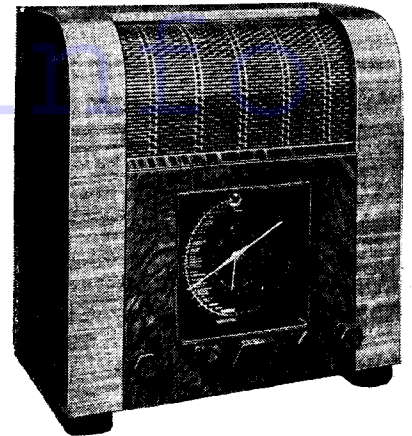


R.G.D. 718 THREE-BAND A.C. FIVE



The R.G.D. 718 is a five-valve plus rectifier three-waveband table super-
retail at 18 gns.

CIRCUIT.—The aerial input to the grid of V1, an H.F. pentode operating as an H.F. amplifier, is via aerial transformers. Transformers also effect the coupling between V1 and the signal grid of V2, a triode hexode frequency changer. On the short waves the H.F. transformer includes a primary-secondary coupling condenser. The oscillator section follows standard practice.

A variable band width (variable selec-

tivity) I.F. transformer couples V2 to the I.F. amplifier V3, an H.F. pentode. The I.F. transformer is tuned to 460 kc.

A fixed band width I.F. transformer feeds the demodulating diode of V4, a double diode triode, and the connections to the demodulating diode load include an H.F. filter circuit. The rectified impulse is fed to the grid of the triode section of V4 via an L.F. coupling condenser and manual volume control.

The other diode of V4 provides a D.C. potential that operates the visual tuning

indicator and also the A.V.C. line feeding the grids of V1, V2 and V3.

V4 is resistance capacity coupled to V5, the output valve, and the coupling arrangements include a bass control switch that reduces bass by connecting a fixed condenser in series with the L.F. coupling condenser and a treble response switch that reduces treble by shunting top notes to the earth line. A pentode compensator condenser is included.

Mains equipment consists of a mains transformer, a full-wave rectifying valve V6, electrolytic smoothing condensers, and a smoothing choke (the speaker field coil).

Chassis Removal.—The cabinet has a false bottom, removal of which enables the underside of the chassis to be exposed. Take off back (secured by two screws) and the five grub-screw-fixed control knobs. Remove the four chassis-securing bolts and washers from the base.

