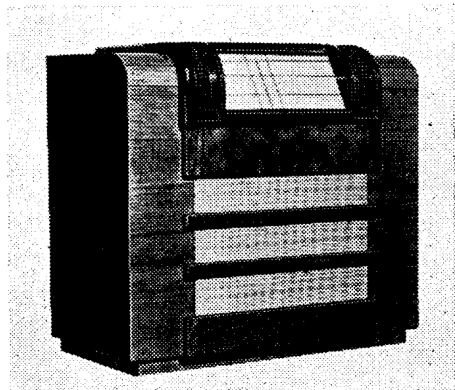


# EKCO AW98

## 4-BAND AC SUPERHET



**I**N addition to the medium and long waves the Ekco AW98 covers the television sound wavelength and a band of 16-50 m.

### CIRCUIT DESCRIPTION

Aerial input on MW and LW via coupling condenser **C2** (MW) and **L2** (LW) to inductively coupled band-pass filter. Primary coils **L3**, **L4** are tuned via **S8** (MW) or **S9** (LW) by **C36**; secondary coils **L9**, **L10** by **C42**. On LW aerial circuit is shunted by IF filter **L1**, **C3**. On television sound, referred to as "TS," and SW bands, input is via **S1** and coupling coil **L5** (TS) or **S2** and **L8** (SW) to single tuned circuits **L7**, **C42** (TS) or **L8**, **C42** (SW). Image suppression by **C38**. Provision is made for connection

of a dipole aerial at socket **A** and the unmarked socket immediately below. Socket **E** should be connected to earth.

Tuned circuits are connected via selector switches **S10** (TS), **S11** (SW), **S12** (MW) or **S13** (LW) to CG of first valve (**V1**, Mullard metallised **TH4A**), a triode hexode operating as frequency changer with internal coupling. Triode oscillator grid coils **L11** (TS and SW), **L12** (MW) and **L13** (LW) are tuned by **C44**; parallel trimming by **C45** (SW), **C46** (MW) and **C11**, **C47** (LW); series tracking by **C9** (fixed — MW) and **C10** (fixed — LW), and adjustable iron cores in both cases. Reaction by coils **L14** (TS and SW), **L15** (MW) and **L16** (LW), which are connected in series, **S17** (SW) and **S18** (MW) shorting those coils which are not required.

Second valve (**V2**, Ekco metallised **VP41** or Mullard **VP4B**) is a variable-mu RF pentode operating as intermediate frequency amplifier with tuned-primary tuned-secondary transformer couplings **C48**, **L17**, **L18**, **C49** and **C50**, **L19**, **L20**, **C51**.

### Intermediate frequency 126.5 KC/S.

Diode second detector is part of double diode triode valve (**V3**, Ekco metallised **DT41** or Mullard **TDD4**). Audio frequency component in rectified output is developed across load resistance **R12** and passed via AF coupling condenser **C17** and manual volume control **R10** to CG of triode section, which operates as AF amplifier.

Variable tone control by RC filter **C19**, **R11** between CG and chassis. Fixed tone correction by **C18** between **C17** and CG. IF filtering by **C20**, **C21** across **R9**, and **C23** in anode circuit. Provision for connection of gramophone PU across **R10**.

Tuning indicator (**T1**, Mullard **TV4**) obtains its operating potential from potential divider **R13**, **R14** (across **R12**) via decoupling circuit **R15**, **C34**.

Second diode of **V3**, fed from **V2** anode via **C15**, provides DC potential which is developed across load resistance **R19** and fed back through decoupling circuits as GB to FC and IF valves, giving automatic volume control. As **R19** is returned to **V3** cathode, AVC is undelayed.

