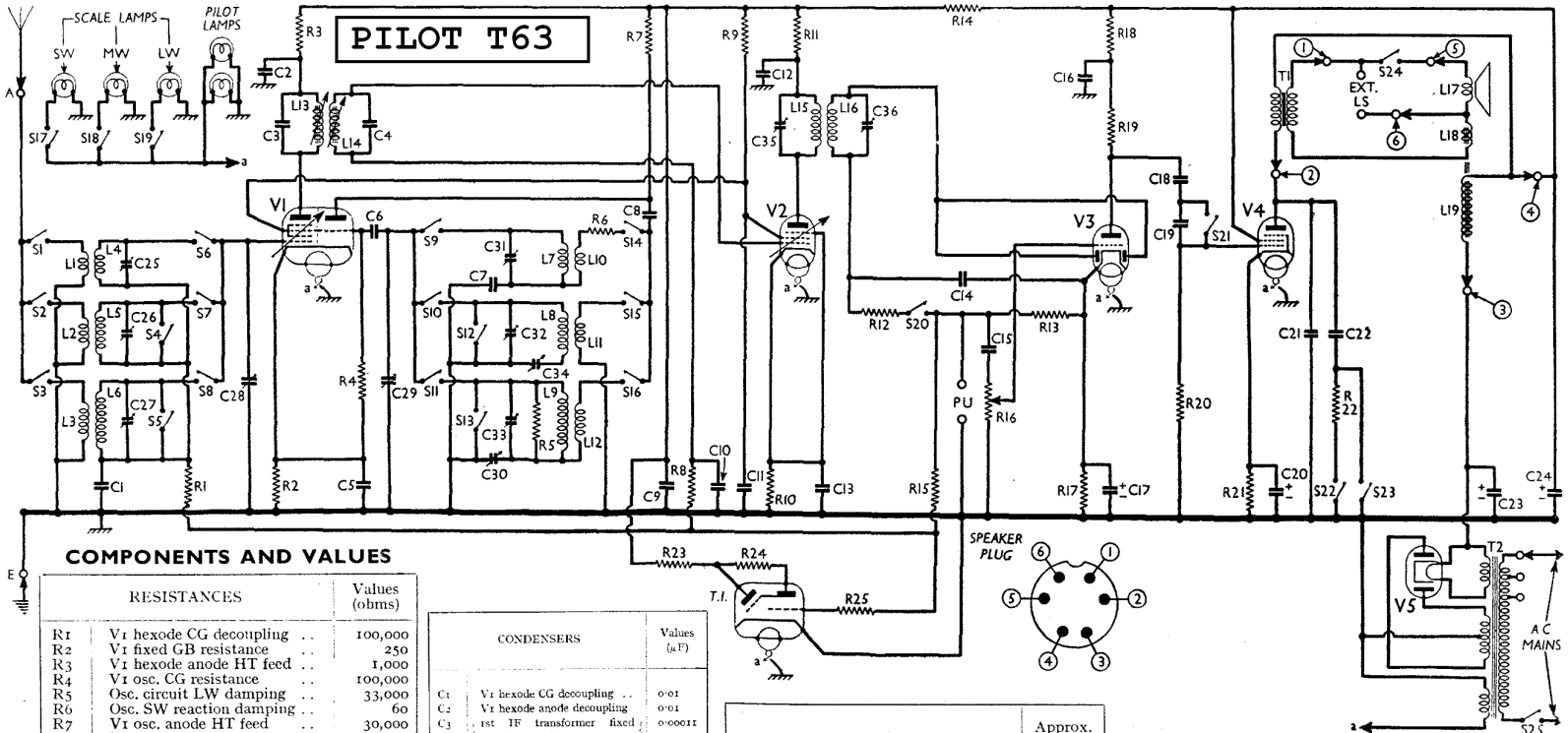


COMPONENTS AND VALUES

	RESISTANCES	Values (ohms)
R1	V1 hexode CG decoupling	100,000
R2	V1 fixed GB resistance	250
R3	V1 hexode anode HT feed	1,000
R4	V1 osc. CG resistance	100,000
R5	Osc. circuit LW damping	33,000
R6	Osc. SW reaction damping	60
R7	V1 osc. anode HT feed	30,000
R8	V2 CG decoupling	100,000
R9	V1, V2 SG's HT feed	20,000*
R10	V2 fixed GB resistance	390
R11	V2 anode HT feed	1,000
R12, R13	V3 signal diode load resistances	47,000, 470,000
R14	V1, V2 and T.I. HT feed	1,000
R15	AVC line decoupling	1,000,000
R16	Manual volume control	1,000,000
R17	V3 GB resistance	4,000
R18	V3 triode anode decoupling	100,000
R19	V3 triode anode load	250,000
R20	V4 CG resistance	470,000
R21	V4 GB resistance	440
R22	Part of tone control	10,000
R23, R24	T.I. anode HT feed resistances	22,000, 1,000,000
R25	T.I. CG decoupling	1,000,000

* Two 40,000 Ω in parallel.

	CONDENSERS	Values (μF)
C1	V1 hexode CG decoupling	0·01
C2	V1 hexode anode decoupling	0·01
C3, C4	1st IF transformer fixed tuning condensers	0·00011, 0·00011
C5	V1 cathode by-pass	0·1
C6	V1 osc. CG condenser	0·0001
C7	Osc. circuit SW tracker	0·00325
C8	V1 osc. anode coupling	0·002
C9	HT circuit RF by-pass	0·01
C10	V2 CG decoupling	0·01
C11	V1, V2 SG's decoupling	0·1
C12	V2 anode decoupling	0·01
C13	V2 cathode by-pass	0·1
C14	IF by-pass	0·00025
C15	AF coupling to V3 triode	0·01
C16	V3 triode anode decoupling	0·1
C17*	V3 cathode by-pass	10·0
C18	V3 triode to V4 AF coupling condensers	0·01
C19		0·001
