

VOLTAGE AND CURRENT CHECKS

Readings were taken with Avo model 7 under no-signal conditions with receiver tuned to 550 metres.

Valve No. and Type	Anode volts	Anode current mA	Screen volts	Screen current mA	Osc. anode volts	Cathode volts
V1 UCH42	165	4	90	2.5	90	—
V2 UF41	165	5	90	1.7	—	—
V3 UBC41	67	0.45	—	—	—	—
V4 UL41	190	40	130	6.5	—	6.8
V5 UY41	—	—	—	—	—	200

Unsmoothed HT at V5 cathode, 200V; part smoothed HT at low end of R12, 165V; smoothed HT at low end of R15, 130V; smoothed HT at low end of R19, 90V. Bias across R14, 2.1V. Total HT current at V5 cathode, 65mA.

To check that oscillator is functioning, earth V1 oscillator grid (pin 4) and note that oscillator anode current increases from about 4mA to approximately 8mA.

FIVE-VALVE, two-waveband transportable receiver for use on 200-250V AC (40-100c/s) and DC mains.

Manufacturer. Ferranti Radio and Television, Ltd., Ferranti House, Old Street, London, EC2.

Service Department. Ferranti House, Old Street, London, EC2.

Date released, April, 1954.

Price at time of release, 17gns., inclusive.

Aerials. Built-in frame aerials are provided, together with external aerial and earth sockets.

Waveband coverage. MW, 190-570 metres. LW, 1,000-2,000 metres.

Intermediate frequency is 470kc/s.

Valves. V1 (UCH42), triode-hexode frequency-changer; V2 (UF41), pentode IF amplifier; V3 (UBC41), double-diode-triode demodulator, AVC and LF amplifier; V4 (UL41) pentode power amplifier; V5 (UY41), half-wave rectifier. These valves are B8A based.

Dial lamp is rated 6.3V 0.115A MES fitting.

Speaker. 6½in. diameter PM.

Power output. 3 watts.

Power consumption on 230V AC is 50 watts, while on 220V DC it is 40 watts.

NOTES

Tone control. A .05mF 300V AC capacitor may be connected across T1 primary, in which case a plug and socket positioned near T1 enables the control to be switched in or out.

Drive cord length is 52in., material being Nylon-covered glass fibre, obtainable from Ferranti service department.

