

**PHILIPS 617 L**

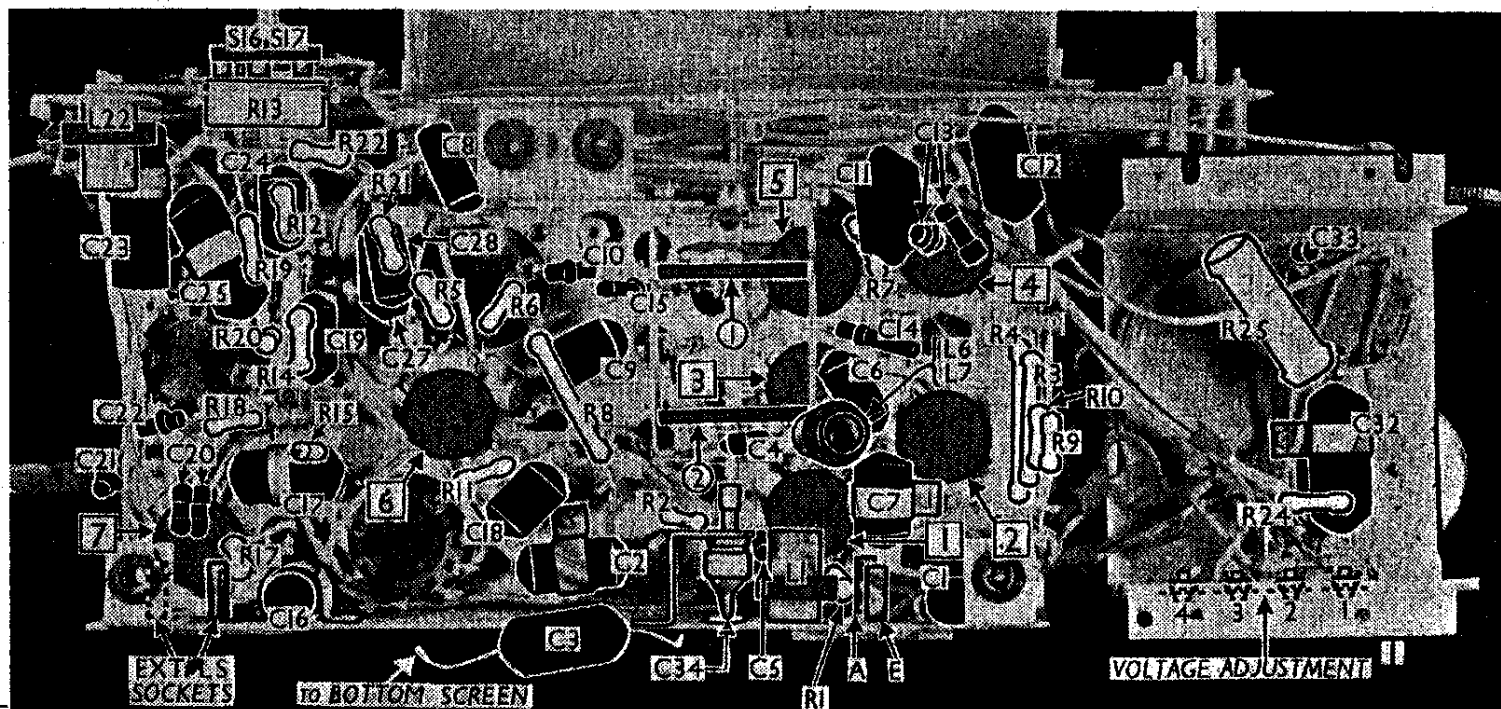
Circuit diagram of the Philips 617L AC/DC superhet. The second secondary winding e, f, g on the output transformer provides negative feed-back voltages. L24 is the coil of a magnetic relay which operates S15 to protect the scale lamps. Its DC resistance acts as GB resistance for V3. L25 is the hum neutralising coil. The barretter socket diagram near V4 shows the internal connections of the low voltage barretters.

