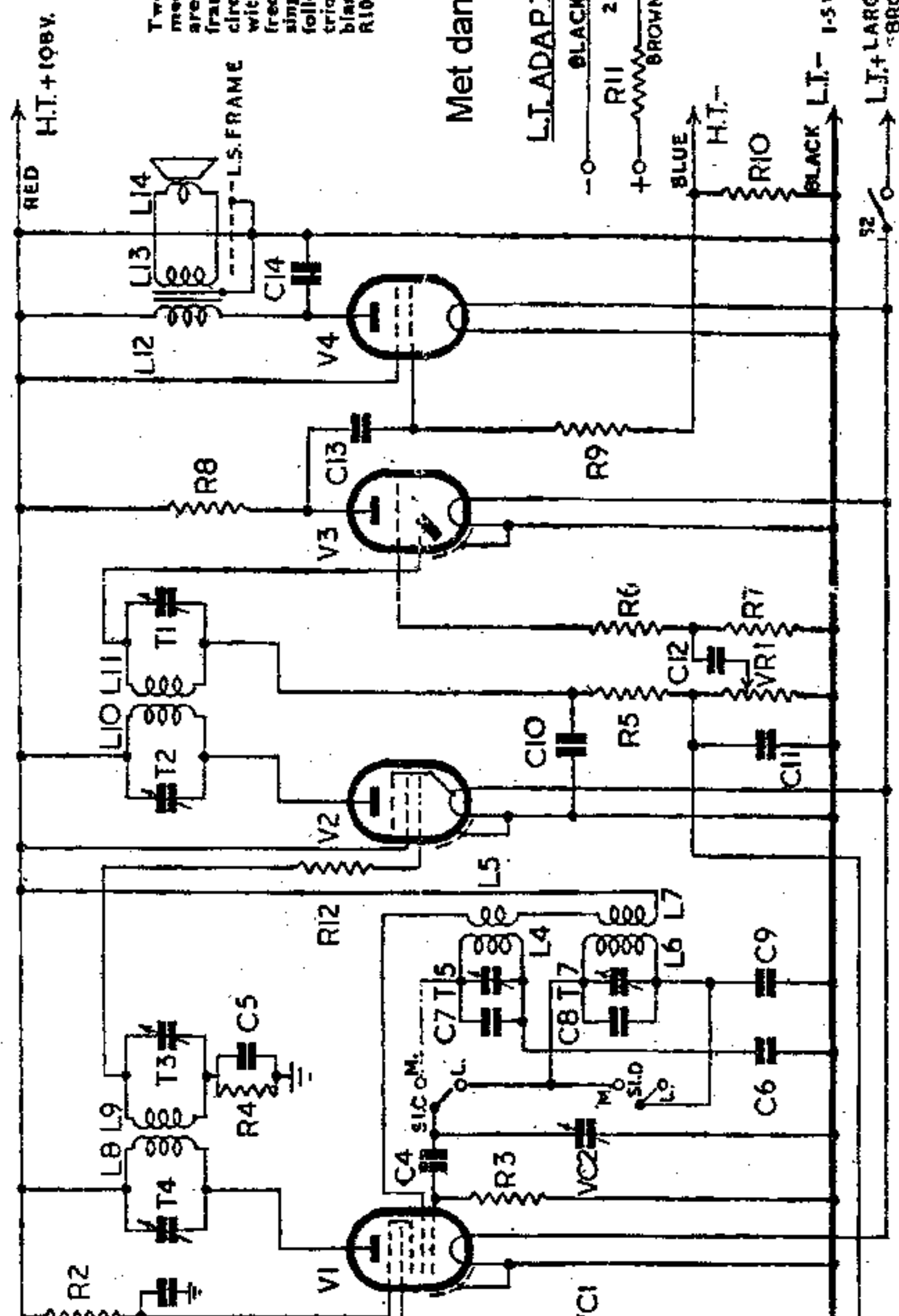
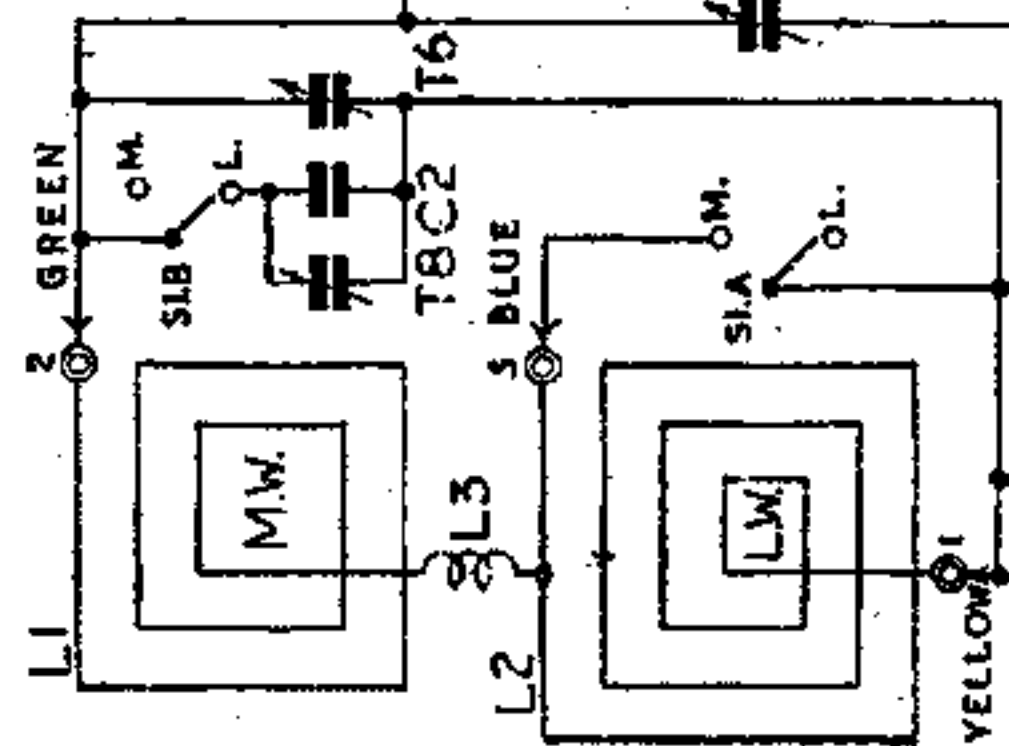
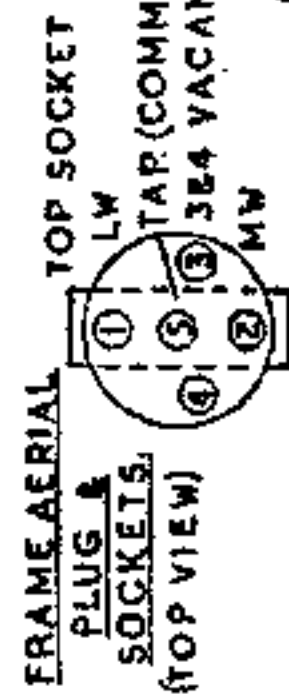


