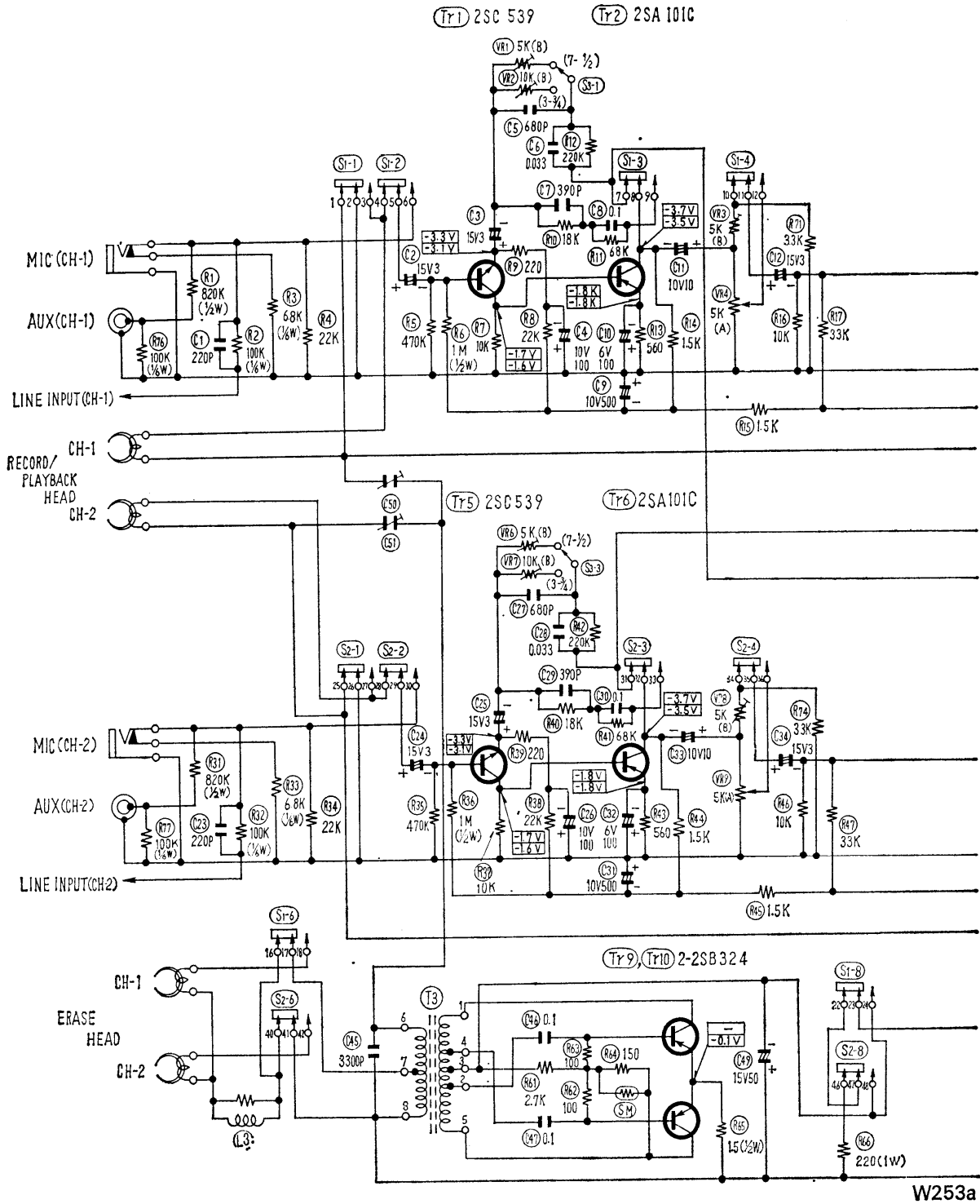


NATIONAL

Model RS766US

General Description: A four-track stereo tape recorder for use on A.C. mains supplies at 100, 115, 125, 200, 230 and 250 volts, 50/60Hz. A VU meter is used for record level indication and the machine can accommodate 7 inch spools.



(W253a) CIRCUIT DIAGRAM—MODEL RS766US (PART)

A.C. Bias: 50kHz.

