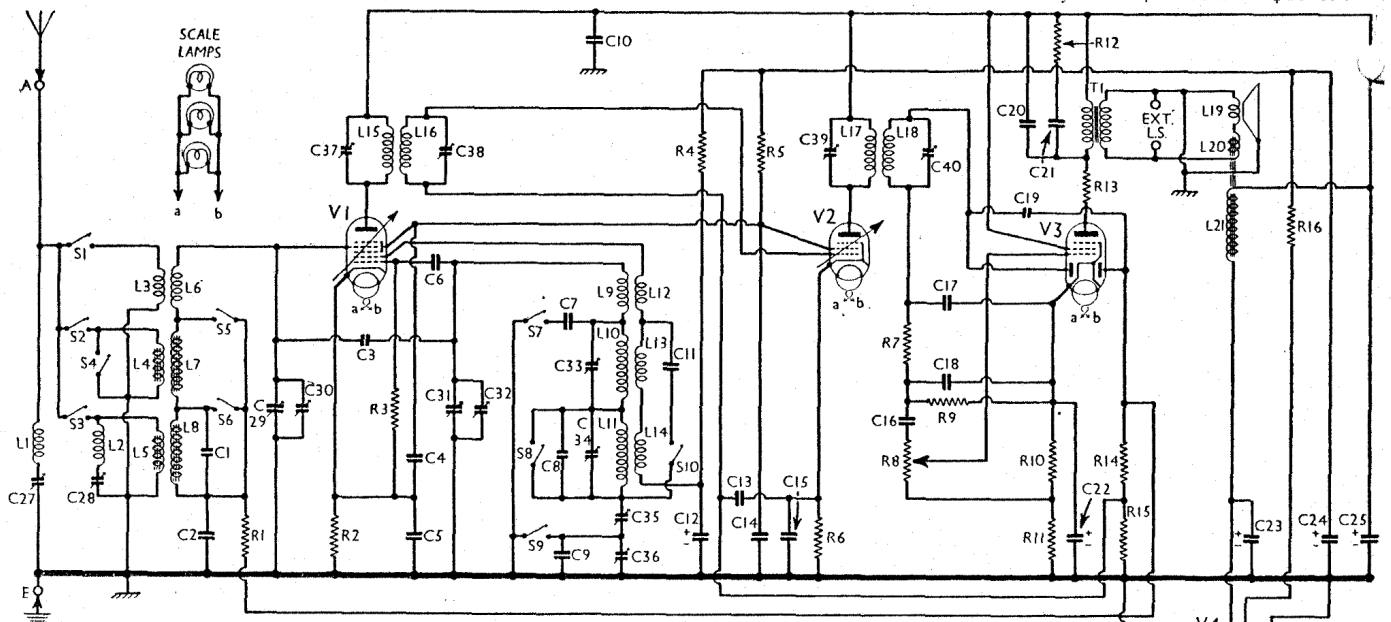


FERRANTI - 837 & 1137



Circuit diagram of the Ferranti 1137 and 837 3-band A.C. superhets. The only differences are in the cabinet, and the fact that the 1137 has a Magnascopic tuning scale. The 837, therefore, has only two of the three scale lamps shown.

COMPONENTS AND VALUES

CONDENSERS		Values (μF)
C1	Aerial circuit L.W. trimmer ..	0.00006
C2	V1 tetrode C.G. decoupling ..	0.05
C3	V1 tet. to osc. C.G.'s neut. condenser ..	Very low
C4	V1 S.G. to cathode shunt ..	0.0005
C5	V1 cathode by-pass ..	0.05
C6	V1 osc. C.G. condenser ..	0.0001
C7	Osc. circuit S.W. tracker ..	0.0006
C8	Osc. circuit L.W. fixed trimmer ..	0.00018
C9	Osc. circuit L.W. fixed tracker ..	0.00018
C10	V1, V2 anodes R.F. by-pass ..	0.1
C11	Oscillator S.W. reaction by-pass ..	0.001
C12*	V1 osc. anode decoupling ..	4.0
C13	V2 C.G. decoupling ..	0.05
C14	V1, V2 S.G.'s decoupling ..	0.1
C15	V2 cathode by-pass ..	0.1
C16	A.F. coupling to V3 pentode ..	0.01
C17	I.F. by-passes ..	0.00015
C18	V3 A.V.C. diode coupling ..	0.00015
C19	Parts of fixed tone correction filter ..	0.0005
C20	V3 cathode by-pass ..	0.002
C21	V3 cathode by-pass ..	0.05
C22*	H.T. smoothing ..	25.0
C23*	—	8.0
C24*	—	4.0
C25*	—	8.0
C26	Mains R.F. by-pass ..	0.002
C27†	Aerial circ. I.F. filter tuning ..	—
C28†	Image filter tuning ..	—
C29†	Aerial circuit tuning ..	—
C30†	Aerial circuit M.W. trimmer ..	—
C31†	Oscillator circuit tuning ..	—
C32†	Oscillator circuit S.W. trimmer ..	—
C33†	Oscillator circuit M.W. trimmer ..	—
C34†	Oscillator circuit L.W. trimmer ..	—
C35†	Oscillator circuit M.W. tracker ..	—
C36†	Oscillator circuit L.W. tracker ..	—
C37†	1st I.F. trans. pri. tuning ..	—
C38†	1st I.F. trans. sec. tuning ..	—
C39†	2nd I.F. trans. pri. tuning ..	—
C40†	2nd I.F. trans. sec. tuning ..	—

* Electrolytic. † Variable. ‡ Pre-set.