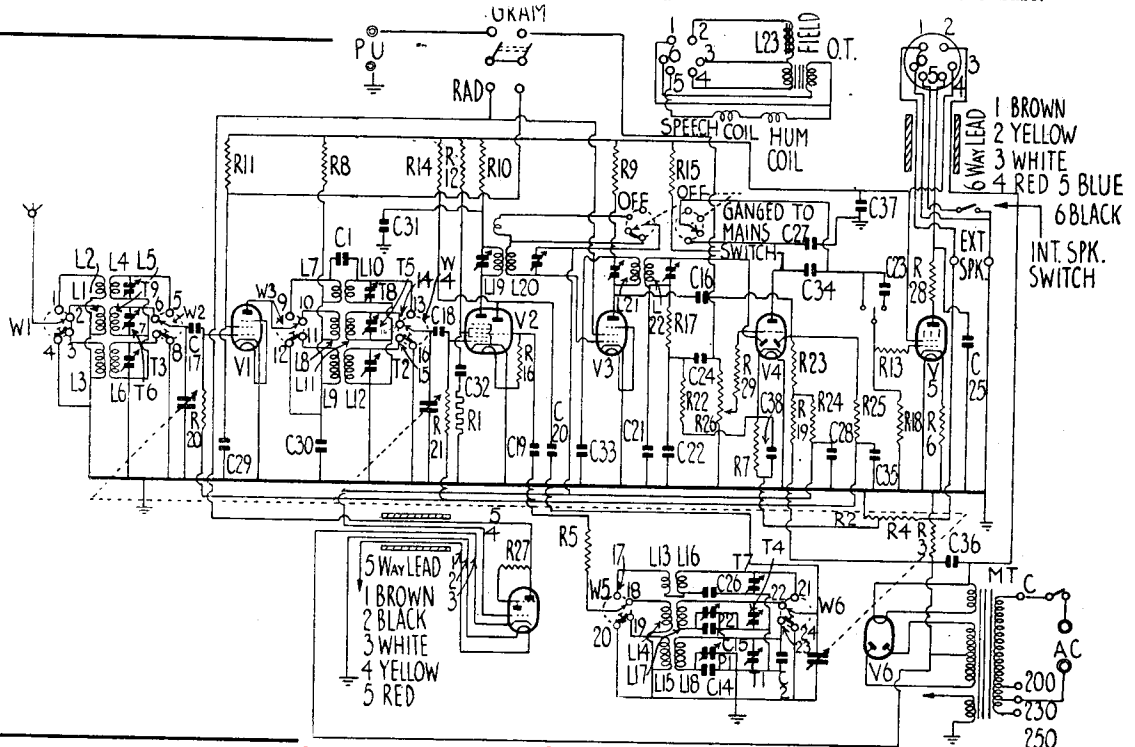
RESISTANCES

R.	Purpose.	Ohms.
1	V2 screen modifier resistance	760,000
2	Bias potentiometer (part)	20
3	Delay resistance	60
4	Bias potentiometer (part)	28
5	Regeneration modifier	100
6	V5 cathode bias	115
7	V4 cathode bias	700
8	V1 anode decoupling	1,000
9	V3 anode decoupling	1,000
10	V2 anode decoupling	6,500
11	V1 screen decoupling	10,000
12	V2 screen decoupling	25,000
13	V6 grid stopper	25,000
14	Osc. anode load	40,000
15	V4 anode load	40,000
16	Osc. grid leak	150,000
17	H.F. stopper	50,000
18	V5 grid leak	100,000
19	A.V.C. diode load (part)	200,000
20	V1 A.V.C. decoupling	490,000
21	V2 A.V.C. decoupling	490,000
22	Demodulating diode load	500,000
23	A.V.C. diode load (part)	500,000
24	V3 and T.I. A.V.C. decoupling	1 meg.
25	A.V.C. line decoupling	1 meg.
26	Volume control	2 meg.
27	T.I. anode feed	2 meg.
28	V5 anode stabiliser	50
29	V4 grid stopper	50,000

CONDENSERS

C.	Purpose.	Mfds.
1	S.W. H.F. extra coupling	.000005
2	L.W. osc. fixed trimmer	.00005
14	L.W. osc. fixed padder	.00011
15	M.W. osc. fixed padder	.000465
16	A.V.C. diode coupling	.00005
17	V1 grid isolator	.00015
18	V2 grid isolator	.00015
19	Osc. grid	.0001
20	Osc. anode coupling	.0001
21	H.F. bypass	.0001
22	H.F. bypass	.0001
23	Tone control	.001
24	L.F. coupling	.001
25	Pentode compensator	.001
26	S.W. osc. fixed padder	.003
27	Tone control	.04
28	T.I. and V3 A.V.C. decoupling	.04
29	V1 screen decoupling	.1
30	V1 anode decoupling	.1
31	V2 anode decoupling	.1
32	V2 screen decoupling	.1
33	V3 anode decoupling	.1
34	L.F. coupling	.1
35	A.V.C. line decoupling	.1
36	H.T. smoothing	8
37	H.T. smoothing	16
38	V4 cathode bias shunt	50

A variable band width I.F. transformer providing variable selectivity couples V2 to the I.F. amplifier V3 in the R.G.D. 718 circuit. The A.V.C. line feeds the grids of V1, V2 and V3.



For more information remember
www.savoy-hill.co.uk

If the speaker-connecting plug be withdrawn from its connecting member on the speaker panel, the chassis may be removed from the cabinet free of all leads.

If desired, the speaker (secured by four bolted clips) may also be removed and reconnected to the chassis externally.

Special Notes.—The mains adjustment device is located at the rear of the chassis and takes the form of an insulating panel with three sockets marked with voltage values.

A Q.M.B. switch at the rear of the chassis cuts off radio reception for gramophone reproduction. A pair of sockets enables a pick-up to be connected.

