"HIS MASTER'S VOICE" Car Radio

SERVICE INFORMATION

MODELS 502T AMPLIFIER MODELS A AND B "PUSH BUTTON"

CARE OF TRANSISTORS - Carefully check polarity before connecting to supply or damage to receiver will most certainly result.

OUTPUT TRANSISTOR CURRENT ADJUSTMENT:

'A' Amplifier.

1. Connect a meter (1 amp. range) into the 'Collector' circuit at point 'X'.
2. Set VR1 to minimum resistance position.
3. Set voltage to 14 volts and switch on.
4. Adjust 'Collector' current to 500 m.A. by increasing the resistance of VR1.
5. Seal VR1 (on paxolin side) on the appropriate setting using a suitable adhesive.
6. Check 'Collector' current after 15 minutes' operation.

'B' Amplifier (Push-Pull).

1. Insert a meter (1 amp. range) in the 'Collector' circuit of both TR1 and TR2 as shown at points marked 'M1' and !M2' on circuit diagram.
2. Set VR1 and VR2 to minimum resistance position.
3. Set voltage to 14 volts and switch on.
4. Adjust VR1 for 30 m.A. in M1.
5. Adjust VR2 for 30 m.a. in M2.
6. Repeat operation 4 and 5 until both meters read 30 m.A.
7. Check 'Collector' current after 15 minutes' operation.

NOTE: The current adjustment can be carried out with one meter only, carefully checking the equipment is switched off before changing the meter from collector of TR3 to collector of TR4.

ALIGNMENT PROCEDURE
I.F. Frequency - 457.5 Kc/s.

I.F. Alignment:

1. Apply 457.5 Kc/s modulated 30% at 400 c/s between Pin 7 of V2 and chassis. (Through an 0.1 mfd capacitor).

2. Volume control to maximum. Switch to M.W. set tuning carriage so that cores are fully withdrawn from coils.

3. With suitable signal input adjust I.F.T.2. Sec., I.F.T.2. Pri., I.F.T.1. Sec., I.F.T.1. Pri., in that order for maximum output. Repeat sequence for maximum output.

R.F. Alignment:

The requisite dummy aerial comprises a 22 pfd. capacitor in series and a 33 pfd. shunt capacitor.

M.W. Alignment:

1. Adjust tuning carriage to fully withdrawn position, ensuring that cores are screwed anti-clockwise back into grommets.

2. Set auxiliary ferrite rods in L2 and L4 to mid position (see note + below).

3. Connect signal generator to aerial input. (Through dummy aerial).

4. IMPORTANT: To ensure correct alignment, first check that Dial Pointer stops at the set marks at each end of the Dial ($\frac{3}{4}$" from each back plate mounting screw). It may be necessary to bend the stops on the Dial Carriage to control the amount of travel. Do not bend the Pointer.

