

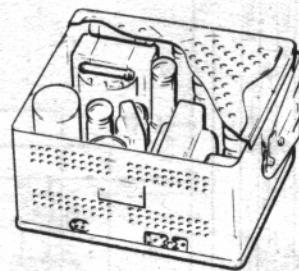
# SERVICE INFORMATION SHEET

\* 'E' AMPLIFIER \*



## "HIS MASTER'S VOICE" AUTOMOBILE RADIO Model 'E' AMPLIFIER

SIX VALVE AMPLIFIER FOR 12 VOLT  
BATTERY



SMITHS RADIOMOBILE

"In certain countries overseas, notably N. & S. America, this identical equipment is marketed as 'EMITRON CAR RADIO'."

### SPECIFICATION

#### Physical.

Height	4 $\frac{1}{2}$ inches (11.5 cm.)	Overall
Width	7 15/16 inches (20.2 cm.)	
Depth	6 inches (15.6 cm.)	
Weight	7 $\frac{1}{4}$ lbs. (3.3 kg.)	

#### Low Tension Supply.

12 volt Battery with positive earthed supply. \*

\* These amplifiers cannot be adapted for use with vehicles having a negative earthed supply, and on no account should the connections to the electrolytic condensers be reversed.

#### High Tension Supply.

Non-synchronous vibrator with hard valve rectifier.

#### Power Output.

7 watts maximum (5 watts at 10% distortion).

#### Valves.

W77 I.F. Amplifier.

DH77 Detector, A.G.C. and A.F. Amplifier.

DH77 Phase Splitter.

N78) Push-pull output.

N78)

U78 Rectifier

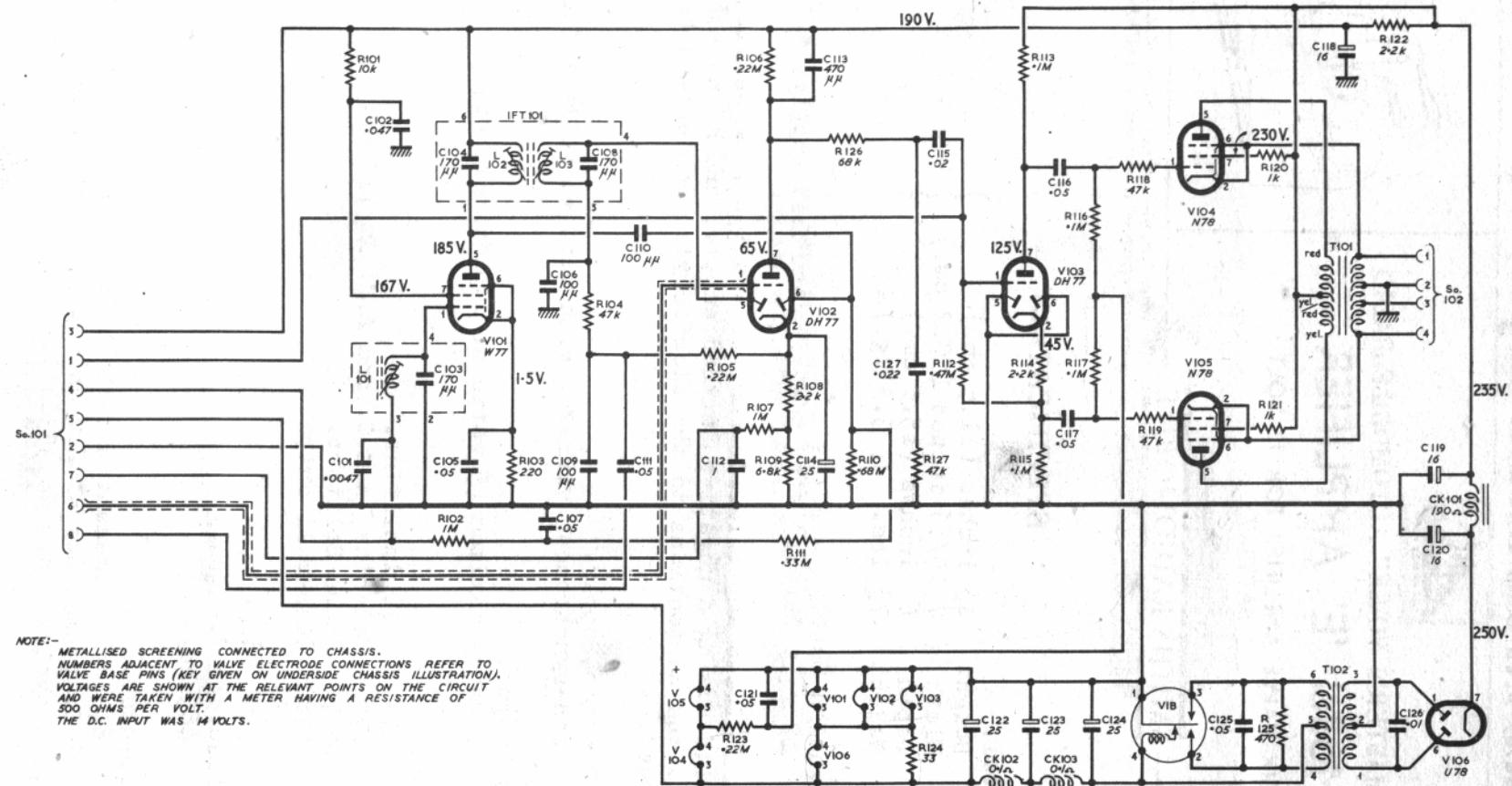
#### Intermediate Frequency.