Tape Speeds: $7\frac{1}{2}$, $3\frac{3}{4}$ and $1\frac{7}{8}$ i.p.s.

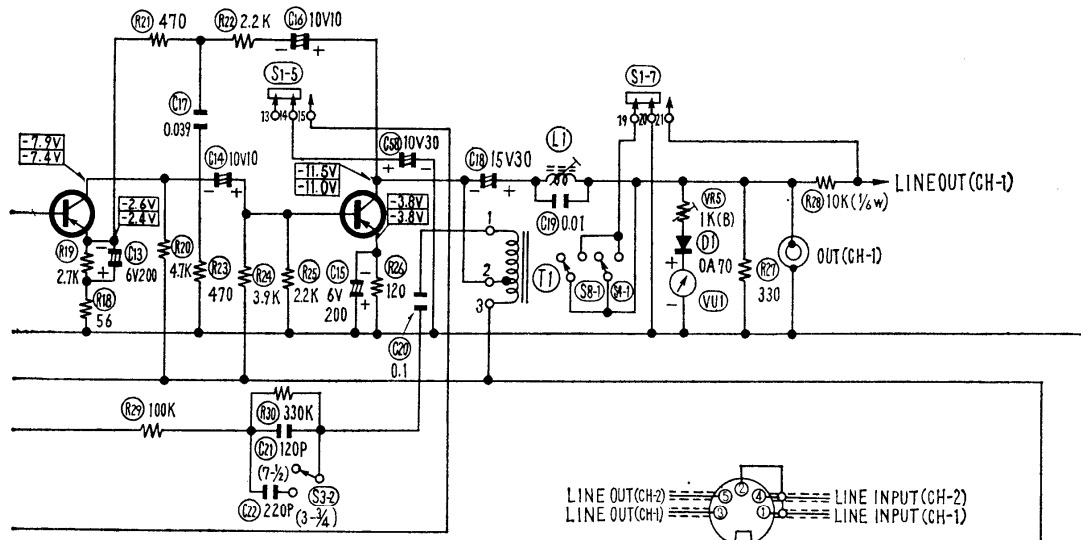
Frequency Response: 30-18,000 Hz at $7\frac{1}{2}$ i.p.s., 30-13,000 Hz at $3\frac{3}{4}$ i.p.s., 30-6000 Hz at $1\frac{7}{8}$ i.p.s.

Inputs: "Mic" 20, "Aux" 100k-ohms.

This recorder is for use in composite equipment and does not incorporate a power output stage. The two channels provide a line output at an impedance of 300 ohms to a standard five-pin DIN socket.