AC or DC MAINS

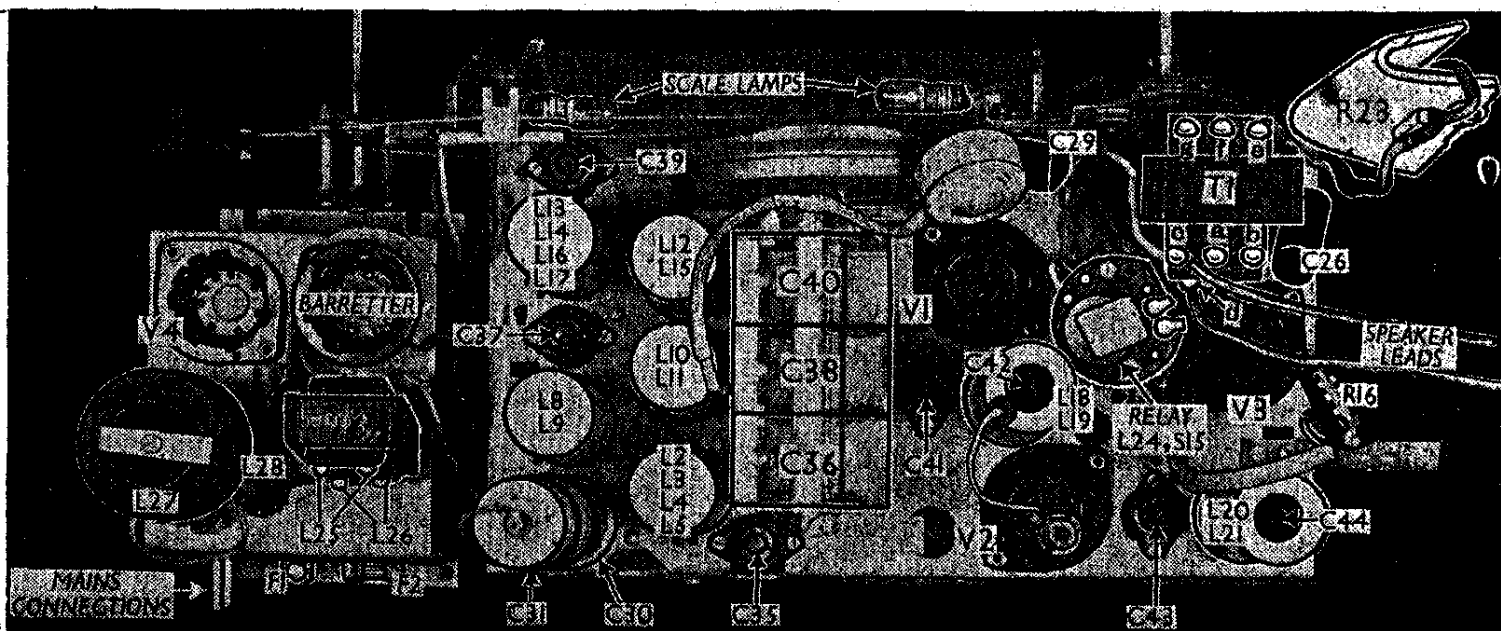
Circuit diagram of the Philips 617L AC/DC superhet. The second secondary winding e, f, g on the output transformer provides negative feed-back voltages. L24 is the coil of a magnetic relay which operates S15 to protect the scale lamps. Its DC resistance acts as GB resistance for V3. L25 is the hum neutralising coil. The barretter socket diagram near V4 shows dotted the internal connections of the low voltage barretters.

# PHILIPS 617 L

Under - chassis view. The two switch units are indicated by numbers in circles and arrows, and the bases of the seven coil units by numbers in squares and arrows. Both switches and coil bases are shown in detail in diagrams overleaf. The voltage adjustment terminals are shown dotted through the separate power unit.



Plan view of the chassis. The connecting tags on the L25, L26 are indicated. Those of the output transformer T1 are lettered to agree with the letters in the circuit diagram overleaf. The relay is indicated here, but its underside is shown in detail in the sketch in col. 4 below, where the connections are lettered to agree with those in circuit diagram.



# COMPONENTS AND VALUES

RESISTANCES		Values (ohms)
R1	Aerial circuit shunt ...	100,000
R2	V1 hex. CG decoupling ...	100,000
R3	V1 SG HT feed potential divider ...	27,000
R4	V1 fixed GB resistance ...	22,000
R5	V1 osc. CG resistance ...	330
R6	SW reaction damping ...	47,000
R7	V1 osc. anode HT feed ...	39
R8	V2 SG HT feed resistances ...	22,000
R9	V2 fixed GB resistance ...	10,000
R10	Part signal diode load ...	47,000
R11	Manual volume control; V3 signal diode load ...	330
R12	V3 pent. CG resistance ...	47,000
R13	V3 pent. CG resistance ...	700,000*
R14	Parts IF filter circuit ...	1,000,000
R15	AVC line decoupling ...	82,000
R16	V3 AVC diode load ...	1,000
R17	V3 AVC diode load ...	1,500,000
R18	V3 AVC diode load ...	680,000
R19	Feed-back feed resistances ...	1,500
R20	Feed-back feed resistances ...	12,000
R21	Feed-back feed resistances ...	10,000
R22	Feed-back feed resistances ...	820,000
R23	Variable tone control ...	50,000
R24	Mains voltage adjustment ...	33
R25	V4 surge limiter ...	180