465 kc/s.

#### Loudspeaker.

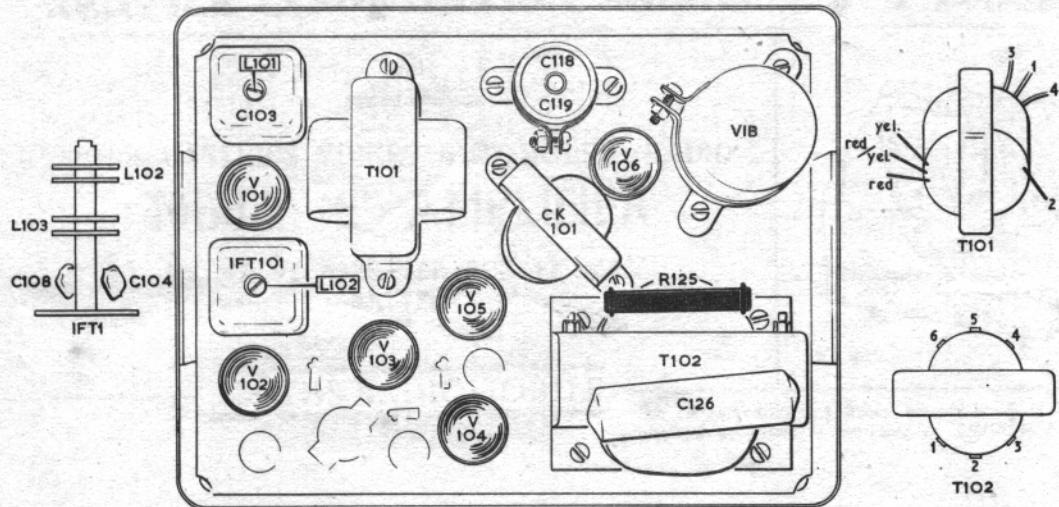
6  $\frac{1}{2}$ -inch permanent magnet loudspeaker. The speech coil has a D.C. resistance of 2.9 ohms and an impedance of 5 ohms at 1,000 cycles (Part No. 35340A).