C20*	V4 cathode by-pass	10·0
C21	Fixed tone corrector	0·003
C22	Part of tone control	0·03
C23*, C24*	HT smoothing condensers	8·0, 16·0
C25‡	Aerial circuit SW trimmer	0·00003
C26‡	Aerial circuit MW trimmer	0·00003
C27‡	Aerial circuit LW trimmer	0·02003
C28†	Aerial circuit tuning	0·000456
C29†	Oscillator circuit tuning	0·000456
C30‡	Osc. circuit LW tracker	0·00016
C31‡	Osc. circuit SW trimmer	0·00003
C32‡	Osc. circuit MW trimmer	0·000025
C33‡	Osc. circuit LW trimmer	0·00008
C34‡	Osc. circuit MW tracker	0·00045
C35‡	2nd IF trans. pri. tuning	—
C36‡	2nd IF trans. sec. tuning	—

* Electrolytic. † Variable. ‡ Pre-set.

	OTHER COMPONENTS	Approx. Values (ohms)
L1	Aerial SW coupling coil	1·2
L2	Aerial MW coupling coil	19·0
L3	Aerial LW coupling coil	120·0
L4	Aerial SW tuning coil	0·05
L5	Aerial MW tuning coil	2·8
L6	Aerial LW tuning coil	17·0
L7	Osc. circuit SW tuning coil	0·05
L8	Osc. circuit MW tuning coil	5·6
L9	Osc. circuit LW tuning coil	9·5
L10	Oscillator SW reaction	0·13
L11	Oscillator MW reaction	0·8
L12	Oscillator LW reaction	0·3
L13, L14	1st IF trans. Pri., Sec.	4·75, 4·75
L15, L16	2nd IF trans. Pri., Sec.	11·0, 11·0
L17	Speaker speech coil	2·0
L18	Hum neutralising coil	0·15
L19	Speaker field coil	1,400·0
T1	Speaker input trans. Pri., Sec.	800·0, 0·5
T2	Mains trans. Pri., total	25·0
	Heater sec.	0·1
	Rect. heat. sec.	0·1
	HT sec., total	320·0
S1-16	Waveband switches	—
S17-19	Scale lamps switches	—
S20	Radio muting switch	—
S21-23	Tone control switches	—
S24	Speaker switch	—
S25	Mains switch	—

