

DEFIANT 770 AC-DC

Four-valve, two-waveband TRF receiver fitted with permanently-attached aerial and extension loudspeaker sockets. Suitable for 200 to 250V AC-DC mains. Housed in walnut veneered table cabinet. Marketed by Co-operative Wholesale Society, Ltd., Manchester.

AERIAL is fed through isolating capacitor C1 to series coupling coils L1 (MW), L3 (LW). Earth is coupled to chassis through C2 and aerial and earth sockets are shunted by static drain resistor R1. The series grid coils L2 (MW), L4 (LW) are tuned by VC1 and coupled to variable-mu pentode RF amplifier V1.

On MW band S1, S2 short circuit the LW aerial and grid coils L3, L4, respectively. Trimmer T1 is used for MW alignment there being no LW adjustment. Gain of V1 is controlled by adjustment of its cathode bias by volume control R2.

When R2 is set for maximum gain it is shunted across the aerial coils to give damping for stability. As gain of V1 is reduced the damping effect of R2 on the aerial coils is also reduced.

Screen voltage is obtained from R5 decoupled by C4. RF choke L15 is the anode load.

Signal rectifier. Signal at anode V1 is choke-capacity coupled by L15, C5 to series grid coils L6 (MW), L8 (LW), which are tuned by VC2 and trimmed on MW by T2. On MW band L8 (LW) damped by R7 is shorted out by S4. Reaction from anode V2 controlled by VC3 is inductively coupled

by L5 (MW), L7 (LW), to grid coils. L7 is shorted out by S3 when receiver is tuned to MW band.

Signal developed on grid coils is fed by C6 to pentode V2 which is operated as a leaky-grid detector. Leak resistor R8 is returned to chassis through R16 to give grid a slight positive bias. Screen voltage of V2 is obtained from R12 decoupled by C8. R10 is anode load whilst R11, C9, C10 give anode filtering. HT to V2 is decoupled by R9, C7.

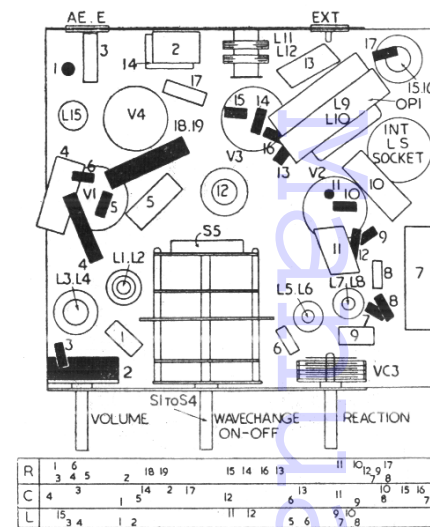
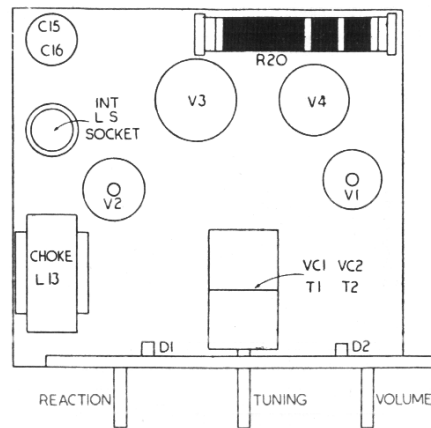
Output stage. Signal at anode V2 is fed by C11, R14 to beam tetrode output valve V3. R13 is its grid resistor and R14 a grid stopper. Cathode bias is provided by R15, R16 decoupled by C12.

Output transformer OPI in the anode circuit feeds signal to a 6½ in. PM speaker L14. Sockets are provided on secondary L10 of OPI for connection of a low-impedance extension speaker. Provision is made for silencing the internal speaker. Secondary L10 and speaker L14 are earthed to chassis through C14.

HT is provided by an indirectly-heated half-wave rectifier V4. Its anode voltage is obtained from the mains through section of mains dropper R20. Choke-capacity smoothing is given by L13, C15, C16. R17 acts as limiter to protect rectifier from excessive current flow when switching on. C16 should be rated to handle 150mA ripple current.

