

Circuit diagram of the Philco 269 A.C. superhet. The 444 People's Set has an identical circuit, while the 269 Radiogram has a few additions, described in the text. The circuit above is that of the latest run, and earlier models differed slightly. X and Y are small couplings. The secondary of the second I.F. transformer is untuned.

COMPONENTS AND VALUES

CONDENSERS		Values (μF)
C1	Aerial coupling condenser	0.00025
C2	V1 tetrode C.G. decoupling	0.05
C3	V1 cathode by-pass	0.09
C4	V1 osc. anode coupling	0.0008
C5	V1, V2 S.G.'s by-pass	0.05
C6	V2 C.G. decoupling	0.05
C7	V2 cathode by-pass	0.09
C8	H.T. supply H.F. by-pass	0.1
C9	I.F. by-passes	0.00011
C10		0.00011
C11	L.F. coupling to V3 pentode	0.01
C12	V3 pentode C.G. decoupling	0.1
C13	Tone corrector	0.003
C14*	H.T. smoothing	8.0
C15*	H.T. smoothing	8.0
C16	Mains H.F. by-pass	0.015
C17†	Aerial I.F. filter tuning	0.000125
C18†	Aerial circuit L.W. trimmer	0.0008
C19†	Aerial circuit tuning	—
C20†	Aerial circuit trimmer	—
C21†	Oscillator circuit tuning	—
C22†	Oscillator circuit trimmer	—
C23†	Oscillator circuit L.W. trimmer	0.00005
C24†	Oscillator M.W. tracker	0.0005
C25†	Oscillator L.W. tracker	0.00024
C26†	1st I.F. trans. pri. tuning	—
C27†	1st I.F. trans. sec. tuning	—
C28†	2nd I.F. trans. pri. tuning	0.00008

OTHER COMPONENTS		Approx. Values (ohms)
L1	Aerial I.F. filter coil	20.0
L2	Aerial M.W. coupling coil	25.0
L3	Aerial M.W. tuning coil	2.5
L4	Aerial L.W. coupling coil	95.0
L5	Aerial L.W. tuning coil	37.5
L6	Oscillator M.W. tuning coil	2.5
L7	Oscillator L.W. tuning coil	14.5
L8	1st I.F. trans. { Pri.	8.0
L9	{ Sec.	12.0
L10	2nd I.F. trans. { Pri.	30.0
L11	{ Sec.	80.0
L12	Speaker speech coil	2.2
L13	Hum neutralising coil	0.1
L14	Speaker field coil	2000.0
T1	Speaker input trans. { Pri.	230.0
	{ Sec.	0.25
T2	Mains trans. { Pri. total	35.0
	{ Heater sec.	0.2
	{ Rect. fil. sec.	0.15
	{ H.T. sec. total	480.0
X	Small couplings	—
Y		—
S1-S8	Waveband switches	—
S9	Mains switch, ganged R10	—

VALVE ANALYSIS

Valve	Anode Voltage (V)	Anode Current (mA)	Screen Voltage (V)	Screen Current (mA)
6A7*	230	2.9	90	2.5
6BE	230	6.2	90	1.5
PenDD6†	225	30.0	235	6.0
80	330†	—	—	—

* Osc. anode (G2) 180 V 3.7 mA.
† Each anode, A.C.

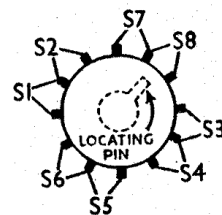
Valve voltages and currents listed in the table above were obtained from a representative chassis operating with a 230 V. 50 c.p.s. mains supply. There was no signal input (aerial and earth sockets s/c), and the receiver controls at M.W., tuning condenser at minimum capacity, volume control at maximum. All voltage readings were taken on the 1,200 V scale of an Avometer, chassis being negative.

Scale Lamp.—This is a Philco M.E.S. tubular type, marked "6-8," Philco part number 6608.

GENERAL NOTES

Switches.—S1-S8 are in a single rotary unit beneath the chassis. The unit is indicated in our under-chassis view, and is shown on this page in diagrammatic form, as seen from the rear of the underside of the chassis. Note that the switches are in pairs, each pair having one common contact. S1, S3, S5 and S7 are closed on the M.W. band and open on the L.W. band, while S2, S4, S6 and S8 are open on the M.W. band and closed on the L.W. band.

Diagram of the switch unit, as seen looking at the underside of the chassis from the rear.



S9 is the Q.M.B. mains switch, ganged with the volume control R10.

Coils.—Most of the coils are beneath the chassis, and are unscreened. They are weave-wound on cylindrical formers. L1 is attached to the rear of the chassis. L2, L3 and L4, L5 are mounted behind the front of the chassis. L6 and L7 are mounted vertically under the chassis; L7 being nearest to the chassis.

L8 and L9, the first I.F. transformer, is in a screened unit on the chassis deck, while L10, L11, forming the second I.F. transformer, is mounted vertically beneath the chassis, L10 being nearest to the chassis. The trimmers of L8, L9 are operated through holes in the top of the screen, but the second I.F. unit has an untuned secondary, the primary, L10, being tuned by C28 (reached through a hole in the rear of the chassis).

RESISTANCES		Values (ohms)
R1	V1 fixed G.B. resistance	700
R2	V1 osc. C.G. resistance	51,000
R3	V1 osc. anode resistance	10,000
R4	V1, V2, S.G.'s H.T., potential divider	25,000
R5		51,000
R6	V2 C.G. decoupling	2,000,000
R7	V2 fixed G.B. resistance	800
R8	V1, V2, A.V.C. line decoupling	2,000,000
R9	I.F. stopper	51,000
R10	V3 diode load; vol. control	330,000
R11	V3 pentode C.G. resistance	490,000
R12	V3 pentode C.G. decoupling	490,000
R13	V3 pentode C.G. I.F. stopper	100,000
R14	V3 G.B. resistance	140