

R.G.D. 3611 and 5311

Eleven - valve, including rectifier and tuning indicator, four-wave-band superhet for A.C. mains operation, with motor-operated push-button tuning and automatic frequency correction. Model 3611 is a console and 5311 an auto-radiogram version. Made by Radio Gramophone Development Co., Ltd., Hospital Street, Bridgnorth.

Circuit.—Transformer coils on each of the four bands couple the aerial to V1, an R.F. amplifier. Similar coils, but with common M. and L.W. primary, provide tuned grid coupling to V2, the frequency - changer. This has tuned anode oscillator coils with reaction coils in the grid circuit.

An iron-cored variable selectivity I.F. transformer links up V4, the I.F. amplifier, and

another transformer energises a demodulation diode of V6 in the usual way. The triode of V6 resistance-capacity feeds V8, an L.F. amplifier, with loads in both anode and cathode paths to provide opposite phase signals for V9 and V10, the push-pull output valves.

V11 is a full-wave rectifier with the speaker field and electrolytics for smoothing.

To compensate for any mechanical errors in the automatic tuning, the oscillator frequency is automatically adjusted by an arrangement using a control valve, V3, and a "discriminator," V5.

Off-tune I.F. signals provide voltages at the anodes of V5 and, according to whether the I.F. is high or low, control the potential across R21, R22. This potential controls the operating point of V3, which acts as an inductance across the oscillator circuit.

V5 also provides the usual A.V.C. control.

GANGING

I.F. CIRCUITS.—Set receiver to 1,000 m. and selectivity to position 3. Screw T1 right out.

Inject 465 kc. to V4 grid and adjust I.F.2 trimmers for maximum. Transfer to V2 grid and adjust I.F.1.

With output meter reading about 10 volts adjust T1 for minimum.

Short V5 cathodes, tune in station near 340 m., put signal generator lead near V4 grid, inject 465 kc. and adjust for zero beat. Unstrap V5 cathodes and adjust T1 for zero beat.

L.W. BAND.—Inject 1,000 m. and adjust T2, T3 and T4. Pad with T5 in region of 2,000 m.

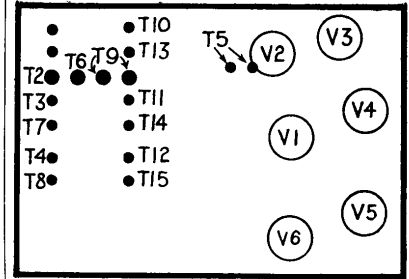
M.W. BAND.—Inject and tune 210 m. and adjust T6, T7 and T8. Pad with T9, rocking gang slightly at 500 m.

S.W.2 BAND.—Adjust T10, T11, and T12 at 50 m. Padding is fixed.

S.W.1 BAND.—Adjust T12, T13, and T14 at 16.5 m., using lowest capacity peak of T12. Padding is fixed.

AUTO-TUNING

Tune in required station manually. Select button and associated selector. Beginning at the second button from the left, the associated



How trimmers are located under the chassis. Two of them 'are dummies.

colours are: yellow, white, red, blue, black, brown, red-white, red-black.

Remove red plug from socket, and plug-in white from selector contact. Insert red in selector contact. Indicator lamp will now light when button is pressed.

Slide contact towards division of selector until lamp goes out. Replace plugs in original positions.

VALVE READINGS

V	Type	Electrode	Volts
1	VP41	Anode	240
		Screen	210
		Bias	2.7
2	TH41	Anode	250
		Screen	105
		Osc. Anode	100
		Bias	3
3	SP41	Anode	210
		Screen	210
		Bias	2.7
4	VP41	Anode	230
		Screen	210
		Bias	3
5	DD41	(A.V.C. & A.F.C. valve)	
6	HL41DD	Anode	140
		Bias	3.4
7	TV4A	Target	290
		Cathode	0
8	HL41	Anode	210
		Cathode	75
		Bias	2.7
9, 10	PP3-250.	Anode	320
		Bias	35
11	UU4	Cathode	400 D.C.

Dial lamps, 6.2 v., .3 amp.

This set is a push-pull eight, plus two A.F.C. valves and a tuning indicator.

RESISTANCES

R	Ohms.
1	76
2	5
3	100
4	100
5	100
6	220
7	330
8	330
9	1,400
10	1,500
11	6,800
12	6,800
13	12,000
14	15,000
15	47,000
16	47,000
17	56,000
18	100,000
19	100,000
20	27,000
21	680,000
22	1 meg.
23	1 meg.
24	1 meg.
25	1.8 meg.
26	1.8 meg.
27	27,000
28	39,000
29	500,000
30	1,400
31	27,000
32	27,000
33	33,000
34	33,000
35	180,000
36	180,000
37	400
38	470,000
39	750
40	18,000
41	100
42	500,000
43	3
Field	500

CONDENSERS

C	Mfds.	C	Mfds.
1	90 mmfds.	19	.1
2	200 mmfds.	20	.1
3	270 mmfds.	21	.1
4	520 mmfds.	22	.1
5	1,600 mmfds.	23	.1
6	3,300 mmfds.	24	.1
7	.00015	25	.1
8	.0005	26	.1
9	.0001	27	.1
10	.0001	28	.1
11	.004	29	.1
12	.01	30	.16
13	.01	48	200 mmfds.
14	.02	49	.1
15	.04	50	.1
16	.04	51	.16
17	.1	52	.16
18	.1	53	25 mmfds.