OTHER COMPONENTS

		Approx. Values (ohms)
L1	Aerial circuit I.F. filter coil ..	21.0
L2	Image filter coil ..	5.75
L3	Aerial S.W. coupling coil ..	1.25
L4	Aerial M.W. coupling coil ..	22.0
L5	Aerial L.W. coupling coil ..	60.0
L6	Aerial circuit S.W. tuning coil ..	Very low
L7	Aerial circuit M.W. tuning coil ..	2.25
L8	Aerial circuit L.W. tuning coil ..	11.0
L9	Oscillator circuit S.W. tuning coil ..	0.05
L10	Oscillator circuit M.W. tuning coil ..	5.0
L11	Oscillator circuit L.W. tuning coil ..	8.5
L12	Oscillator anode S.W. reaction ..	0.5
L13	Oscillator anode M.W. reaction ..	4.0
L14	Oscillator anode L.W. reaction ..	9.0
L15	1st I.F. trans. Pri. ..	12.0
L16	1st I.F. trans. Sec. ..	12.0
L17	2nd I.F. trans. Pri. ..	9.0
L18	2nd I.F. trans. Sec. ..	4.0
L19	Speaker speech coil ..	0.25
L20	Hum neutralising coil ..	2,000.0
L21	Speaker field coil ..	200.0
T1	Speaker input Pri. ..	0.3
	trans. Sec. ..	33.0
T2	Mains Heater sec. ..	0.1
	trans. Rect. heat. sec. ..	0.15
	trans. H.T. sec. total ..	350.0
S1-S10	Waveband switches ..	—
S11	Mains switch, ganged R8 ..	—

VALVE ANALYSIS

Valve voltages and currents given in the table below are those measured in our receiver when it was operating on mains of 230 V, with the receiver adjusted for 200-240 V. The set was tuned to the lowest wavelength on the medium band and the volume control was at maximum, but there was no signal input.

Voltages were measured on the 1,200 V scale of an Avometer, chassis being negative.

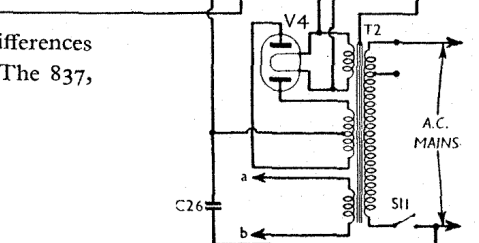
Valve	Anode Voltage (V)	Anode Current (mA)	Screen Voltage (V)	Screen Current (mA)
V1 VHT4*	260	2.3	90	3.3
V2 VPT4	260	5.5	90	2.7
V3 PT4D	250	31.0	260	6.3
V4 R4	335†	—	—	—

* Oscillator anode (G2) 170 V, 6.0 mA.
† Each anode, A.C.

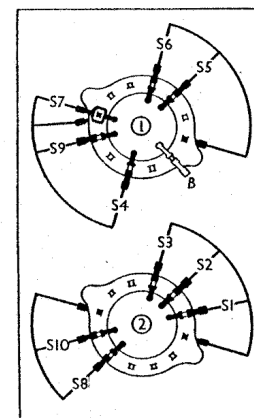
GENERAL NOTES

Switches.—S1-S10 are the waveband switches, ganged in two rotary units beneath the chassis, which are indicated in our under-chassis view, and shown in detail in the diagram on page viii.

The table on page viii gives the switch positions for the three control settings, starting from fully anti-clockwise. A dash indicates open, and C closed.



Switch	S.W.	M.W.	L.W.
S1	C	—	—
S2	—	C	—
S3	—	—	C
S4	C	—	—
S5	—	C	—
S6	—	—	C
S7	C	—	—
S8	—	C	—
S9	—	—	C
S10	C	—	—



Switch diagrams, looking from the rear of the underside of the chassis.

S11 is the Q.M.B. mains switch, ganged with the volume control R8.

Coils.—All the coils, including those of the I.F. transformers are unscreened. L1, and the second I.F. transformer L17, L18, are on the chassis deck.

L2-L8 and L9-L14 are on two long tubular formers beneath the chassis, while the first I.F. transformer, L15, L16 is also beneath the chassis. All these coils are indicated in our under-chassis view.

Scale Lamps.—The two ordinary scale lamps are Ever Ready M.E.S. types rated at 6.2 V, 0.3 A. In the 1137 they are clear, and in the 837 they are sprayed white.

The 1137 also uses an extra bulb in the Magnascopic dial. This is a special Ever Ready M.E.S. type, with a tubular bulb, rated at 6.2 V, 0.3 A.

Intermediate frequency 450 KC/S.