Switch	SW	MW	LW
S1	C	—	—
S2	—	C	—
S3	—	—	C
S4	C	—	—
S5	C	C	—
S6	C	—	—
S7	—	C	—
S8	—	—	C
S9	C	—	—
S10	—	C	—
S11	—	—	C
S12	C	—	—
S13	C	C	—
S14	C	—	—
S15	—	C	—
S16	—	—	C
S17	C	—	—
S18	—	C	—
S19	—	—	C

TABLE OF THE SWITCH UNIT

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, using the 225 V tapping on the mains transformer. The receiver 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 400 V scale of a model 7 Universal Avometer, chassis being negative.

Valve	Anode Voltage (V)	Anode Current (mA)	Screen Voltage (V)	Screen Current (mA)
V1 X65	238	1·6	95	5·5
	Oscillator			
	73	4·5		
V2 6U7G	236	7·5	95	2·2
V3 6Q7G	73	0·4	—	—
V4 6F6G	241	36·0	270	6·4
V5 5Z4G	342†	—	—	—
T.I.6U5	15	0·2	—	—
	Target			
	190	2·0		

† Each anode, AC.

CIRCUIT ALIGNMENT

IF Stages.—Switch set to MW, and turn gang condenser to maximum. Connect signal generator via a 0·1 μF condenser to control grid (top cap) of **V2,** and chassis.

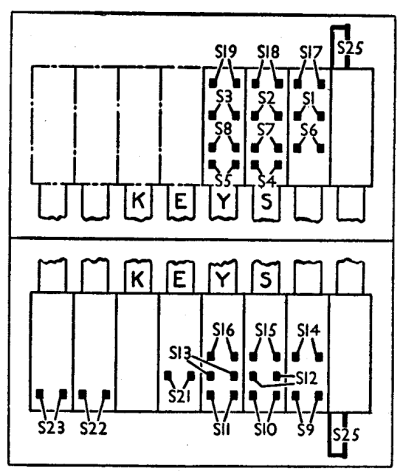
Feed in a 451 KC/S signal, and adjust **C35,** then **C36,** for maximum output. Transfer signal generator to control grid (top cap) of **V1,** and adjust the core of **L13,** then **L14,** for maximum output. Re-check all settings with the signal generator connected to **V1.**

RF and Oscillator Stages.—With gang condenser at maximum, pointer should cover the horizontal lines at the high wavelength ends of the three scales. Connect signal generator to **A** lead and **E** clip via a 0·0002 μF condenser.

MW.—Press MW key, and tune to 200 m on scale. Feed in a 200 m (1,500 KC/S) signal, and adjust **C32,** then **C26,** for maximum output. Feed in a 500 m (600 KC/S) signal, tune it in, and adjust **C34** for maximum output, while rocking the gang for optimum results. Repeat the 200 m adjustments.

LW.—Press LW key, and tune to 1,100 m on scale. Feed in a 1,100 m (272·5 KC/S) signal, and adjust **C33,** then **C27,** for maximum output. Feed in a 1,900 m (158 KC/S) signal, tune it in, and adjust **C30** for maximum output, while rocking the gang for optimum results. Repeat the 1,100 m adjustments.

SW.—Switch set to SW, and tune to 18 MC/S mark on scale. Feed in an 18 MC/S (16·67 m) signal, and adjust **C31,** then **C25,** for maximum output. Repeat these adjustments very accurately. There is no variable SW tracker to be adjusted.



Diagrams of the key switch unit.