# BUSH BP70

Four-valve, two-waveband, all-dry battery portable superhet. For use with a separate HT battery and accumulator an LT adaptor is provided. Manufactured by Bush Radio, Ltd., Power Road, Chiswick, London, W.4.

**SIGNALS** are picked up by the MW frame aerial L1 which has a loading coil L3 in series with it and the LW frame aerial L2. These are tuned by VC1 section of the ganged condenser and the signals fed direct to the control grid of the frequency changer V1.

The oscillator section of V1 employs tuned grid circuits in which L4 is the MW coil and L6 the LW coil, both being tuned by VC2 section of the ganged. R3 and C4 are the grid leak and condenser. Feedback from the oscillator anode is effected by L5 and L7.



Two wavebands — medium and long — are covered by the frame aerials. The circuit is superhet with a pentode frequency-changer and single (F) amplifier followed by a diode-triode. Automatic bias voltage across R10 should be about 10 volts.

### CONDENSERS

C	Mfd's
1	.03
2	75 mmfd
3	.03
4	.0005
5	.03
6	.00058
7	25 mmfd
8	.00034
9	488 mmfd
10	.0001
11	.0001
12	.003
13	.03
14	.003
15	2

### WINDINGS

L	Ohms
1	1.3
2	6
3	1.4
4	6.2
5+L7	1.6
6	6.2
7+L5	19
8	19
9	19
10	19
11	19
12	900
13	4
14	2.5

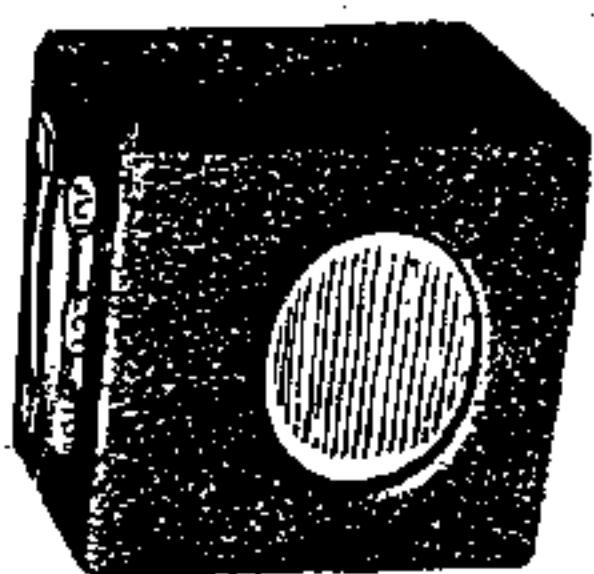
### RESISTANCES

R	Ohms	R	Ohms
1	2 meg	3	50,000
2	50,000	4	5 meg
		5	50,000
		6	100,000
		7	5 meg
		8	500,000
		9	1 meg
		10	1,000
		11	2
		12*	5,000
		VR1	500,000

\* Not fitted on receivers bearing a serial number over K03000.

Continued overleaf.

V3 and chassis and adjust T2 for maximum output. Inject a 465-kcs signal into the control grid of V2 and connect the damping circuit between the anode of V1 and chassis; adjust T3 for maximum output. Connect the damping circuit between the control grid of V2 and chassis and adjust T4 for maximum output.