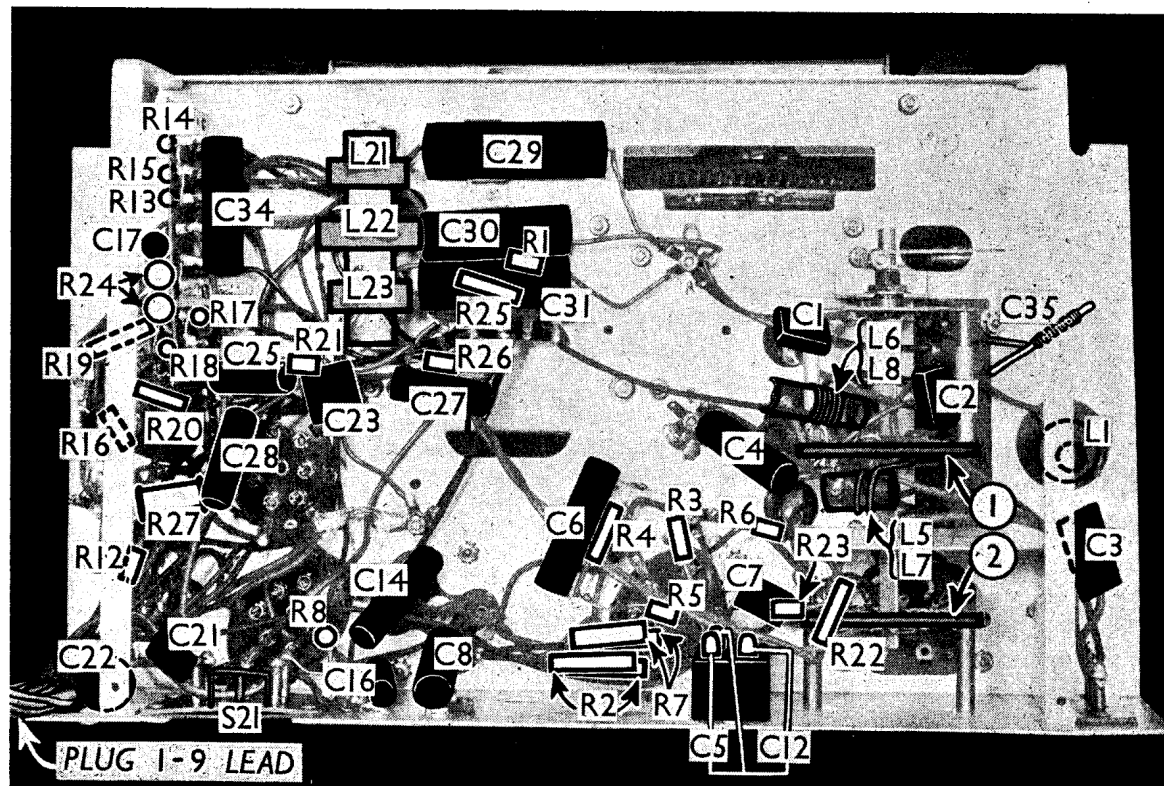
Resistance-capacity coupling by **R18** in anode circuit and, in series from **V3** anode to chassis, **C25**, **R21**, **R22**, **R23**, between **V3** triode and pentode output valve (**V4**, Ekco **OP41** or Mullard **Pen42B**). At this stage negative feed-back is introduced. The CG is fed via **R26** (with **C27** in parallel) from the junction of **R21**, **R22**, at which point also is connected, the common of switches **S19**, **S20** and one end of **R25**; the tertiary winding of **T1** is connected on one side to the further end of **R25** and on the other side to **V4** CG.

**S19** short-circuits **R22** on TS, and **S20** short-circuits **R26**, **C27** on SW, thus rendering feed-back inoperative.

Fixed tone correction in anode circuit

of **V4** by **C28**. Provision for connection of low impedance external speaker across part of secondary of **T1**. Total secondary output is fed via whistle filter **L21**, **C30**, **L22**, **L23**, **C31**, to speech and hum neutralising coils **L24**, **L25**. Switch **S21** permits speech coil circuit to be broken.

HT current is supplied by IHC full-



Under-chassis view. **C35** is a small semi-variable condenser. **R2**, **R7** and **R24** each comprise two resistors. Diagrams of the two switch units are on page VIII.