-5 ... Record/Playback Selector Switch (Shown in Playback position).
2. S2 ... ... Amplifier Switch (ON in Record and Playback modes only).
3. S3 ... ... Power Switch (OFF in Stop mode only).
4. S4 ... ... ON in F.F and Rewind mode only.
5. S5 ... ... 1 ... Sound Monitor. 2 ... OFF. 3 ... AGC-ON.
6. S6 ... ... Recording Switch (ON in Record mode only).
7. R21 and R25 ... Values to be determined by gain characteristic of TR4 and TR5.
8. Resistors are 1/4 watt unless specified otherwise. K=1,000Ω, M=megohms.
9. Capacitors are microfarad (μF) unless specified otherwise. P=picofarads.
10. Values indicated in ☐ are DC to chassis ground with no signal applied.
11. The upper values should be measured during playback and the lower values during recording.

F56a

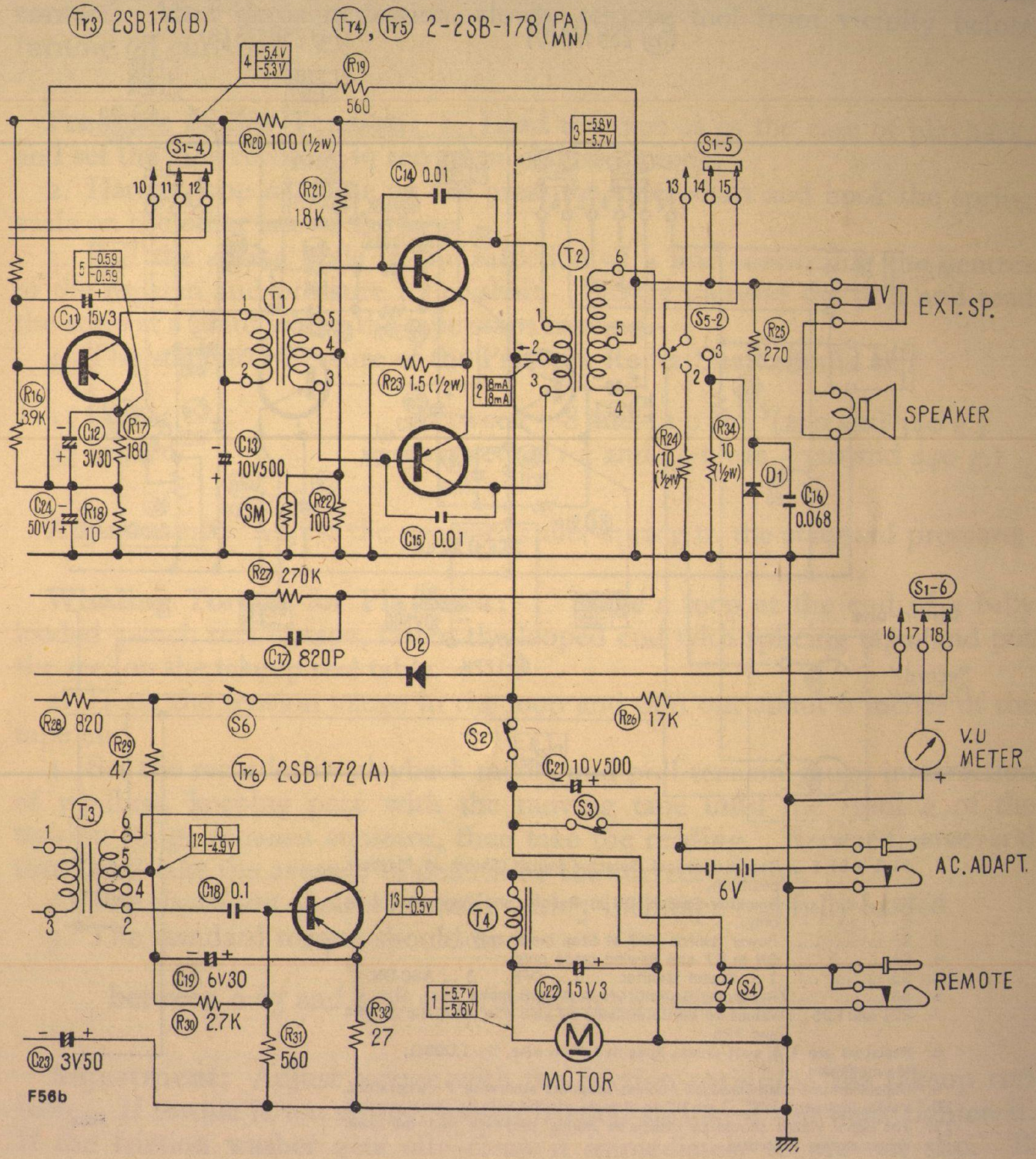
(F56a) Circuit Diagram—Model RQ-153S (Part)

Tape pad pressure 0·53–1·1 ozs.

Record Bias Current: Place a 100-ohm resistor in the earthy lead of the record/playback head. Using a valve volt-meter check that the voltage across the 100-ohm resistor is 0·065–0·11 volts. If the voltage is not within the above range, correct by adjusting T3. The frequency must be in the range of 25–35 kc/s.

Erase Current: Connect a D.C. milliammeter in the earthy lead of the erase head. Erase current should be 5·35–7·5 mA.

Maintenance and Cleaning: The procedures for Model RQ–113S (in this volume) apply.



(F56b) Circuit Diagram—Model RQ–153S (Continued)