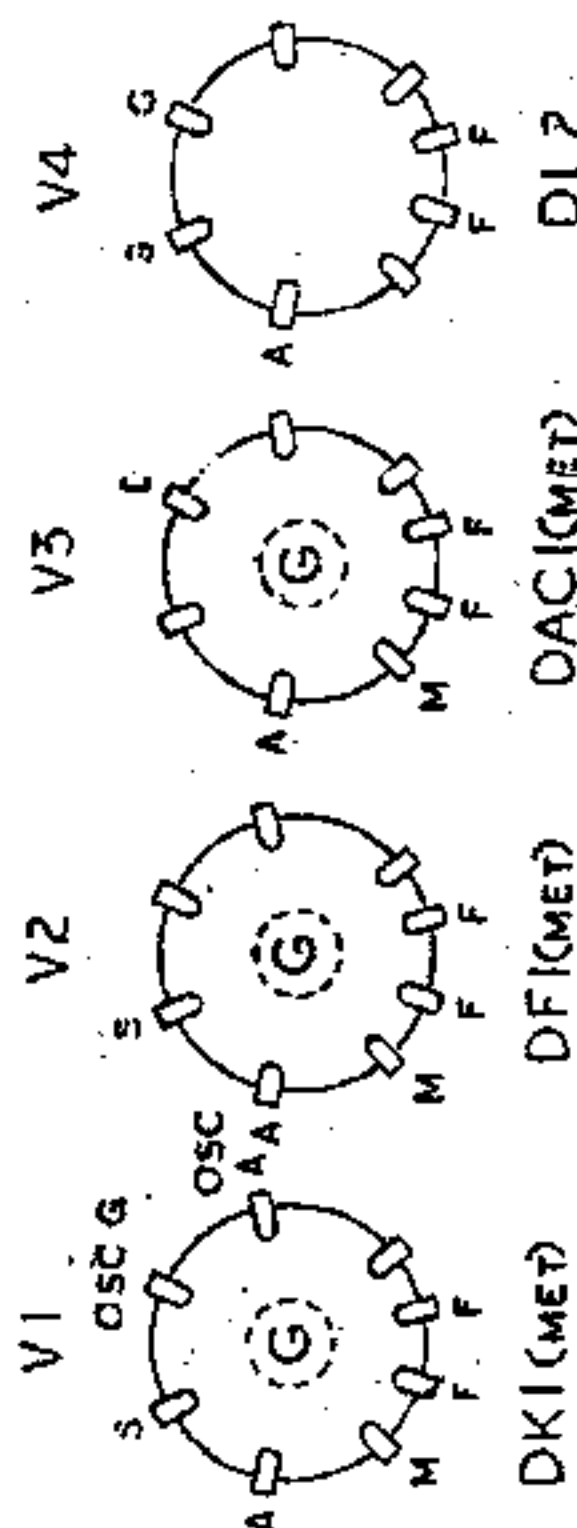


The BP70 by Bush Radio is a neat little portable, leatherette covered, and designed for operating from all-dry batteries. Provision is made, however, for the use of a two-volt accumulator.

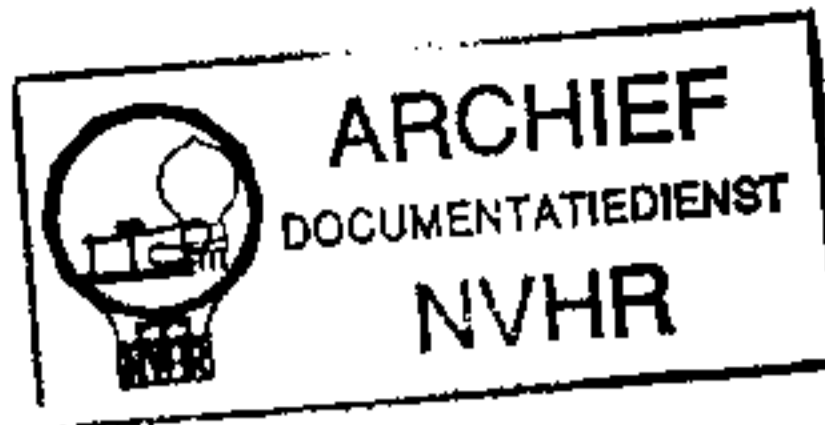
R9 to the negative end of R10, which is in the HT negative line. The usual matching transformer L12, L13 couples V4 to the permanent magnet moving coil loudspeaker in which L14 is the speech coil. A permanent tone correction is effected by C14.

### GANGING

IF Circuits—Switch receiver to MW with volume control at maximum. Screw down tightly T4 and connect a damping circuit comprising a 30,000-ohm resistance in series with a .05 mfd condenser between the anode of V2 and chassis. Inject a 465-kcs signal into the control grid (top cap) of V2 and adjust T1 for maximum output. Connect damping circuit between signal diode of



The valves are Mullard types with 1.4-volt filaments. The bases on the left, drawn as seen with chassis inverted, show the electrode connections.

