PHILCO A5
A5RG

Four-valve, plus rectifier, three-band push-button superhet for 200-229 and 230-250 v., 50-100 cycles.

Circuit.—A single input circuit feeds a 6A7 frequency changer which is followed by a 78E I.F. amplifier and a 75 for detection, A.V.C. and L.F. amplification. The output valve is a 42E and the full-wave rectifier a type 80.

Pilot lamps: 6.3v. Consumption, 60 watts.

Wavebands: 16.5-50, 195-540, 1,000-2,000 metres. Permeability tuning for 2 L.W. and 3 M.W. stations. P.B. wave-switching.

Provision for P.U. and 2-3 ohm extension speaker.

GANGING

Connect output meter across output transformer primary (green and white leads). Turn VR2 clockwise. See that pointer registers with line on scale when gang is fully open. Use a dummy aerial, substituting 400 ohm resistor for S.W.

I.F.—Adjust at 451 kc.

Trap.—Adjust VC5 (nut) at 451 kc. for *minimum*.

S.W.—At 18 mc. adjust VC10 for last signal heard from tight.

Adjust VC9 while rocking gang.
Readjust VC10 with pointer at 18 mc.
M.W.—At 1,400 kc. adjust VC7 rocking gang.
At 600 kc. adjust VC6 (screw) rocking gang.
Readjust VC7 at 1,400 kc.
L.W.—At 290 kc. adjust VC8 and VC5 (screw).

At 160 kc. adjust VC6 (nut) rocking gang.
Readjust VC8 at 290 kc.

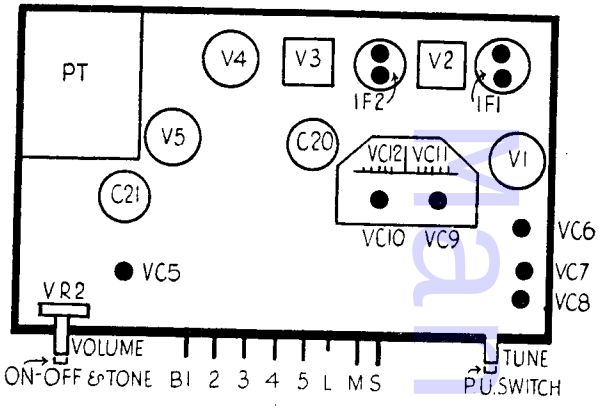
Note.—S.W. trimmers are in circuit on all bands and must be adjusted first.

BUTTON ADJUSTMENT

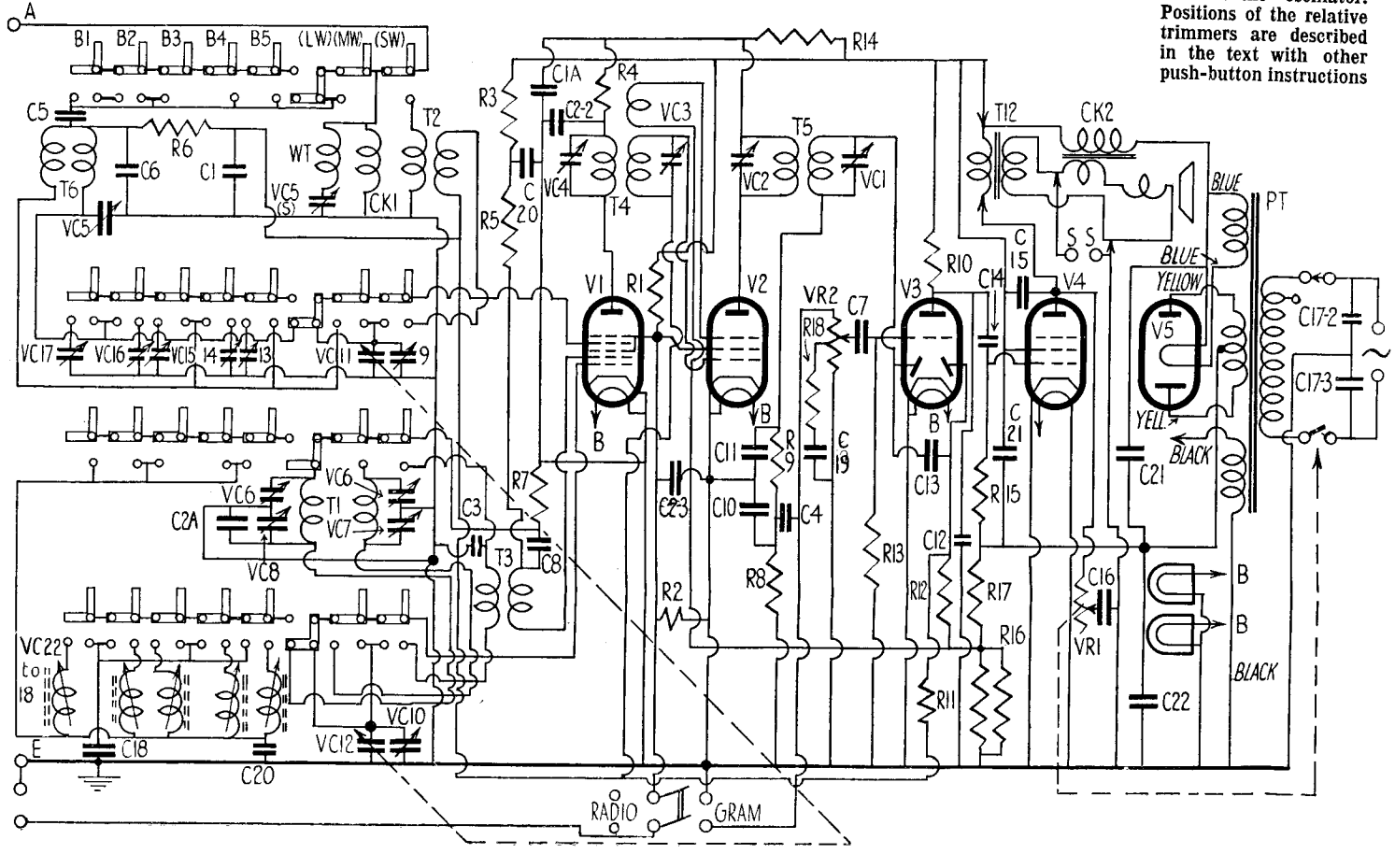
If a button is to be set to a higher wavelength, the trimmers have to be turned clockwise. Adjust oscillator trimmer first. To make sure the set is not tuned to an image signal, rotate generator tuning through whole of M.W. and L.W. bands; only one signal should be obtained. Final adjustments should be made with the set connected to the aerial with which it will be used.