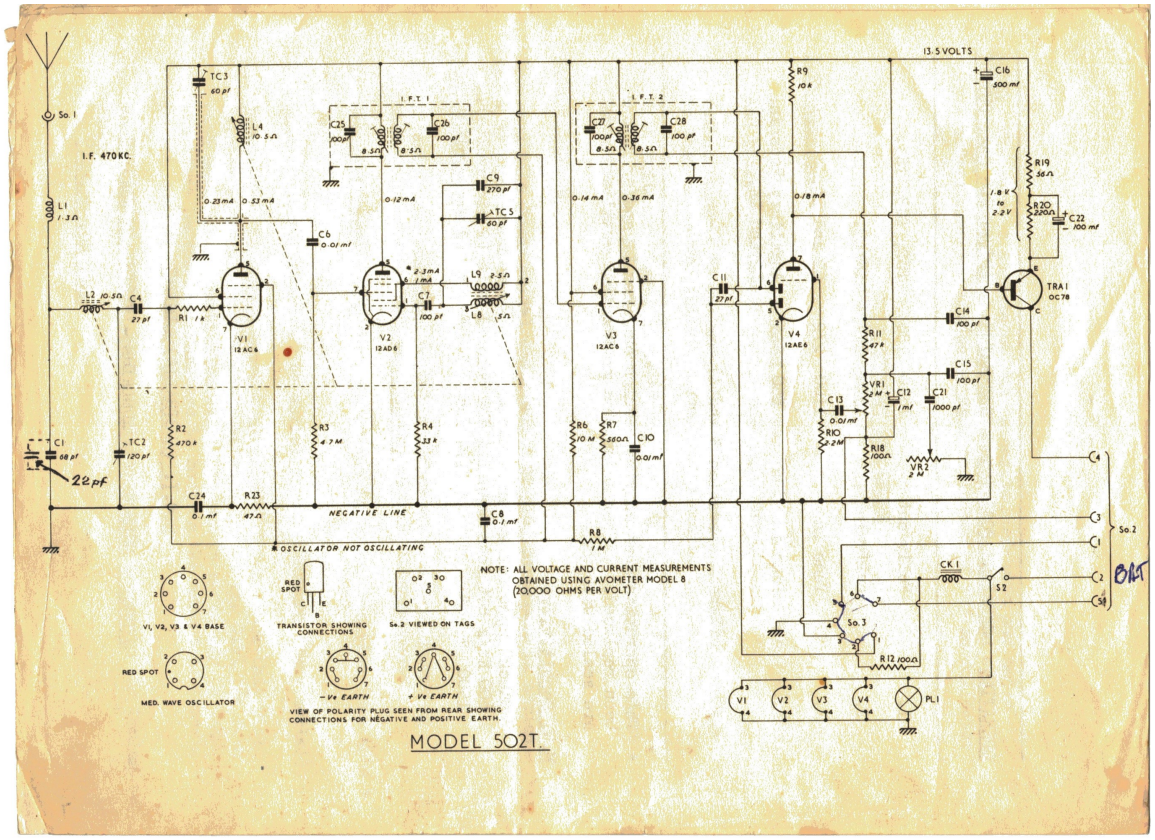
5. Remove the black dial backing plate to gain access to the tuning slugs.

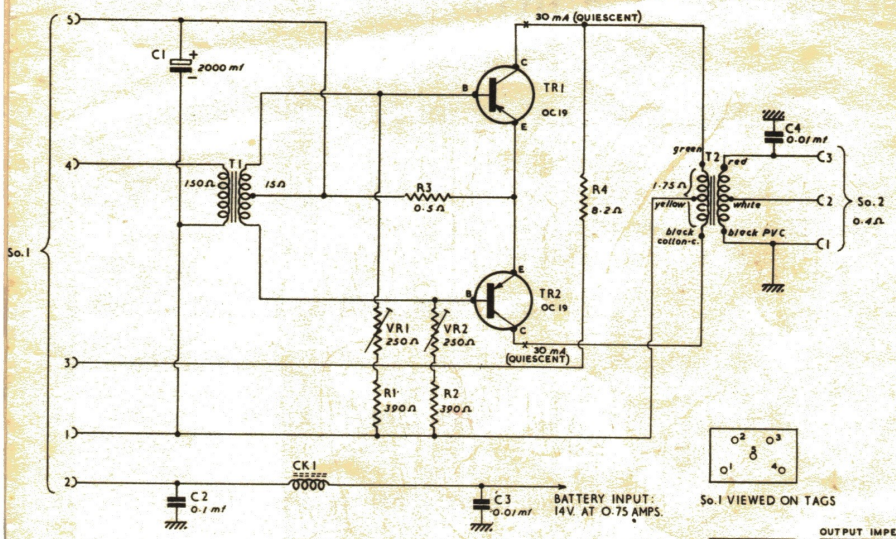
OPERATION	CARRIAGE POSITION	GENERATOR Kc/s	M	ADJUST FOR MAX. OUTPUT
1.	Fully out	1610	186	TC2, TC3, TC5.
2.	Fully in	520	577	L8/L9.
3.	Tune in	1100	272	L2 and L4.
4. +	Tune in	550	545	Auxiliary Rods in L2 and L4.
5.	(Repeat operation 3 and 4)			

+ This operation must only be carried out when L2 and/or L4 has been replaced. After adjustment ensure that auxiliary rods are sealed with wax.

M.W. Sensitivity:

Check input for 200 mw. output.
600 Kc/s not less than 114 dbs below 1 volt (2 microvolts).
1500 " " " " 114 dbs " " " (2 microvolts).