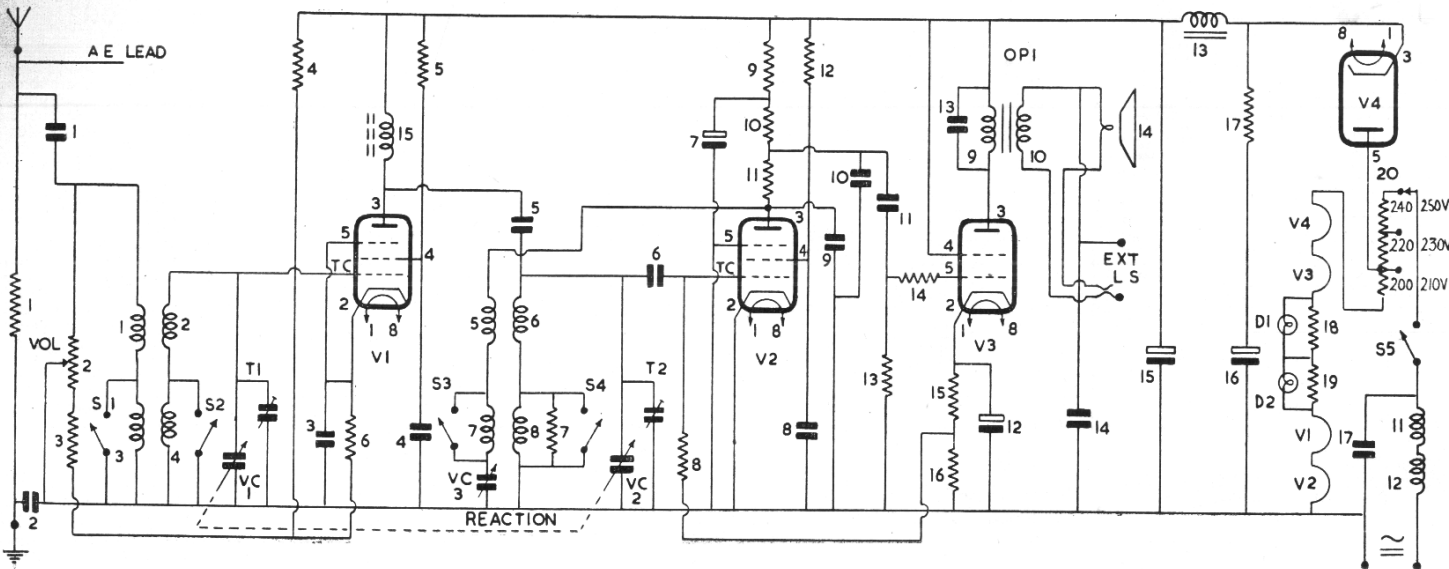
Heaters of V1 to V4 and dial lamps are series connected and obtain their current from the mains through tapped dropper resistor R20. Dial lamps have shunt resistors R18, R19. Mains input is fed through filter L11, L12, C17 and switched by S5.

Alignment. Connect output meter across secondary L10 of OPI using extension speaker sockets. Place reaction control at minimum (fully anti-clockwise) and volume control at maximum (fully clockwise). Tune receiver to 250 metres and inject 11.2mc/s modulated signal into aerial socket. Adjust T1, T2 for maximum output on meter.



For years dealers have asked in vain for details of Co-op sets. We are pleased to say that the CWS recently consented to make information about models no longer current available to ELECTRICAL AND RADIO TRADING.

V1 - VP133	V2 - VP133	V3 - PEN 383	V4 - U403	DIAL LAMPS
				 3.5V .15A



RESISTORS

R	Ohms	Watts
1	2.2M	1/2
2	20K	WW
3	1K	
4	47K	
5	33K	
6	180	
7	100K	
8	1M	
9	10K	
10	100K	
11	10K	
12	470K	
13	470K	
14	47K	
15	150	
16	10	
17	47	
18	50 Centre Tapped	
19	.2A Type	
20	490 Mains Dropper	

INDUCTORS

L	Ohms
1	16
2	1.7
3	85
4	22

RESISTORS

R	Ohms	Watts
5	27	
6	1.7	
7	80	
8	14.5	
9	250	
10	.2	
11	3	
12	160	
13	2.5	
14	130	
15	130	

CAPACITORS

C	Capacity	Type
1	.001 Tubular	1000V
2	.02 Mica	1000V
3	.1 Tubular	500V
4	.02 Tubular	500V
5	50pF Silver Mica	
6	100pF Silver Mica	
7	8 Electrolytic	250V
8	.1 Tubular	500V
9	100pF Silver Mica	
10	300pF Silver Mica	
11	.02 Mica	
12	30 Electrolytic	12V
13	.001 Tubular	500V
14	.01 Mica	1000V
15	32 Electrolytic	350V
16	8 Electrolytic	350V
17	.02 Mica	1000V