An insulating panel with sockets at the rear of the chassis provides connections for a 2 to 4 ohm extension speaker, and control of the internal speaker is obtained with the special plug provided.

The connections to the field and speaker are made by means of a non-reversible plug, details of which are given in the circuit diagram.

The three dial lamps of the receiver have M.E.S. bases and are rated at 6.2 volts .3 amp. Two operate as dial-illuminating devices, and the other illuminates a waveband indicating panel.

Alignment Notes

I.F. Circuits.—Switch receiver to M.W. band, turn gang to maximum capacity, volume to maximum, and tone and selectivity controls to "high" (position 2). Connect an output meter across the primary of the speaker transformer and a service oscillator between the top grid cap of V2 and chassis.

Tune service oscillator to 460 kc. and adjust the trimmers of I.F.T.2 and then I.F.T.1 for maximum response, reducing the input from the service oscillator as the circuits come into line to render the A.V.C. inoperative.

Signal Circuits.—Connect the service oscillator to the aerial and earth sockets via a dummy aerial, only feeding sufficient input from the service oscillator to obtain reliable peaks in the output meter.

(Continued on page 19)

R.G.D. 718 on Test

MODEL 718.—Standard model for A.C. mains, 200-250 volts, 40-100 cycles. PRICE 18 GNS.

DESCRIPTION.—Five-valve plus rectifier table superhet covering three wavebands.

FEATURES.—Full-vision, airplane-type scale calibrated in metres and station names. Concentric tuning with separate high-speed pointer operating as a vernier device. Other controls for wave selection, bass tone switch, volume and combined selectivity tone and master switch. Sockets for pick-up and extension speaker with internal speaker switch. Gram./radio switch at rear of chassis. Visual tuning indicator. Elliptical speaker.

LOADING.—90 watts.

Sensitivity and Selectivity

SHORT WAVES (16.5-50 metres).—Very good sensitivity and easy handling with no drift. Gain well maintained.

MEDIUM WAVES (195-550 metres).—Excellent gain and selectivity with a very clean background. Local station spread on adjacent channels only.

LONG WAVES (800-2,000 metres).—Excellent selectivity giving all main stations, including Deutschlandsender, with no interference.

Acoustic Output

Ample volume for a large room, with an exceptionally pleasing balance in the high-fidelity position. Attack is crisp and is combined with good low-note radiation and very natural reproduction of speech.

QUICK TESTS

Quick tests are available on the connecting plugs of the speaker panel. Voltages measured between these and the chassis should be:

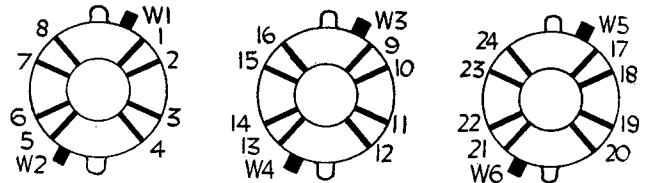
- No. 2, 330 volts, unsmoothed H.T.
- No. 3, 250 volts, smoothed H.T.
- No. 4, 235 volts, smoothed H.T.

VALVE READINGS

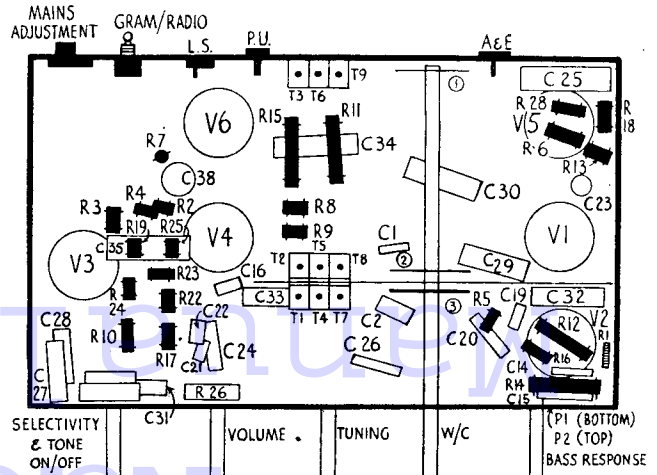
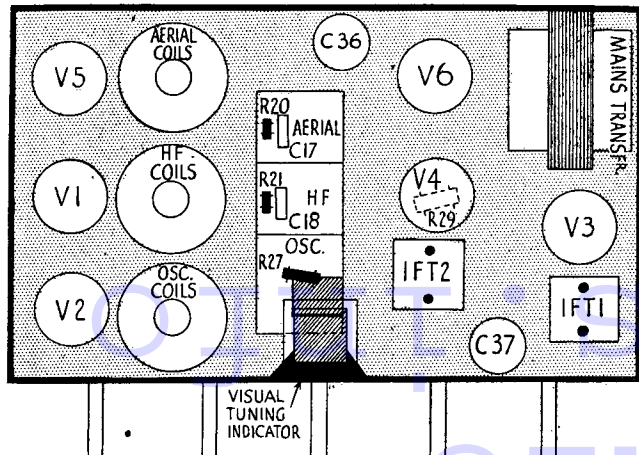
No signal. Volume maximum. M.W. min. capacity. 200 volt A.C. mains.

