

General Description : Four-valve (including rectifier), three-waveband superheterodyne receiver. Released 1946.

Power Supplies : A.C./D.C. mains, 95-115 volts (separate plug) and 190-260 volts. Consumption 41 watts at 220 volts A.C.

Wavebands : S.W. 16.5-51 m.; M.W. 198-575 m.; L.W. 750-2000 m.

Intermediate Frequency : 470 kc/s.

Ext. Loudspeaker : 5-7 ohms impedance.

Valve Analysis : Voltages measured using a 20,000-ohms/volt meter.

	Valve	V _a	I _a	V _{at}	I _{at}	V _{g2}	I _{g2}
B2	UCH21	148	1.75	102 *	4.15	78	5.0
B3	UCH21	148	4.5	33	1.75	78	3.0
B5	UBL21	165	43.5	—	—	147	7.0
B6	UY21						

Cathode to negative connection C1 180 v.

* Oscillatory condition.

Pilot Lamp : Philips, type 8095D-99 (25 volts, 0.1 amp.).

Notes : R1 may be two 2.2k resistors in parallel. For re-centring the loudspeaker speech coil use non-magnetic feeler gauges of 0.01 in. thickness.

Alignment Procedure : With wire trimmers, capacitance is reduced by removing turns of wire. When trimming, wire is removed until the deflection of the output meter passes its peak: turns are then replaced, the surplus cut off and the windings fixed with wax. Do not attempt to increase capacitance by adding wire, as extra turns cannot be wound tightly enough.

Warning—Chassis may be "Live".

I.F. : Tune receiver to 192 m. Apply a 470-kc/s. signal to grid of B2 via fixed 0.032-μF. capacitor. Damp and trim circuits as follows (damp circuits by connecting 80-pF. capacitors across windings indicated). (1) Damp S61, S62; trim S63, S64 (lower core). (2) Damp S53, S54; trim S61, S62, and S51, S52 (upper core). (3) Damp S51, S52; trim S53, S54 (lower core).

R.F. : Place scale centrally in slot and adjust gang to minimum capacitance. Adjust small milled screw on the pointer holder so that pointer coincides with small mark just below 200 m. mark on scale. Align in order indicated, applying modulated signal to aerial socket via a suitable dummy aerial.

Waveband	Signal Generator	Receiver Setting	Adjust for Maximum Response
S.W.	17.5 Mc/s.	17.5 Mc/s.	C14
M.W.	1440 kc/s.	1440 kc/s.	C38, then C18
L.W.	160 kc/s.	160 kc/s.	C50

Note : Oscillator frequency is higher than signal frequency on all ranges. Keep R.F. input as low as possible to prevent A.V.C. action.

Model 209U

Capacitors.

C1	47
C2	32
C6	492 pF.
C8	492 pF.
C14	32 pF.
C18	32 pF.
C19	39 pF.
C20	22 pF.
C38	32 pF.
C40	47 pF.
C48	432 pF.
C50	200 pF.
C75	75
C83	6,800 pF.

Resistors.

C85	4,700 pF.	R1	1,200
C100	1,000 pF.	R2	170
C101	120 pF.	R3	250
C102	470 pF.	R4	100
C103	82 pF.	R5	150
C104	47,000 pF.	R11	0.5M
C105	47,000 pF.	R12	47k
C107	100 pF.	R30	160
C108	68 pF.	R31	1M
C109	150 pF.	R32	10k
C110	47,000 pF.		
C111	56 pF.		
C112	1000 pF.		
C113	22,000 pF.		

R33	68k
R34	1M
R35	6.8M
R36	0.68M
R40	10k
R41	18k
R43	6.8M
R44	1M
R75	120
R81	47k

WAVE CHANGE SWITCH POSITION S.W.2.

SWITCH TURNS 2x90°

WAVE RANGES. S.W.2. M.W. L.W.

SWITCH CONTACTS MAKING

S.W.	23-1	9-12	14-13	19-24	-
M.W.	5-10	15-18	20-19	2-23	1-6
L.W.	11-13	2-1	8-5	10-12	-