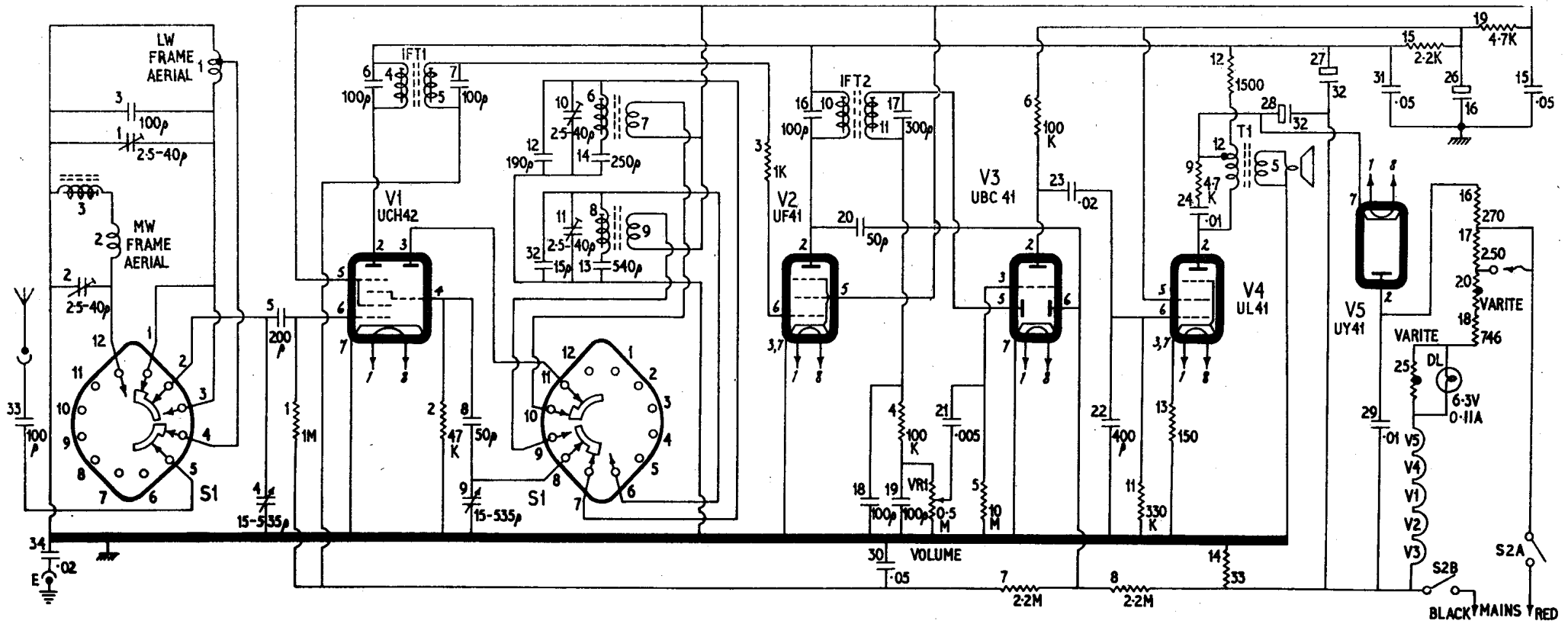
ALIGNMENT

Warning. To prevent shock or damage to equipment, receiver should be connected to mains so that chassis is neutral.

Setting up. Connect a high-resistance output meter (100V AC) via an 0.1mF series capacitor across primary of T1. During alignment input from signal generator should be maintained at a level which produces a meter reading of 10-20V.

COMPONENT RATINGS

Capacitors	Resistors	Inductors
750V : C33.	Wirewound : R12 16-18.	L
500V : C21 24.	½ watt : R5 13 15 19.	Ohms
350V : C3 6 7 13-16 23 30-32.	All others ¼ watt.	L
300V AC : C29.		Ohms
300V : C34.		L
Electrolytics 350V : C26-28.	Potentiometer	Ohms
	VR1 with DP switch.	L



A non-metallic trimming tool should be used for core adjustments.

IF stages. Switch to LW—clockwise, set gang at maximum—full meshed, and volume control at maximum.

Inject 470kc/s at pin 6 V1 via 0.1mF capacitor, i.e., front section of gang.

L11. Detune until core is fully unscrewed.

L5, L4, L10, L11. Adjust, in that order, for maximum output. Do not repeat these adjustments without first detuning L11 as described above.

RF stages. Alignment should be carried out with the frame aerials correctly mounted in the slot on baseboard and secured by the extension bolts to chassis. Frame aerial assembly should be handled with care, otherwise open-circuiting of connections to MW trimming coil L3 may occur, resulting in low gain on MW.

Alignment should not be carried out by injecting RF signals into aerial input socket.

Couple output from signal generator to receiver by means of a three-turn, 10in. diameter loop of stout-gauge enamelled copper wire. This should be placed in front of and parallel to receiver frame aerial at a distance of about 2ft. Signal generator should be connected to the loop via a non-inductive resistor approximately equal to the terminating impedance of the signal generator.

Should any of the alignment frequencies given below be unusable because of heterodyning by broadcasting stations, select a frequency a few kc/s away from the interfering station but as close as possible to the stated frequency.

Before commencing alignment, set gang capacitor to maximum (vanes fully meshed) and check that pointer coincides with end of calibrated scale.

MW. Switch to MW—anti-clockwise, and set volume control at maximum.

Tune signal generator to 500 metres (600kc/s) and set pointer to 500 metres on scale.

L8, L3. Tune for maximum output, in that order.

Tune signal generator to 200 metres (1,500kc/s), set pointer to 200 metres.

C11, C2. Adjust for maximum gain, in that order.

Repeat adjustments to L8, L3, C11 and C2 until no further improvement is possible.

LW. Switch receiver to LW, and set volume control at maximum.

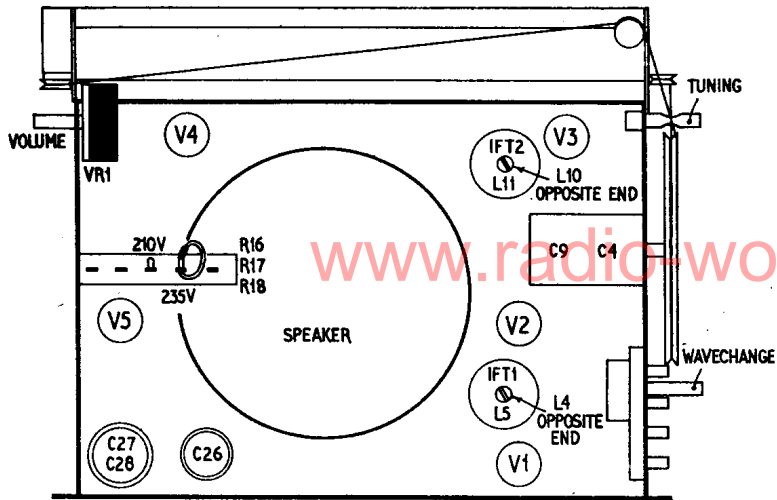
Set signal generator to 1,800 metres (166.6kc/s) and pointer to 1,800 metres on scale.