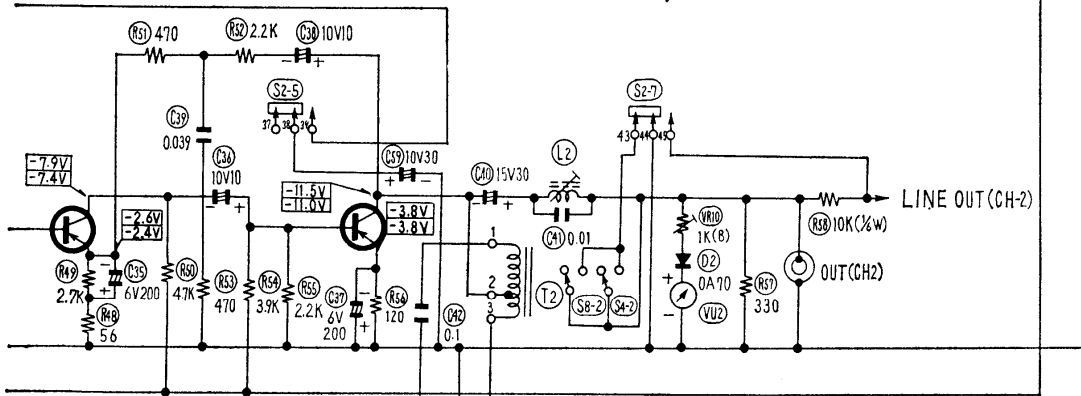
(Tr3) 2SB 101C

(Tr4) 2SB 346

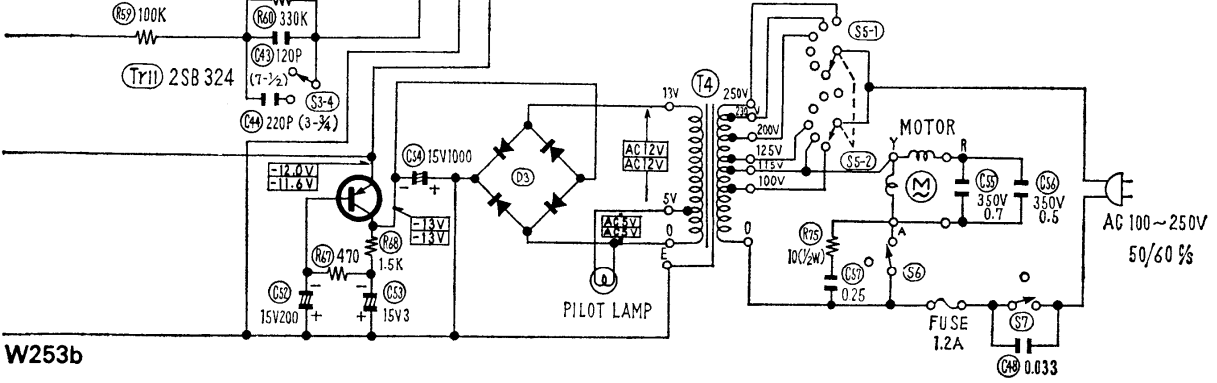


(Tr7) 2SA 101C

(Tr8) 2SB 346



(Tr11) 2SB 324



W253b

(W253b) CIRCUIT DIAGRAM—MODEL RS766US (CONTINUED)

Dismantling (Top Panel): Remove the Recording Level Control Knobs and Tape Speed Selector Knob and remove the Function Knob by unscrewing the screw holding it, then loosen the four corner screws and lift up the Panel gently.

Dismantling (Bottom Case): Turn the recorder upside down and loosen the screws in the Rubber Feet. Remove the Bottom Case by lifting up. The Rubber Feet detached from the recorder body should be screwed to the supporters (legs) of the recorder to avoid damage to the Motor Fan.

Bias Adjustment: *Instruments required:* VTVM, 100Ω resistor.

Remove the lead wire (which is on the ground side when recording) connected to the Record Head, and attach the 100Ω resistor in series. Connect VTVM to both ends of the 100Ω resistor and measure the voltage value.

$$\text{Bias current} = \frac{\text{Voltage value}}{\text{Resistance value (100)}}$$

Standard bias current = 0.4 ~ 0.7 mA. In case it is not the standard value, check the Trimmer Capacitor, C50, C51.

Erase Current Check: *Instruments required:* VTVM, 10Ω resistor.

Remove the ground side lead wire connected to the Erase Head, and attach the 10Ω resistor in series. Connect VTVM to both ends of the 10Ω resistor, and measure the voltage value.

$$\text{Erase current} = \frac{\text{Voltage value}}{\text{Resistance value (10)}}$$

Standard erase current = 45 ~ 65 mA.

Circuit Diagram Notes:

1. S1-1 ~ S1-8, S2-1 ~ S2-8—Record/Playback Selector Switch (Shown in Playback position).
2. S3-1 ~ S3-4—Tape Speed Selector Switch (Shown in 7-1/2 i.p.s).
3. S4-1 ~ S4-2—Stop and Bias cut-off Switch.
4. S5-1 ~ S5-2—A.C. Voltage Selector Switch.
5. S6—Shut-off Switch.
6. S7—Power ON/OFF Switch.
7. Motor Stator Capacitor is used with a capacitance of 0.7μF on 60 cycle mains, and is used with a capacitance of 1.2μF (0.7+0.5) on 50 cycle mains.
8. Resistors are 1/4 watt unless specified otherwise. K = 1000Ω, M = 1,000,000Ω.
9. Capacitors are microfarad (μF) unless specified otherwise. P = Micro-microfarads.
10. Values indicated in rectangles are D.C. to chassis ground with no signal applied.
11. The upper values should be measured during playback and the lower values during recording.