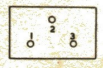

13.5 VOLTS
So.1
I.F. 470KC.
L1 1.3Ω
TC3 60 pf
L4 10.5Ω
I.F.T.1
C25 100pf
C26 100pf
8.5Ω
I.F.T.2
C27 100pf
C28 100pf
C9 270 pf
TC5 50 pf
C6 0.01 mf
L9 2.5Ω
L8 .5Ω
L2 10.5Ω
C4 27 pf
R1 1 k
V1 12AC6
V2 12AD6
V3 12AC6
V4 12AE6
C11 27 pf
R9 10 k
C16 500 mf
R19 56Ω
R20 220Ω
C22 100 mf
1.8 V to 2.2 V
TRA1 OC78
C14 100 pf
R11 47 k
C15 100 pf
VR1 2 M
C12 1 mf
C21 1000 pf
C13 0.01 mf
R10 2 M
R18 100Ω
VR2 2 M
C1 68 pf
22 pf
TC2 120 pf
R2 470 k
R3 4.7 M
R4 33 k
R6 10 M
R7 560Ω
C10 0.01 mf
C24 0.1 mf
R23 47Ω
NEGATIVE LINE
C8 0.1 mf
R8 1 M
* OSCILLATOR NOT OSCILLATING
0.23 mA
0.53 mA
0-12 mA
0.14 mA
0-36 mA
0.18 mA
2.3 mA
1 mA
So.2
CK1
S2
So.3
R12 100Ω
PL1
BAT
NOTE: ALL VOLTAGE AND CURRENT MEASUREMENTS OBTAINED USING AVOMETER MODEL 8 (20,000 OHMS PER VOLT)
V1, V2, V3 & V4 BASE
RED SPOT
TRANSISTOR SHOWING CONNECTIONS
So.2 VIEWED ON TAGS
MED. WAVE OSCILLATOR
− Ve EARTH
+ Ve EARTH
VIEW OF POLARITY PLUG SEEN FROM REAR SHOWING CONNECTIONS FOR NEGATIVE AND POSITIVE EARTH.
MODEL 502T.



AMPLIFIER - MODEL B

PART NO. RMH 98200B

So.1 VIEWED ON TAGS



So.2 VIEWED ON TAGS

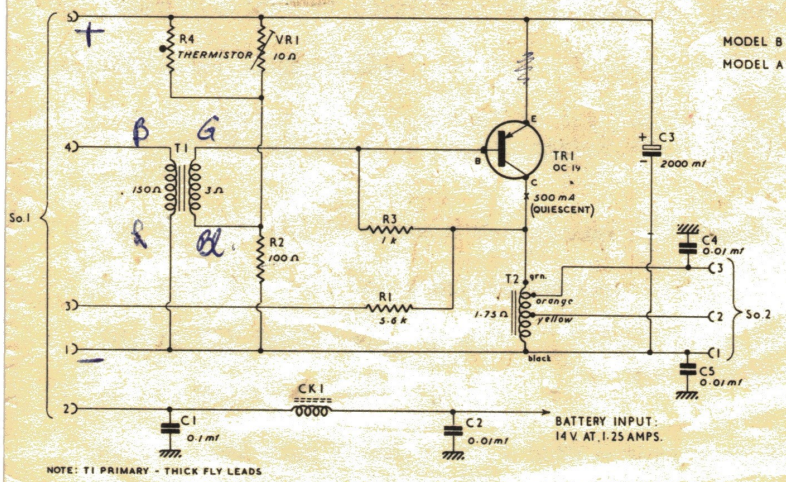
OUTPUT IMPEDENCE

PINS 1 & 2 - 1·75Ω

PINS 1 & 3 - 3·5Ω

TRANSISTOR VIEWED ON TAGS

COMMON TO BOTH AMPLIFIERS



NOTE: T1 PRIMARY - THICK FLY LEADS

AMPLIFIER - MODEL A

PART NO. RMH 98200A

	TOTAL CURRENT (NO SIGNAL CONDITION)
MODEL B AMPLIFIER	750 mA
MODEL A AMPLIFIER	1·25 AMPS.