\* Tapped at 650,000 Ω from R12 end

OTHER COMPONENTS		Approx. Values (ohms)
L1	Aerial IF filter coil ...	110-0
L2	Aerial MW coupling coil ...	26-0
L3	Aerial LW coupling coil ...	85-0
L4	Band-pass primary coils ...	4-5
L5	Band-pass primary coils ...	48-0
L6	Band-pass coupling coils ...	0-7
L7	Band-pass coupling coils ...	0-7
L8	Aerial SW coupling coil ...	2-0
L9	Aerial SW tuning coil ...	0-5
L10	Band-pass secondary coils ...	4-4
L11	Band-pass secondary coils ...	42-0
L12	Oscillator SW reaction coil ...	1-0
L13	Oscillator MW reaction coil ...	2-0
L14	Oscillator LW reaction coil ...	8-5
L15	Osc. circuit SW tuning coil ...	0-5
L16	Osc. circuit MW tuning coil ...	8-0
L17	Osc. circuit LW tuning coil ...	32-0
L18	1st IF trans. Pri. ...	115-0
L19	1st IF trans. Sec. ...	115-0
L20	2nd IF trans. Pri. ...	115-0
L21	2nd IF trans. Sec., total ...	125-0
L22	Tone control choke ...	800-0
L23	Speaker speech coil ...	2-5
L24	Relay winding, total ...	330-0
L25	Hum neutralising coil ...	4-0
L26	HT smoothing choke ...	700-0
L27	Mains filter chokes ...	5-0
L28	Mains filter chokes ...	5-0
T1	Output trans. Pri. ...	700-0
	Output trans. Speaker sec. ...	1-4
	Output trans. Feed - back sec., total ...	360-0
S1-S14	Waveband switches ...	—
S15	Relay switch ...	—
S16, S17	Mains switches, ganged R13 ...	—
F1, F2	Mains fuses ...	—

PHILIPS 617 L

CONDENSERS		Values (μF)
C1	Mains isolating condensers ...	0-001
C2	Mains isolating condensers ...	0-0047
C3	Mains isolating condensers ...	0-0047
C4	Image suppressor ...	0-000033
C5	Aerial 'top' coupling ...	0-00001
C6	Band-pass coupling condensers ...	0-012
C7	Band-pass coupling condensers ...	0-01
C8	V1 SG decoupling ...	0-047
C9	V1 cathode by-pass ...	0-047
C10	V1 osc. CG condenser ...	0-000047
C11	Osc. circuit MW tracker ...	0-00145
C12	Osc. circuit LW tracker ...	0-000394
C13	Osc. circuit LW trimmer ...	0-0000492§
C14	Osc. circuit SW trimmer ...	0-0000068
C15	V1 osc. anode coupling ...	0-00047
C16	V2 CG decoupling ...	0-047
C17	V2 SG decoupling ...	0-047
C18	V2 cathode by-pass ...	0-047
C19	AF coupling to V3 pentode ...	0-0033
C20	Coupling to V3 AVC diode ...	0-0000044¶
C21	IF by-pass condensers ...	0-000056
C22	IF by-pass condensers ...	0-0001
C23*	V3 cathode by-pass ...	25-0
C24	Part feed-back coupling ...	0-027
C25	Part of tone control ...	0-0068
C26	Fixed tone corrector ...	0-001
C27	Parts of feed-back feed circuit ...	0-033
C28	Parts of feed-back feed circuit ...	0-0056
C29	Mains isolating condenser ...	0-0047
C30*	HT smoothing condensers ...	50-0
C31*	HT smoothing condensers ...	15-0
C32	Mains RF by-pass ...	0-022
C33	Barretter RF by-pass ...	0-000033
C34†	Aerial IF filter tuning ...	0-0001
C35†	B-P pri. MW trimmer ...	0-00003
C36†	Band-pass pri. tuning ...	0-00049
C37†	B-P sec. MW trimmer ...	0-00002
C38†	Aerial SW and band-pass secondary tuning ...	0-00049
C39†	Osc. circuit MW trimmer ...	0-00003
C40†	Oscillator circuit tuning ...	0-00049
C41†	1st IF trans. pri. tuning ...	0-0001
C42†	1st IF trans. sec. tuning ...	0-0001
C43†	2nd IF trans. pri. tuning ...	0-0001
C44†	2nd IF trans. sec. tuning ...	0-0001

\* Electrolytic. † Variable. ‡ Pre-set.

§ Made up of a 0-000047 μF and a 0-0000022 μF (47 μμF and 2-2 μμF) condenser connected in parallel.

¶ Made up of two 0-0000022 μF (2-2 μμF) condensers connected in parallel.

Valve	Anode Voltage (V)	Anode Current (mA)	Screen Voltage (V)	Screen Current (mA)
V1 ECH3	250	1-2	85	1-7
	Oscillator	3-5		
V2 EF9	245	6-5	110	2-0
V3 CBL1	260	38-0	250	5-0
V4 CY1	290†	—	—	—

† Cathode to Chassis, D.C.

## Switch Table

Switch	SW	MW	LW
S1	o	—	—
S2	o	—	—
S3	o	—	—
S4	—	—	—
S5	—	—	—
S6	o	—	—
S7	o	—	—
S8	o	—	—
S9	—	—	—
S10	—	—	—
S11	—	—	—
S12	o	—	—
S13	—	—	—
S14	—	—	—