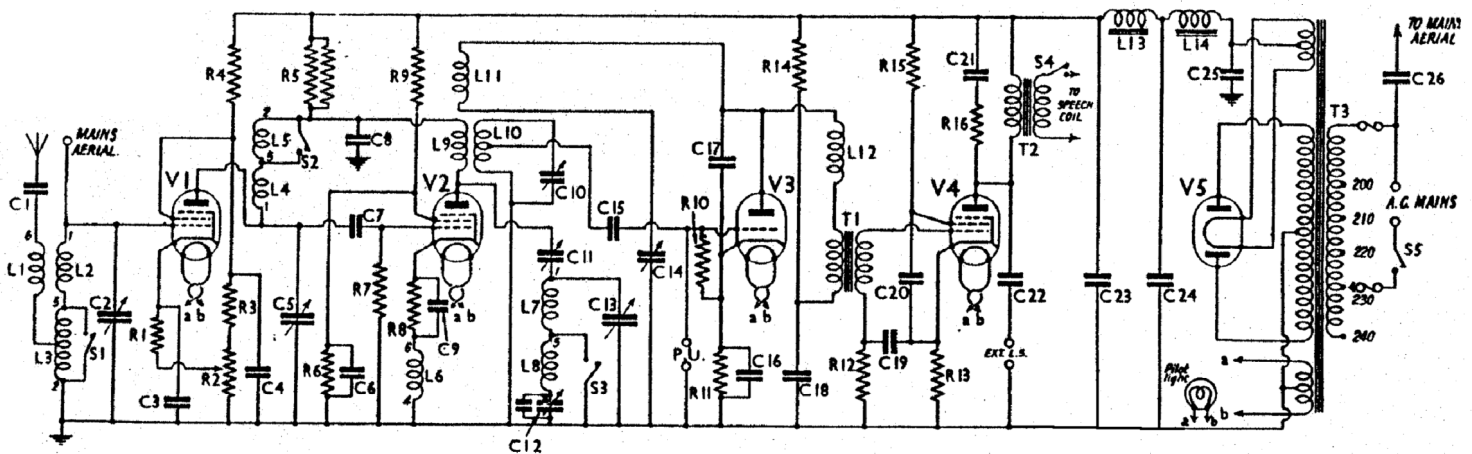


VARLEY - AP 46



Varley AP46 4-valve A.C. superhet. L13 is the speaker
numbered terminals, and the connections are numbered in the dia-
gram. Condenser, C2, C5, C13, are not indica-

a smoothing choke. The
meters of the 3-gang tuner

COMPONENTS AND VALUES

Condensers	Value (μF)
C1 Series aerial condenser	0.00005
C2 V1 grid tuning	—
C3 V1 cathode by-pass	1
C4 V1 S.G. by-pass	1
C5 V1 anode tuning	—
C6 V2 S.G. by-pass	1
C7 V2 grid condenser	0.0001
C8 V1 anode decoupling	1.0
C9 V2 cathode by-pass	0.003

Condensers (cont.)	Value (μF)
C10 I.F. transformer tuning (pre-set)	—
C11 Oscillator padding (pre-set)	—
C12* Oscillator L.W. padding cond. (pre-set)	0.0006 (max.)
C13 Oscillator tuning	—
C14 Reaction condenser	0.0003
C15 V3 grid condenser	0.0001
C16 V3 cathode by-pass	1
C17 V3 anode by-pass	0.0005
C18 V3 anode decoupling	1.0
C19 V4 grid decoupling	1.0
C20 V4 aux. grid by-pass	1.0
C21 Part of voltage-limiting circuit	0.01
C22 External speaker coupling	1.0
C23 H.T. smoothing (electrolytics)	8.0
C24 H.T. smoothing (electrolytics)	8.0
C25 H.T. smoothing (electrolytics)	8.0
C26 Mains aerial condenser	0.0001

Resistances	Value (ohms)
R1 V1 fixed bias resistance	200
R2 Potentiometer volume control	10,000
R3 V1 S.G. potential divider	7,500
R4 V1 S.G. potential divider	12,500
R5* V1 anode decoupling	6,000
R6 Part of V2 S.G. pot-diver	25,000
R7 V2 grid resistance	5,000,000
R8 V2 cathode resistance	2,000
R9 Part of V2 S.G. pot-diver	50,000
R10 V3 grid resistance	500,000
R11 V3 bias resistance	800
R12 V4 grid decoupling	50,000 or 100,000
R13 V4 bias resistance	300
R14 V3 anode decoupling	30,000
R15 V4 aux. grid decoupling	10,000
R16 Part of voltage-limiting circuit	5,000

* Consists of a 0.0001 μF fixed in parallel with a 0.0005 μF pre-set.

* In our sample, a 10,000 Ω in parallel with a 15,000 Ω resistor gives the value of 6,000 Ω for R5.

VALVE ANALYSIS

Components	Value (ohms) approx.
L1 Aerial coupling coil	—
L2 V1 grid coils	2.25
L3 V1 grid coils	14.5
L4 V1 anode coils	2.25
L5 V1 anode coils	14.5
L6 Oscillator coupling coil	3.8
L7 Oscillator tuning coils	2.0
L8 Oscillator tuning coils	11.0
L9 I.F. transformer	60.0
L10 I.F. transformer	60.0
L11 Reaction coil	3.8
L12 H.F. choke	370.0
L13 Speaker field	2,200
L14 Smoothing choke	450
T1 Intervalve transformer	Pri. 1,500 Sec. 6,800
T2 Output transformer	Pri. 780 Sec. 0.3
T3 Mains transformer	Pri. (total) 39.0 Heater sec. 0.03 H.T. sec. 950 Rect. fil. sec. 0.05
S1-S3 Waveband ganged switches	—
S4 Internal speaker switch	—
S5 Mains switch	—

Valve	Anode Volts	Anode Current (mA)	Screen Volts	Screen Current (mA)
V1 VP4	170† 200‡	3.6† Very Small ‡	95† 110‡	2.5† 2.0‡
V2 SP4	170† 200‡	0.7† 1.1‡	55† 60‡	0.3† 0.4‡
V3 354V	85	4.1	—	—
V4 AC/Pen	190	33.0	165	5.6
V5 D/V3	*320 A.C.	—	—	—

† Vol. control at Max.
* Each anode.

‡ Vol. control at Min.