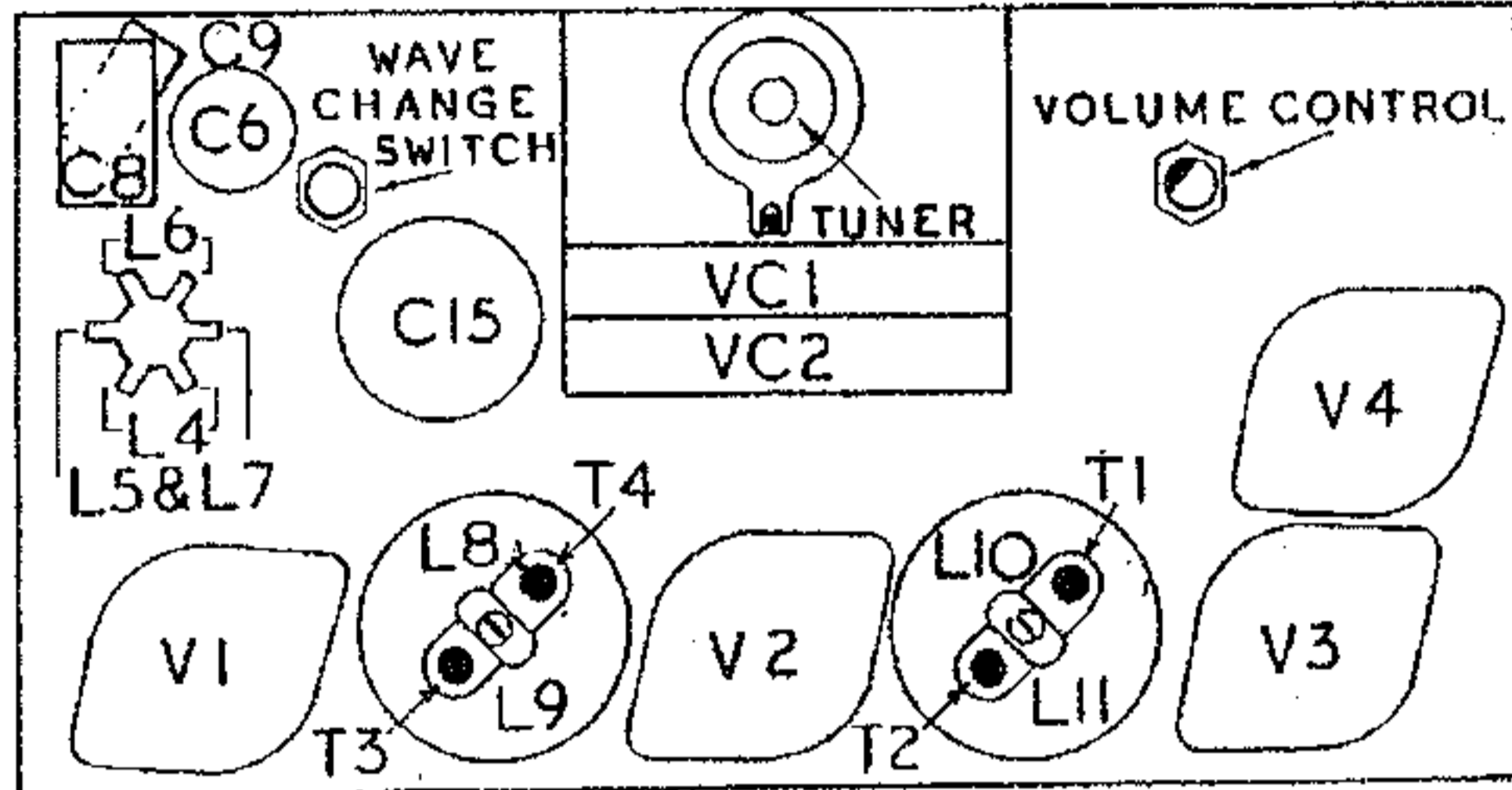


# BUSH BP70

Contd.