Button	Range (metres)	Osc. Trim.	Ae. Trim.
1	2,000–1,275	VC22	VC17
2	2,000–1,275	VC21	VC16
3	540–315	VC20	VC15
4	540–260	VC19	VC14
5	340–195	VC18	VC13

These button trimmers are situated in a group below the chassis in two rows, one for aerial trimmers, the other for oscillator trimmers. Looking from the rear with the chassis inverted, the trimmers run consecutively with the lowest numbers (VC13, VC18) on the right.



Auto tuning is by condensers in the aerial circuit and permeability coils in the oscillator. Positions of the relative trimmers are described in the text with other push-button instructions



VALVE VOLTAGES

V	Type	Anode	Screen
1	6A7	240	88
		170 (OSC.)	
2	78E	255	88
3	75	47	—
4	42E	270	280
5	80	320 A.C. (365v. D.C.)	

RESISTANCES

R	Ohms.	R	Ohms.
1	32,000 (2w.) or 30,000 (2)	10	250,000 (.25)
2	51,000 (.5)	11	1 meg. (.25)
3	15,000 (.25)	12	1 meg. (.25)
4	3,000 (.5)	13	9 meg. (.25)
5	6,500 (.25)	14	2,000 (.25)
6	50,000 (.25) or 51,000 (.25)	15	330,000 (.25)
7	40,000 (.25)	16	68 (.25)
8	330,000 (.25)	17	58+238+180
9	50,000 (.25) or 51,000 (.25)	18	65,000 (.25)
		VR1	100,000
		VR2	2 meg. tapped at 1 meg.

CONDENSERS

C	Mfds.	C	Mfds.
1	.04	12	100 mmfds.
1A	.1	13	100 mmfds.
2	.09+.09	14	.005
2A	60 mmfds.	15	.006
3	2,700 mmfds.		or .0065
4	.01	16	.01
5	.01	17	.015+.015
6	4,600 mmfds.	18	370 mmfds.
7	.01	19	.006
8	250 mmfds.	20	16
10	100 mmfds.	21	8+16
11	100 mmfds.	22	50

WINDINGS

No.	Ohms.	No.	Ohms.
CK1	20	T4(S)	12
WT	12	T4(tertiary)	less than .1
T6	25	T5(P)	8
T2(S)	.1	T5(S)	12
T1	16.5 & 3	T12(P)	240
T3(S)	.5	T12(S)	.2
T7	.2	Speech coil	2
T8, T9	2.5	CK2	1,140
T10	5	PT(P)	20
T11	5	PT(P tap)	18
T4(P)	8	HT(S)	240