L6. Adjust for maximum output.

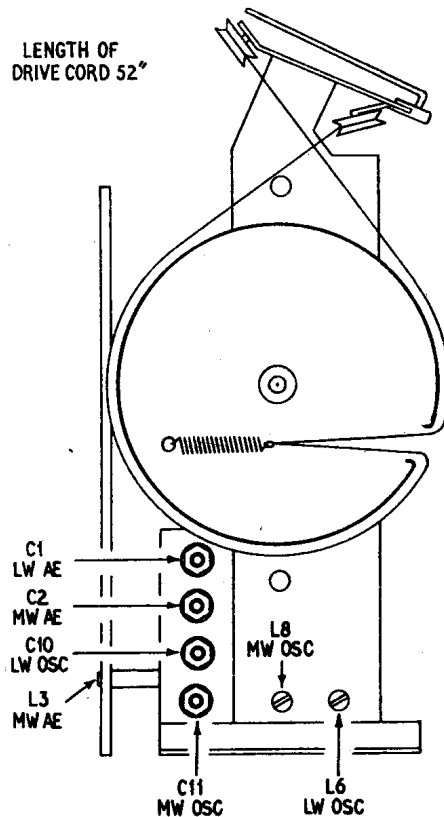
Tune signal generator to 1,128 metres (266kc/s) and set pointer to 1,128 metres.

C10, C1. Trim for maximum output.

Repeat adjustments to L6, C10, C1 as described



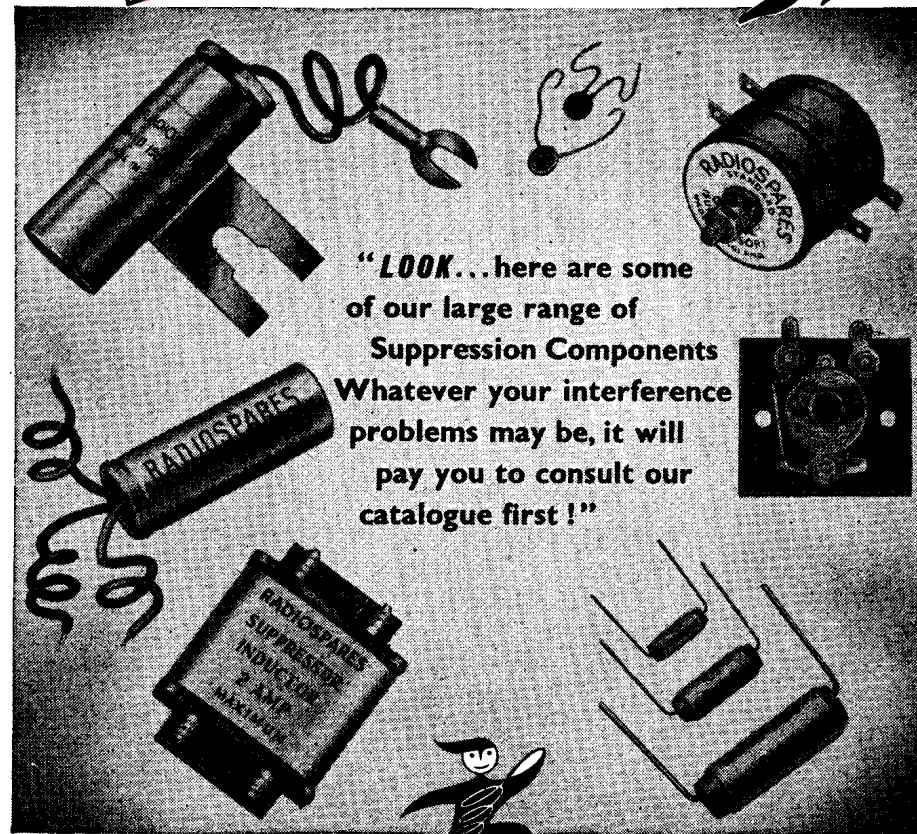
LENGTH OF DRIVE CORD 52"



above, until no further improvement is possible.

Set receiver pointer to 1,500 metres, and if necessary slightly readjust L6 to receive a 1,500-metre signal from generator.

Get rid of INTERFERENCE



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