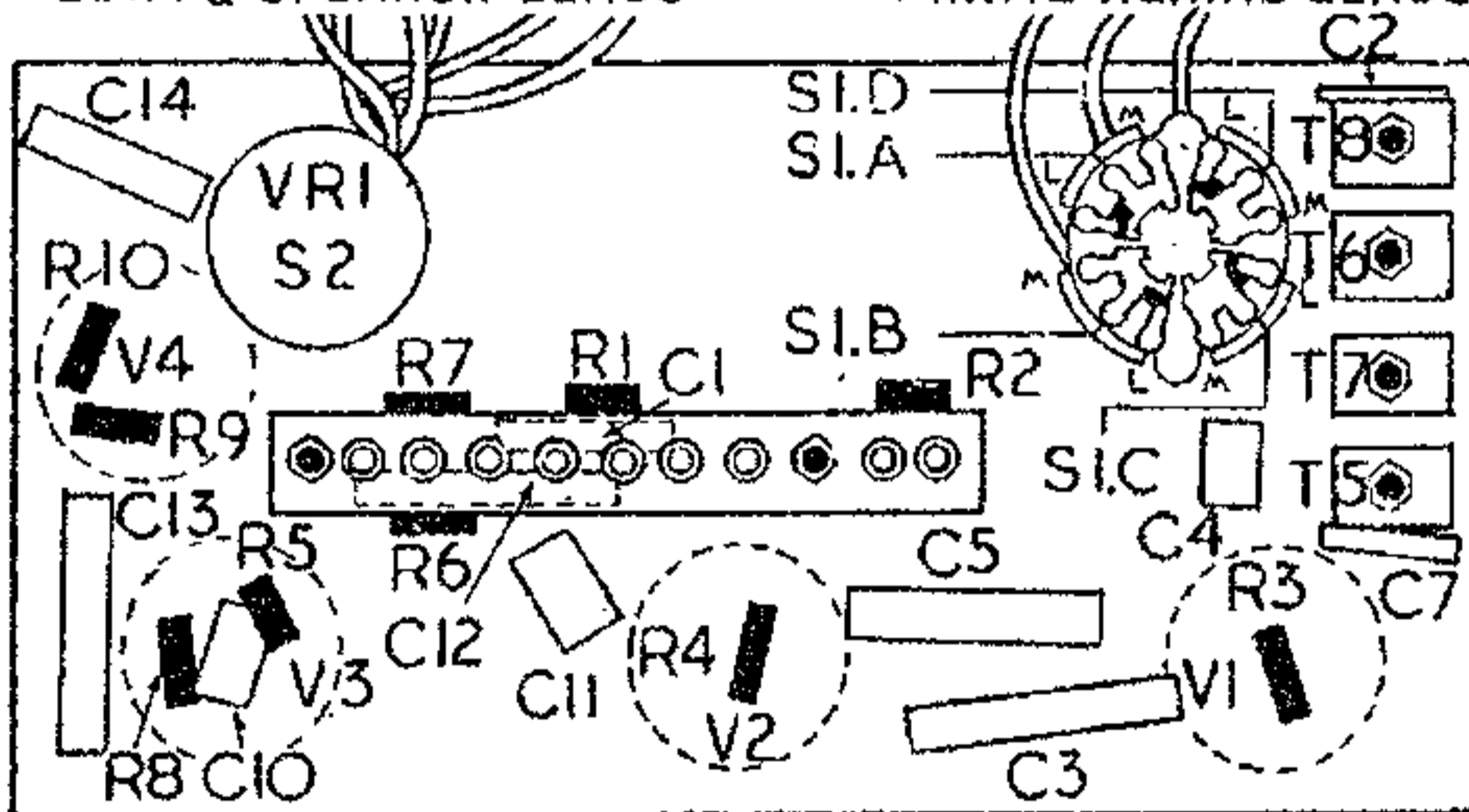
MW Band.—Check calibration to see that the indicator coincides with the end of the MW band scale when the ganged condenser is at maximum capacity.

Tune receiver to 300 m and inject a signal of this wavelength into the control grid of V1 via a suitable dummy aerial. Adjust T5 and T6 for maximum output. Check calibration at 500 m.



LT. HT & SPEAKER LEADS

FRAME AERIAL LEADS



Top of chassis layout shows valves and coil cans in logical sequence with variable condenser and other controls mounted vertically.

Under the chassis, switch units and trimmers are particularly accessible, and the whole design results in a simple layout.

LW Band.—Tune receiver to 1,400 m and on a signal of this wavelength adjust T7 and T8 for maximum output. Check calibration at 1,800 m.

## VALVE READINGS

V	Type	Electrode	Volts	Ma.
1	DK1	Anode	95	.5
	Met	Osc anode	95	1.4
	All Mullard	Screen	45	1
	DF1	Anode	95	1.9
3	Met	Screen	95	.4
	DAC1	Anode	35	.07
	Met	—	—	—
DL2	Anode	—	90	4
	Screen	—	95	.8
	Bias across R10	—	10	—

Readings taken with a 1,000 o.p.v. meter with HT battery 105 volts on load, set on MW, no signal input and volume control at maximum.