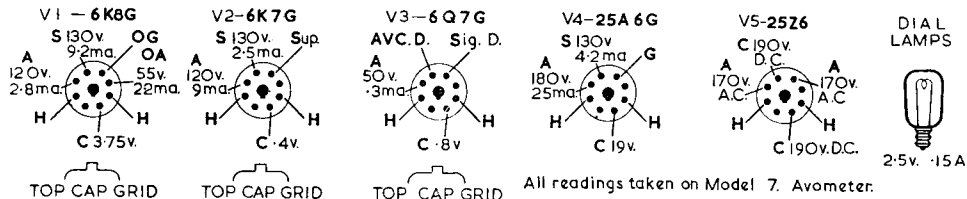


# CHAMPION PLANET

Five-valve, AC/DC midget in two-colour plastic cabinet 10½ by 6 by 6 in. Home model 200—550, 800—2,000 metres; export model plus 16—49 metres. Built-in "Hemoscope" aerial. Made by Champion Electric Corporation, 49, Greek Street, London, W1.

**CIRCUIT** consists of V1, a triode-hexode frequency changer feeding an IF amplifier V2, which is followed by a double-diode triode V3 used for signal rectification, AVC voltage and LF amplification. The output stage consists of V4, a power pentode, driving a 5-in. PM speaker. HT is derived from a half-wave rectifier V5.



**Aerial circuit.**—For MW reception an internally-fitted frame aerial, consisting of L1 and L2, is used. An external aerial may be connected if desired and is fed via C1 and C2 to junction of L1, L2. This in effect is a tapping near to the earthy end of the frame. An external aerial must be connected for LW reception and is fed via C1 and S1 to a coupling coil L3. L4, which is inductively coupled to L3, feeds the signals to grid of V1, via S2. VC1 is the aerial tuning capacitor.

**Oscillator circuit.**—Parallel-fed, tuned anode oscillator is used with L6 (MW) and L8 (LW) tuned by VC2 and switched by S4. The grid circuit consists of L5 (MW) and L7 (LW) switched by S3. R2, C4 provide leak-condenser bias.

**IF circuit** consists of IFT1, which is in the hexode anode circuit of V1 and feeds the signals to grid of V2 the IF amplifier, and IFT2, which transfers the signals to V3. Both transformers are capacitively tuned iron-dust cored and are aligned to 465Kc.

**Signal rectifier, AVC and LF amplifier stage.**—Signal diode circuit consists of L12, secondary of IFT2, and diode load resistor R5. The rectified signal is fed via C11 to the volume control R14, and thence to grid of V3. AVC diode is fed by C9, from the anode of V2. R4 is the AVC diode load and R7, C10 provide AVC line decoupling.

AVC is fed to grid V1 on LW only and to grid V2 the IF amplifier.

LF amplification is provided by triode portion of V3, R9 being its anode load and R6 its cathode bias resistor. A degree of negative feedback is provided by R6, which is not decoupled.

**Output stage.**—A power pentode V4 is used to drive a 5-in. PM speaker. OPI is the output transformer, its primary being shunted by C17 to provide tone connection. Screen voltage is derived via R12 and is decoupled by C15. R11 provides cathode bias and negative feedback voltages.

**HT supply.**—V5, a twin rectifier, is connected so as to provide half-wave rectification. Anode voltage is obtained via portion of R13 the mains dropper resistor. C16 is reservoir capacitor. R12, C15 provide smoothing. C18 is to prevent tuneable modulation hum.

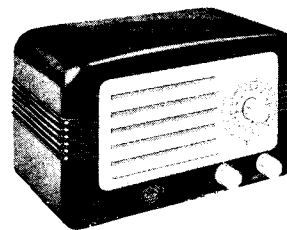
Heaters are wired in series and fed through a tapped mains dropper resistor R13. The dial light is shunted across portion of this resistor.

S5, which is ganged to the volume control, is the on/off switch.

**Removal of chassis.**—Unscrew the three chassis bolts at the bottom of cabinet. Remove control knobs from front. Note that the large ivorine etched dial plate is of the push-on type.

Chassis, complete with frame aerial attached to rear, may now be withdrawn.