V.	Type.	Electrode.	Volts.	Ma.
<i>Mazda valves except 4.</i>				
1	AC/VP2	Anode	242	8.4
		Screen	200	2
2	AC/TH1	Anode	225	2.5
		Screen	100	6.5
		Osc. anode	85	3.6
3	AC/VP2	Anode	245	7.1
		Screen	200	2
<i>Mullard.</i>				
4	TDD4	Anode	115	3.5
5	AC/4/Pen	Anode	235	58
		Screen	250	10.7
6	UU4	Cathode	330	—

Switch connections in the R.G.D. 718 are shown on the right. Below are the chassis layouts, the top and underside views being on the left and right respectively.



WINDINGS (D.C. Resistances)			
L.	Ohms.	Range.	Where measured.
1	2.2	S.W.	W1 and chassis.
2	37.2	M.W.	W1 and chassis.
3	72.8	L.W.	W1 and chassis.
4	Below .1	S.W.	W2 and chassis.
5	5.3	M.W.	W2 and chassis.
6	22.4	L.W.	W2 and chassis.
7	1.8	S.W.	W3 and C30.
8	1.2	M.W.	W3 and C30.
9	1.5	L.W.	W3 and C30.
10	Below .1	S.W.	W4 and chassis.
11	5.2	M.W.	W4 and chassis.
12	21	L.W.	W4 and chassis.
13	.25	S.W.	W5 and C26.
14	1.2	M.W.	W5 and chassis.
15	2.5	L.W.	W5 and chassis.
16	Below .1	S.W.	W6 and C26.
17	3.5	M.W.	W6 and P2.
18	8.9	L.W.	W6 and P1.
19	6	—	Anode V2 and R10.
20	5	—	Top grid V3 and R24 + C28.
21	6	—	Anode V3 and R9.
22	4.8	—	R17 and diode V4.
23	750	—	Spkr. panel pins 2 and 3.
O.T. prim.	230	—	Spkr. panel pins 3 and 4.
M.T. prim.	21	—	Mains plug 250 tap.
Total H.T. sec.	330	—	Anode pins V6.



the corresponding I.F. transformer coil cans.

A small button on the wave selection control knob shaft switches on two dial lights when pressed. The dial lights have M.E.S. bases and are mounted in holders clipped to brackets behind the wavelength scale. They are rated at 2.6 volts .3 amp.

The cabinet is fitted with a lid that can be locked to prevent unauthorised operation, and a snap catch secures the lid for normal purposes.

Circuit

Alignment Notes

I.F. Circuits.—Connect an output meter across the primary of the speaker transformer, short-circuit the oscillator section of the gang and turn volume control to maximum. Connect a service oscillator

between the top grid cap of V1 and chassis and shunt with a 250,000-ohms resistance.

Tune the service oscillator to 473 kc. and adjust first the trimmers of I.F.T.2 and then I.F.T.1 for maximum response, reducing the input from the service oscillator as the circuits come into line to render the A.V.C. inoperative.

Signal Circuits.—Remove the short circuit from the oscillator section of the gang, replace normal top grid of V1, and connect the live side of the service oscillator to a length of wire and bring it near the frame aerial windings. Only inject sufficient input from the service oscillator to obtain reliable peaks in the output meter. Progressively reduce the input as the circuits come into line.

