

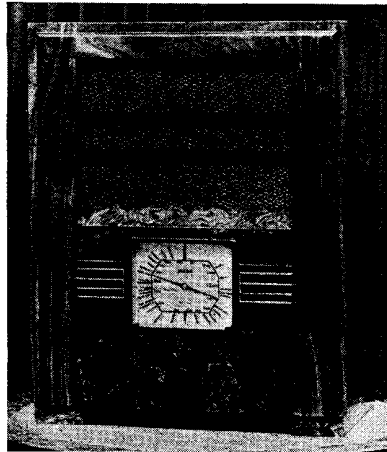
SERVICE ENGINEER

ULTRA 26 A.C.-D.C. SUPERHET

CIRCUIT.—The signal is fed from the aerial through a band-pass circuit to the grid of V1, a triode pentode. This is coupled to the I.F. amplifier, V2, an H.F. pentode, through an I.F. transformer tuned to 456 kc.

V2 is coupled to the diode anodes of V3, a double-diode pentode, through a second I.F. transformer. One diode of V3 supplies A.V.C. in the orthodox manner.

The rectified signal of V3 is applied via a volume control to the controlled grid of



The model 26 made by Ultra Electric Ltd., is a three-valve plus rectifier superhet. As the circuit below shows, the design is orthodox. A triode-pentode frequency changer is followed by an I.F. amplifier and a combined double-diode and output pentode valve.

the pentode portion of V3, and then to the speaker through an output transformer. V3 is compensated by R19 and C22 and tone controlled by C23.

Mains equipment consists of a half-wave indirectly heated rectifier, a voltage dropper, an L.F. choke and electrolytic condensers.

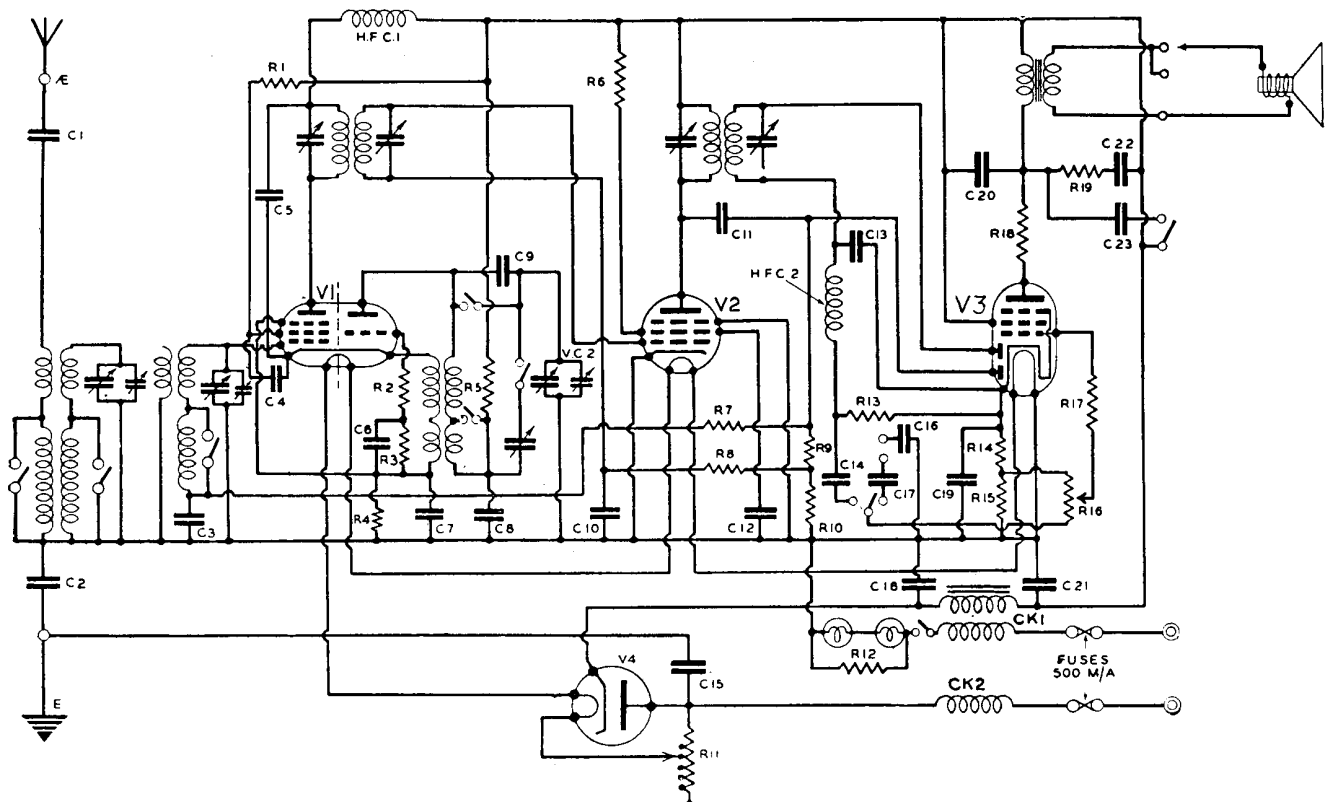
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RESISTANCES

R.	Purpose.	Ohms.
1	V1 aux. grid	25,000
2	Harmonic suppressor .. .	1,000
3	V1 grid bias	5,000
4	V1 cathode bias	660
5	V1 anode	50,000
6	V2 aux. grid decoupling .. .	30,000
7	V1 A.V.C. decoupling .. .	250,000
8	V2 A.V.C. decoupling .. .	2 meg.
9	A.V.C. diode load	500,000
10	A.V.C. diode load	1.5 meg.
11	Mains voltage adjuster .. .	625
12	Pilot lamp shunt	80
13	V3 signal diode load .. .	500,000
14	V3 cathode bias	110
15	Voltage dropper	220
16	Volume control	1 meg.
17	V3 grid stopper	1,000
18	V3 anode stopper	60
19	Tone filter	15,000