## TRIMMING INSTRUCTIONS, CHASSIS LAYOUTS AND WAVECHANGE SWITCH CONNECTIONS OVERLEAF.



Champion Planet five-valve AC DC midget in two-colour plastic cabinet.

### RESISTORS

R	Ohms.	Watts	C	Mfds.
1	220		9	50pf Mica
2	47 K		10	.1 Tubular 350V
3	220		11	.01 Tubular 375V
4	1 M		12	300pf Mica
5	470 K		13	.01 Tubular 375V
6	6.8 K		14	100pf Mica
7	1.8 M		15	32 Electrolytic
8	22 K		16	32 250V
9	220 K		17	.02 Tubular 350V
10	470 K		18	.002 Tubular 1000V
11	470			
12	2.7 K	2		
13	Line cord 500 tapped.			
14	.5 M Potentiometer.			

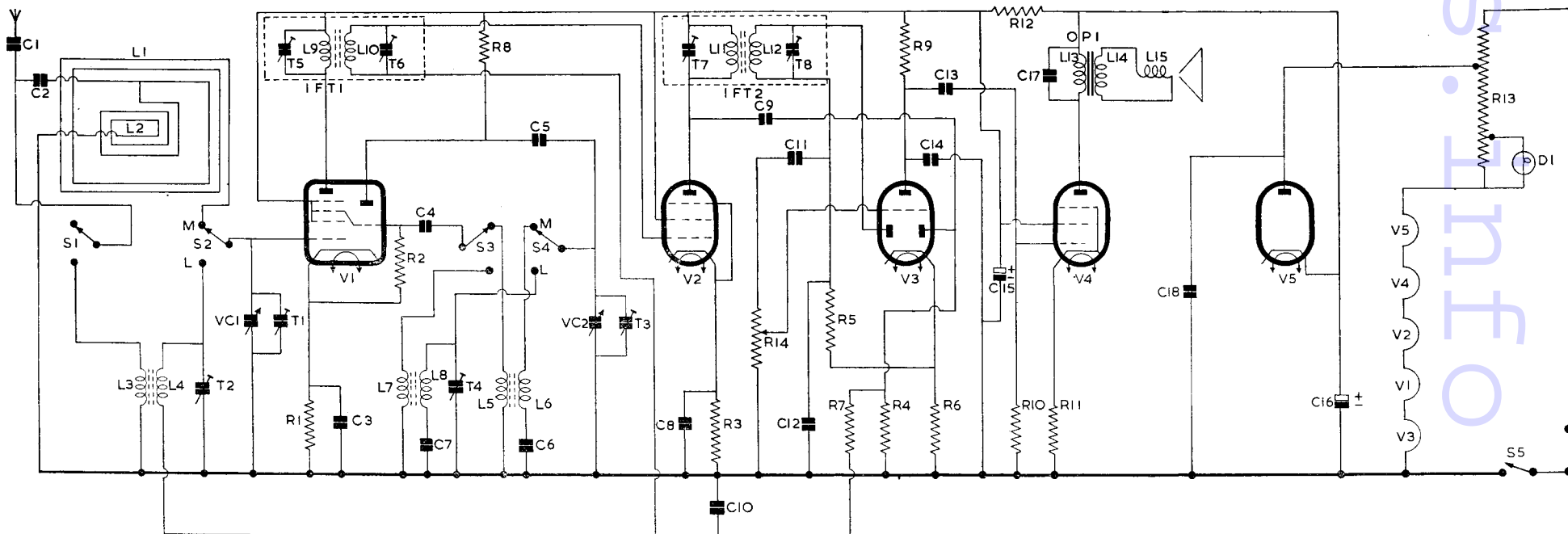
### INDUCTORS

L Ohms.