If the receiver is exceptionally weak at the top ends of the bands, then the padders will need adjustment when the chassis will have to be removed. Otherwise adjustment of the aerial and oscillator trimmers may be carried out with the receiver mounted in the case.

Medium Waves.—Tune set and oscillator to 220 metres (1,363 kc.) and adjust the M.W. oscillator trimmer T1 to bring in signal, then T2 (upper trimmer on bakelite strip on side of cabinet) for maximum response.

Tune set and oscillator to 500 metres (600 kc.), and adjust P1 for maximum, simultaneously rocking the gang.

Repeat both operations until no further improvement results.

Long Waves.—Tune set and oscillator to 1,000 metres (300 kc.) and adjust T3 and then T4 for maximum response. T4 is the lower trimmer on the bakelite strip on the side of the cabinet.

Tune set and oscillator to 2,000 metres (150 kc.) and adjust P2 for maximum, simultaneously rocking the gang.

Repeat both operations until no further improvement results.

R.G.D.718 THREE BAND

Continued from Page 17

Long Waves.—Tune set and oscillator to 800 metres (375 kc.), and adjust T1, T2 and then T3 for maximum response.

Tune set and oscillator to 2,000 metres (150 kc.), and adjust P1 for maximum, simultaneously rocking the gang.

Repeat both operations until no further improvement results.

Medium Waves.—Tune set and oscillator to 220 metres (1,363 kc.), and adjust T4, T5 and then T6 for maximum.

Tune set and oscillator to 550 metres (545 kc.), and adjust P2 for maximum, simultaneously rocking the gang.

Vidor 288 on Test

MODEL CN288.—Standard model for battery operation requiring a Vidor 108-volt H.T., Type 17872, and a Vidor 2-volt 25 A.H. accumulator, Type 11581. PRICE 8 gns.

DESCRIPTION.—Four-valve, two-waveband, superhet portable.

FEATURES.—Contained in attractive leatherette-covered case with detachable carrying strap. Top of cabinet fitted with a lid which covers a white control panel. A lock and key is provided. Full-vision dial, calibrated in metres and station names. Controls for waveband selection, tuning and combined volume and master switch. Small button provided to control operation of dial light.

LOADING.—H.T. 9.6 m.a. L.T. 0.55 amp.

Sensitivity and Selectivity

MEDIUM WAVES (200-550 metres).—Quite good gain giving all the main stations in daylight. Sensitivity well maintained and background good.

LONG WAVES (1,000-2,000 metres).—Very good sensitivity. All main stations easily received with no interference.

Acoustic Output

Representative volume for a small battery portable with a well-balanced output. No undue colouration on speech and general pleasing tone.

VALVE READINGS

No signal. Volume maximum. M.W. band min. capacity. New batteries.

V.	Type.	Electrode.	Volts.	Ma.
1	Mullard's except (3). FC2A	Anode ..	102	1.1
		Screen ..	44	1.2
		Osc. anode ..	112	1.2
2	VP2B	Anode ..	102	1.7
		Screen ..	44	.6
3	Mazda HL 2 DD	Anode ..	58	.3
4	PM 22A	Anode ..	100	3.2
		Screen ..	102	.3

WINDINGS (D.C. Resistances)

L.	Ohms.	Range.	Where measured.
1 ..	2.6	M.W.	Top grid V1 and chassis.
2 ..	30	L.W.	Top grid V1 and chassis.
3 ..	6	M.W.	C1 and P1.
4 ..	5.4	L.W.	C2 and P2.
5+R3	2300	—	Osc. anode V1 and C13.
6 ..	3	—	Osc. anode V1 and C3.
7 ..	5.8	—	Anode V1 and screen V4.
8 ..	6.8	—	Top grid V2 and C8.
9 ..	6	—	Anode V2 and screen V4.
10 ..	3.8	—	R4+R5 and diode V3.
O.T. prim.	800	—	Across tags.

Right, the switch connections of the Vidor CN 288. Below is shown the chassis layouts, left being the view from above and right the underside.

