

COSSOR 73

Fivevalve, plus tuning indicator and rectifier, three waveband super-het for A.C. supplies.

Circuit.—Transformer coils for each band couple the aerial to V1, a signal amplifier, and V1 to V2, the frequency changer. Tuned grid oscillator coils are employed. The I.F. transformers coupling V3, the amplifier, and V5, the double-diode triode, are permeability tuned. I.F.1 has variable band-width controlled by a switch ganged with the tone control. The extra turns either add to or oppose the coupling.

V5 provides signal rectification, A.V.C. and L.F. amplification, and operates V4, the electronic tuning indicator. Resistance-capacity coupling leads to V6, an output triode. V7 is a full-wave rectifier.

The speaker field is in the negative H.T. lead and voltages are tapped from a shunt potentiometer for output valve and A.V.C. bias.

V6, V7, the mains transformers, and C37+C38 are on a separate small power chassis, together with the bias network.

Dial lamps.—6.5 v., .3 amp., M.E.S.

Wavebands.—16-52.5, 195-560, 810-2,085 metres.

Provision for P.U. and 3,000 ohms extension speaker. Push plug right in to disconnect internal speaker; with plug half-way, both speakers operate.

The valve readings were taken with a popular test meter and are only approximate. The receiver was tuned to 320 metres. Chassis was taken as negative, except for unsmoothed H.T. voltage. The triode section of V2 should be oscillating; shorting R19 or C36 should cause an increase in anode current.

GANGING

I.F. CIRCUITS.—Remove sealing paper and soften wax by warm screwdriver. Switch to

M.W., minimum band width. Adjust cores at 465 kcs.

M.W. BAND.—Adjust C19, C8 and C3 at 214 metres (1,400 kcs.). Reduce input as circuits come into line.

Padding is by fixed condenser, C20.

L.W. BAND.—Adjust C23, C7 and C2 at 1,200 metres (250 kcs.).

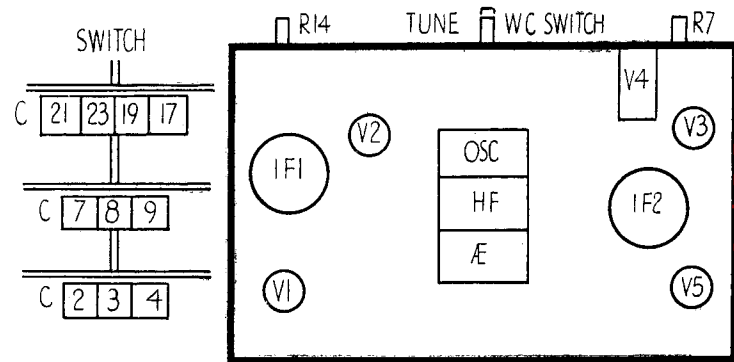
Adjust C21 at 160 kcs., rocking gang. Repeat operations.

S.W. BAND.—Inject 18 mcs. and adjust C17; using lower capacity signal. Adjust C9 and C4. There is no padding.

VALVE VOLTAGES

V	Type	Electrode	Volts	Ma.
1	MVS/Pen	Anode	265	6.2
		Screen	126	2
2	41STH	Anode	265	2.6
		Screen	126	4.8
		Osc. anode	78	5.9
3	MVS/Pen.B	Anode	229	6
		Screen	126	2.1
4	41ME	Anode	25	.01
		Target	265	.065

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A separate power unit, not shown above, carries V6, V7, the mains transformer, C37 and 38 and the bias network. Output plug colours are: 7, yellow; 8, red; 9, black; 10, blue. V6 has 2-v. filament.

VALVE VOLTAGES

V	Type	Electrode	Volts	Ma.
5	DDT	Anode	126	2.6
6	4XP	Anode	251	49
7	43IU	Anode	321 A.C.	—
		Cathode	366 D.C.	80

RESISTANCES

R	Ohms.	R	Ohms.
1	15,000	13	.1 meg.
2	30,000	14	.1 "
3	300	15	25 C.T.
4	.5 meg.	16	20,000
5	2 "	17	.3 meg.
6	1 "	18	.75 "
7	.5 "	19	25,000
8	50,000	20	.5 meg.
9	50,000	21	5,000
10	.1 meg.	22	25 C.T.
11	2 "	23	2 meg.
12	.5 "	24	2 "

CONDENSERS

C	Mfds.	C	Mfds.
1	.005	29	50 mmfds.
6	.1	30	50 "
11	.05	31	50 "
12	.05	32	.1 "
13	.1	33	.01 "
14	.0002	34	.03 "
15	.0001	35	10 "
16	.1	37+38	16+16 "
20	570 mmfds.	39	.05 "
22	120 "	40	.1 "
24	225 "	41	40 mmfds.
25	225 "	42	15 "
27	60 "	43	15 "
28	75 "	44	2 "
		45	.01 "

WINDINGS

L	Ohms.	L	Ohms.
1	.1	15	3.6
2	V. low	16	1.7
3	.16	17	9.4
4	2.7	18	3.28
5	115	IF1 (P. & S.)	3.5
6	36	IF2 (P. & S.)	18
7	.5	Output trans. P.	170
8	V. low	Output trans. S.	.17
9	.5	Speech coil	5
10	2.7	Mains trans. P.	29
11	13	H.T. S (total)	25C
12	31	Heater 8	.05
13	V. low	Rectifier S	.1
14	.5	Field coil	1,250