1	.75
2	.25
3	6
4	15
5	1.75
6	2
7	3
8	6
9	4.5
10	4.5
11	4.5
12	4.5
13	250
14	Very low
15	2.5

### CAPACITORS

C	Mfds.
1	.001 Mica
2	220pf Silver Mica
3	.1 Tubular 350V
4	100pf Mica
5	100pf Mica
6	578pf Silver Mica
7	180pf Silver Mica
8	.1 Tubular 350V



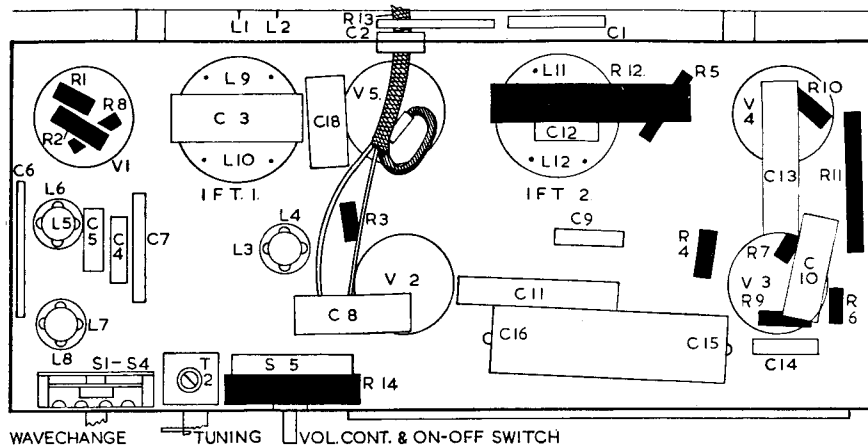
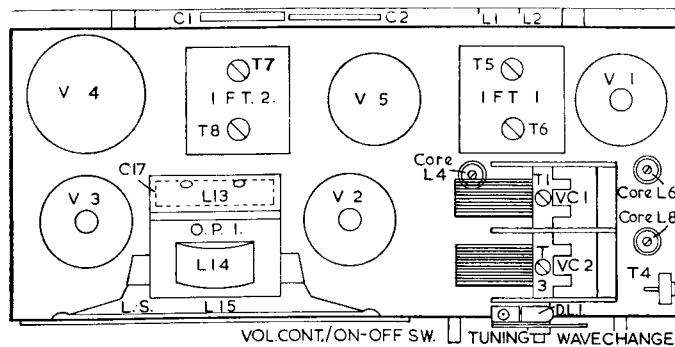
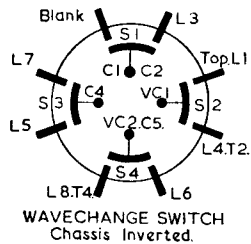
# CHAMPION PLANET

—Continued

## TRIMMING INSTRUCTIONS

Apply Signal as Stated Below.	Tune Receiver to	Trim in Order Stated for Max. Output.
(1) 465 Kc to top cap of V1 via .01 capacitor	550 metres	T8, T7, T6 and T5.

(2) 600 Kc to frame aerial (Place sig/gen output lead close to frame)	500 metres	Core of L6. T1.
(3) 1.4 Mc as above	215 metres	T3, T1, recheck (2)
(4) 165 Kc to aerial socket via dummy antenna	1,800 metres	Core of L8. L4.
(5) 300 Kc as above	1,000 metres	T4, T2, recheck (4)



## Test on Lectrona Speaker

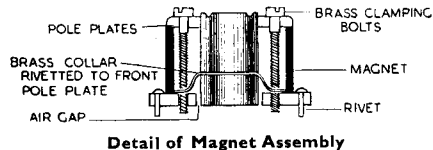
**T**HE Lectrona speaker is of post-war design and has several new features in its construction. The moisture-proof impregnated cone is supported by its outer edge to the chassis and by a fabric diaphragm at the point where the cone and speech coil are joined. This diaphragm is suffi-

ciently flexible to allow the speech coil and cone free movement at low frequencies. The diaphragm is firmly bonded at its outer edge to the cone chassis. The magnet assembly is rivetted to the chassis.

To prevent foreign matter getting into the magnetic gap, a porous moisture-proof dome is cemented to the cone centre.

Under test, the speaker was mounted on a 4-ft. square baffle. It appeared to handle up to 3 watts comfortably and its sensitivity was high. The output is reasonably level from 60 to 8,500 cps, except for a slight cut-off in the region of 100 cps.

Makers are Edstone, Ltd., 41, Spencer Street, London, SW1.



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