C	101	102	103,104,105	106,107,108	110,111	112	121	114	113	127	115	122	123,116,117	124	125	118	126	119,120	C
R	101	102	103	104	105,123,106,107,109,111,108	126	110	124,127,112	114,115,113	116,117	118	119	125,121,120	122	R	R	R	R	R
MISC	Sa,101				V101, L102, V107, L105		V102			CX 102	V103, CX 105	V18	V104, V105	T102, T101	Sa,102, CK101, V106	MISC			

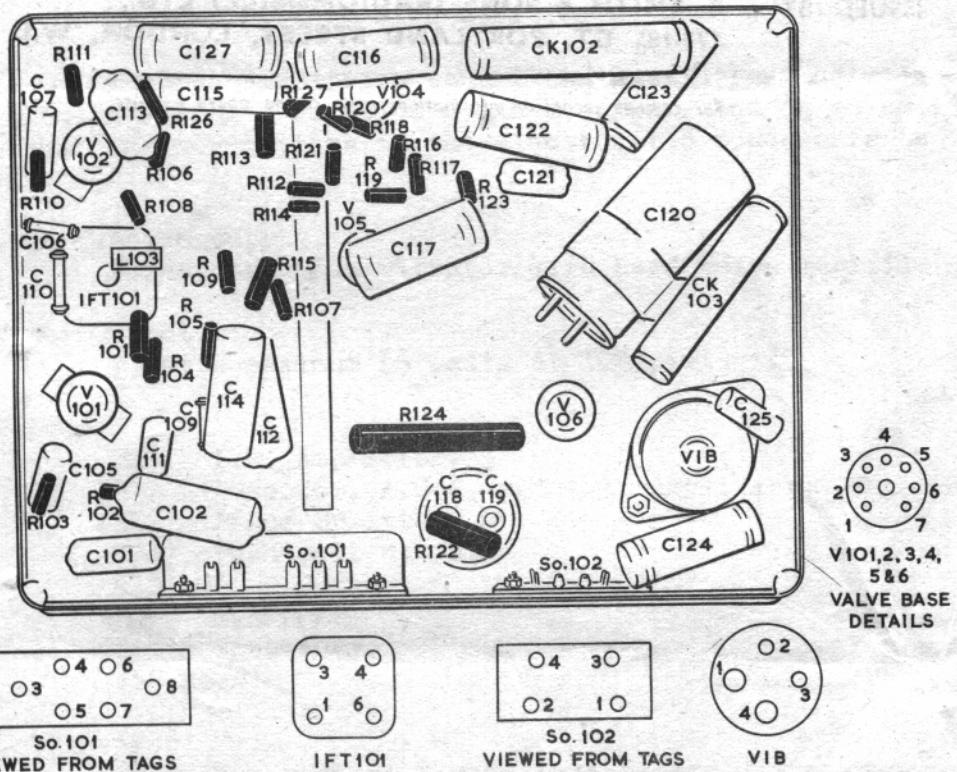


NOTE:- METALLISED SCREENING CONNECTED TO CHASSIS.  
NUMBERS ADJACENT TO VALVE ELECTRODE CONNECTIONS REFER TO  
VALVE BASE PINS (KEY GIVEN ON UNDERSIDE CHASSIS ILLUSTRATION).  
VOLTAGES ARE SHOWN AT THE RELEVANT POINTS ON THE CIRCUIT  
AND WERE TAKEN WITH A METER HAVING A RESISTANCE OF  
500 OHMS PER VOLT.  
THE D.C. INPUT WAS 14 VOLTS.

## 'E' AMPLIFIER



TOP-SIDE CHASSIS



UNDER-SIDE CHASSIS

'E' AMPLIFIER UNIT

Provisional Service Manual

I.F. ALIGNMENT

- 1) Set volume control of control unit fully clockwise and bring tuning carriage right out (i.e., towards the front panel).
- 2) Inject a modulated signal at 465 kc/s. (modulated at 400 cycles to 30 per cent) between the grid of frequency changer valve (X78) and chassis, leaving grid connection made.
- 3) Adjust cores of L103, L102, L101 and appropriate control unit I.F. coil core for maximum output. When adjusting any coil its companion coil must be damped with a 47,000-ohm resistor (e.g., when L103 is adjusted L102 must be damped).
- 4) Repeat the procedure outlined above until no further increase in output is obtained.

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LONDON, W.1.

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