CONDENSERS

C.	Purpose.	Mfd.
1	Aerial blocking .. .. .	.0004
2	Earth blocking .. .. .	.1
3	V1 A.V.C. decoupling .. .. .	.05
4	V1 decoupling .. .. .	.1
5	V1 H.T. decoupling .. .. .	.1
6	V1 oscillator coupling .. .. .	.0002
7	V1 oscillator H.F. by-pass .. .	.5
8	V1 oscillator anode decoupling .. .	.5
9	Long wave padder .. .. .	.0003
10	V2 A.V.C. decoupling .. .. .	.05
11	A.V.C. coupling condenser .. .	.0002
12	V2 aux. grid decoupling .. .. .	.5
13	H.F. filter .. .. .	.0002
14	L.F. coupling .. .. .	.01
15	Mains filter .. .. .	.01
16	Pick-up blocking .. .. .	.01
17	Pick-up blocking .. .. .	.01
18	H.T. smoothing	8
19	V3 cathode bypass	50
20	V3 pentode filter001
21	H.T. smoothing	16
22	Tone filter01
23	Tone filter01



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Special Notes.—Pilot lamps are rated at 4.5 v. .3 amp.

The fuses are rated at 500 ma. and are located on the back of the mains input plug on the chassis.

Removing Chassis.—Remove three control knobs by slackening the grub screws. Take out the small wood block above the speaker—it is secured by two screws—and from the underneath of the cabinet remove the four securing bolts. The four bolts are hidden by two pieces of wood secured by screws.

The chassis can then be removed from the cabinet complete with speaker.

ULTRA ALIGNMENT NOTES

Medium-wave Band.—(1) Connect modulated oscillator to aerial and earth terminals and output meter across external speaker terminals.

(2) Tune oscillator to 456 kc., and adjust T4, T5, T6 and T7 for maximum response on output meter.

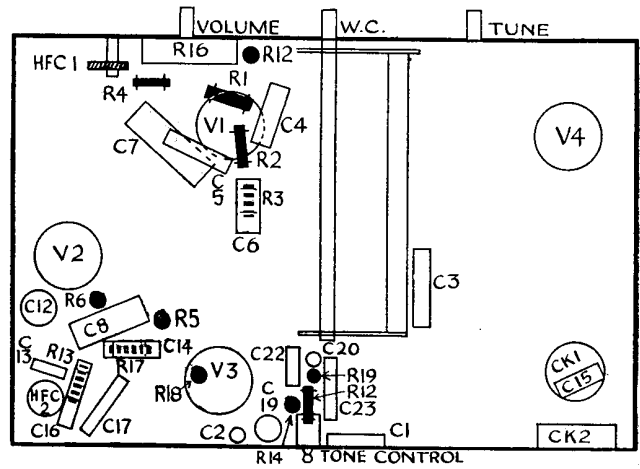
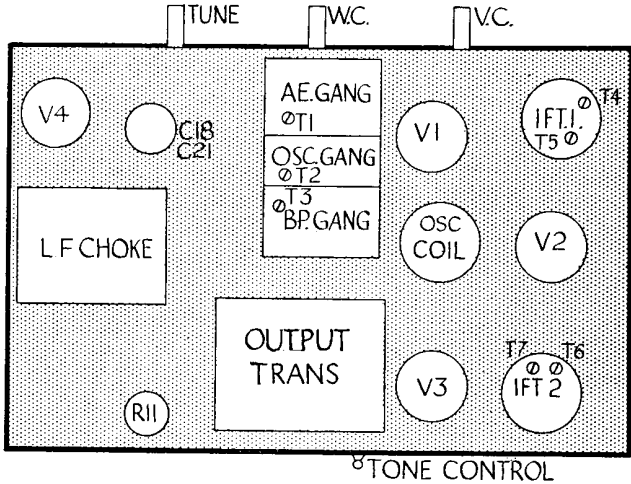
(3) Tune oscillator and receiver to 200 metres and adjust T2, T1 and T3 for maximum response.

Long-wave Band.—Tune oscillator and receiver to 1,500 metres and adjust T8 for maximum response.

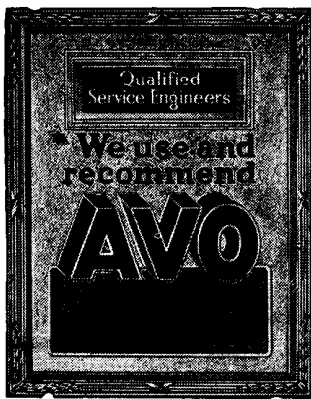
VALVE READINGS

No signal. Volume at maximum. 200 volt A.C. mains.

V.	Type.	Electrode.	Volts.	M.a.
1	TP 2620 (9) (Met).	Anode ..	130	3.25
		Screen ..	120	.52
		Osc. anode	60	2
2	VP 1321 (7) (Met).	Anode ..	175	7
		Screen ..	105	2
3	Pen DD 4020 (7).	Anode ..	110	32
		Screen ..	130	7
4	U 4020 (4) (All Mazda.)	Anode ..	200	—



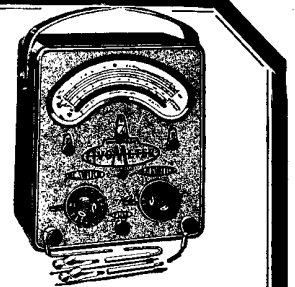
These two diagrams show where the components are situated on top (left) and inside the Ultra 26 chassis.



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