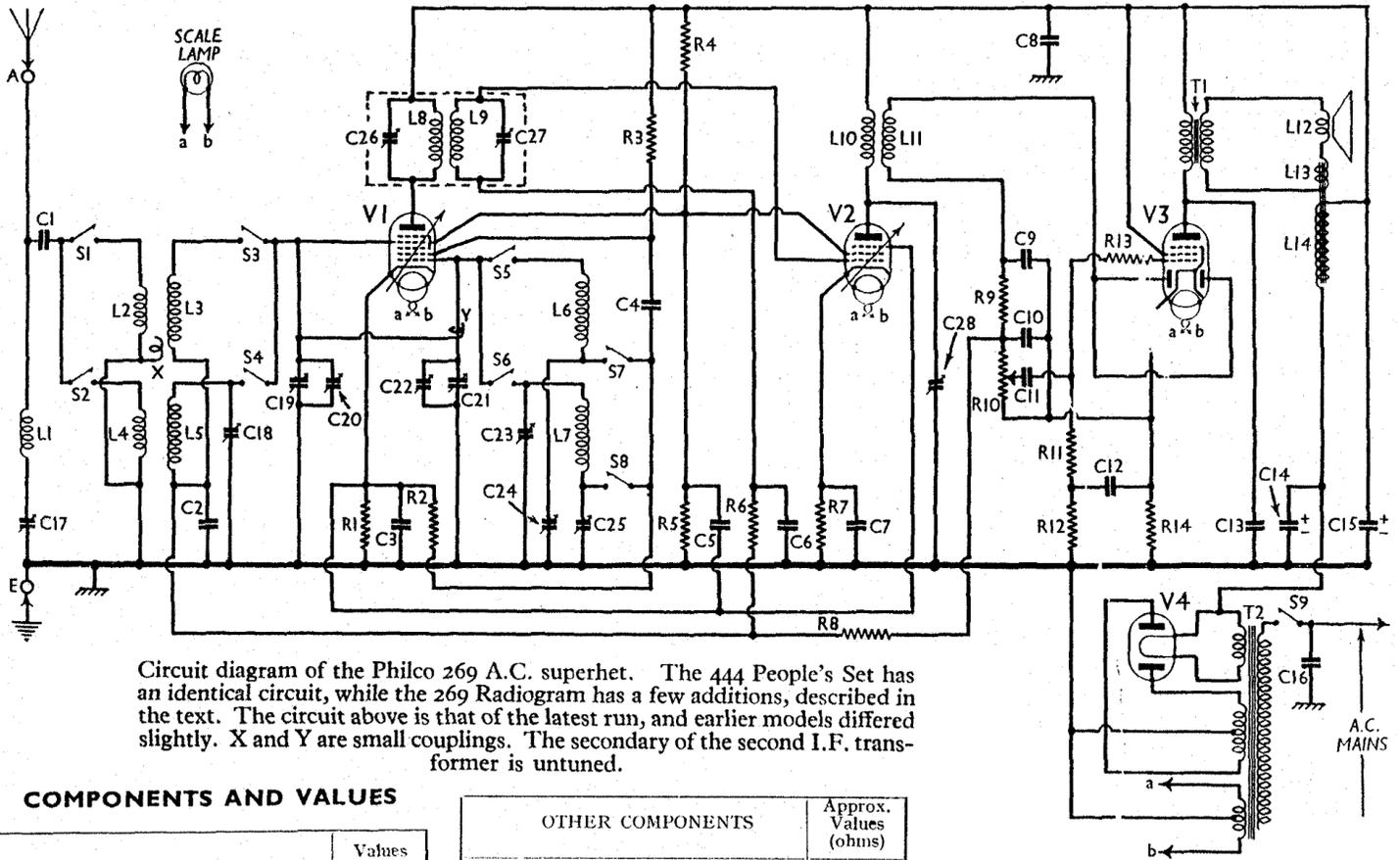


PHILCO - 269 & 444



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* | | 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 |

* Electrolytic. † Variable. ‡ Pre-set.

OTHER COMPONENTS

| 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 |
| 78E | 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.

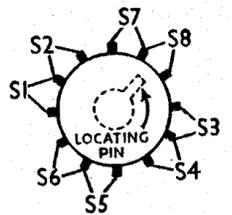
Valve voltages and currents listed in the table above were obtained from a representative chassis operating with a 230 V. 50 c.p.s. mains supply. There was no signal input (aerial and earth sockets s/c), and the receiver controls at M.W., tuning condenser at minimum capacity, volume control at maximum. 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 unshielded. They are wave-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).