

SIX-transistor plus one diode miniature pocket portable for MW and LW. Moulded shock-proof cabinet in various colours. Supplied with hide carry case and personal phone.

Battery. Ever Ready PP3, Vidor VT3 or equivalent.

Consumption. No signal 6-8mA, average listening 14-18mA.

Battery life. 90 hours at three hours use daily (one month).

Wavebands. MW 182-570m (1,650-525kc/s), LW 835-2,000m (360-150kc/s).

Output. 120mW normal, 150mW maximum.

Transistors. 2SA15 mixer oscillator, 2SA12 first IF amplifier, 2SA12 second IF amplifier, 2SB75 audio amplifier, 2SB77(2) push-pull output.

Diode. 1N34A detector and AGC.

Stabiliser. HV-15 temperature and voltage compensation.

IF. 455kc/s.

Speaker. Circular 2½in. low impedance.

Aerial. Internal ferrite rod covering MW

and LW. Socket for external aerial.

Outlets. Jack socket for personal phone or tape recorder. Mutes internal speaker when in use.

Weight. 2lb 5ozs including battery.

Dimensions. 4½ × 2½ × 1½ approximately.

Controls. Combined volume-on/off, tuning, wavechange, two-position tone switch.

Price on release. 10gns complete.

Manufacturer. Hitachi Ltd., Tokyo, Japan.

UK Distributors. Lee Products Ltd., 10-18 Clifton Street, London, EC2.

Service department. 95-99 Villiers Road, London, NW2. Tel.: Willesden 6678.

DISMANTLING

Open rear cover with coin. Remove battery. Remove three crosspoint screws marked A in diagram. Circuit board may now be removed to extent of speaker leads. Unsolder leads to speaker noting three black wires to one side and blue wire to the other.

To remove speaker, unscrew two crosspoint screws with clamps marked B in diagram. Tone switch is connected by one red and one

black wire. To remove switch undo two crosspoint screws marked C in diagram.

BRIEF CIRCUIT DESCRIPTION

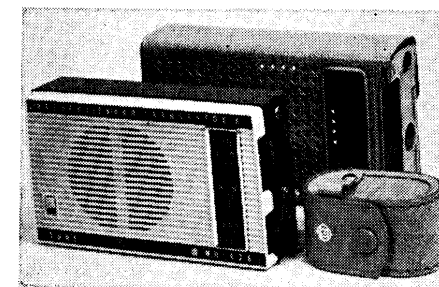
MW and LW aerial coils (L1, L2 and L3, L4) are mounted on ferrite rod and connect to base of mixer/oscillator transistor TR1 via wavechange switch SW3. Primary windings L1 and L3 are tuned. L1 covers MW, L3 is switched in series for LW.

Collector is inductively coupled to oscillator circuit by separate coils for MW and LW. Tappings on tuned oscillator coils (L5, L6) are connected to bottom of TR1 base input coils to provide feedback loop.

Two stages of IF amplification employ single-tuned double-wound transformers. Neutralising is applied over both stages by C17 and C21 from primary of IF transformers to base of preceding transistor.

Diode D1 detects signal and also provides positive AGC voltage applied via R7 to base of first IF amplifier. AF signal from volume control R9 is fed to base of audio amplifier TR4. Fixed tone correction is supplied by capacitor C26 across primary of interstage transformer T4. Tone control SW2 produces further top cut by switching capacitor C27 in parallel.

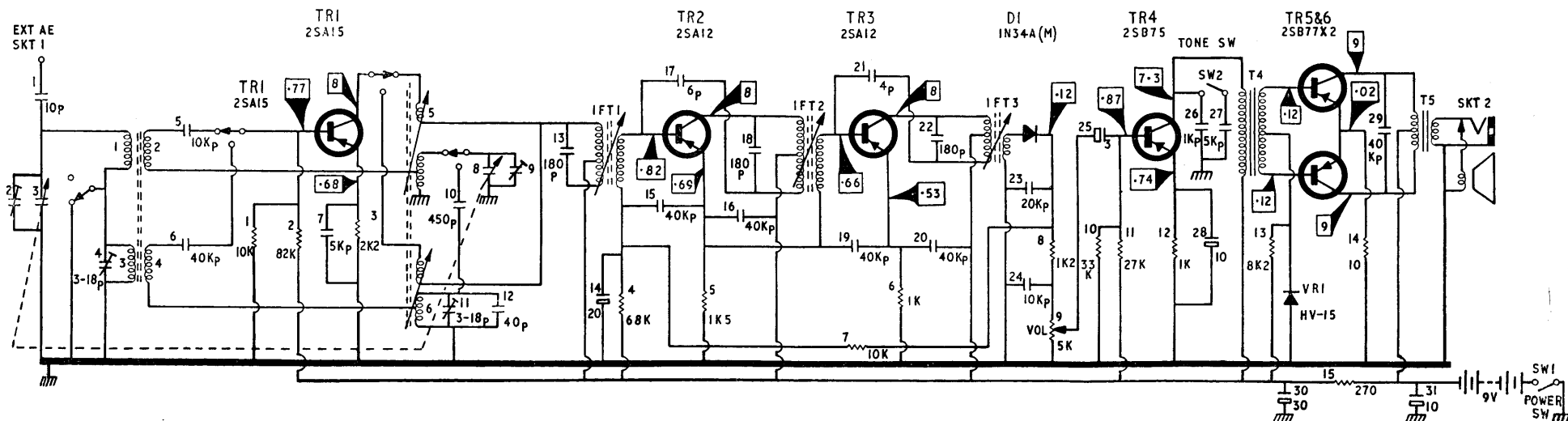
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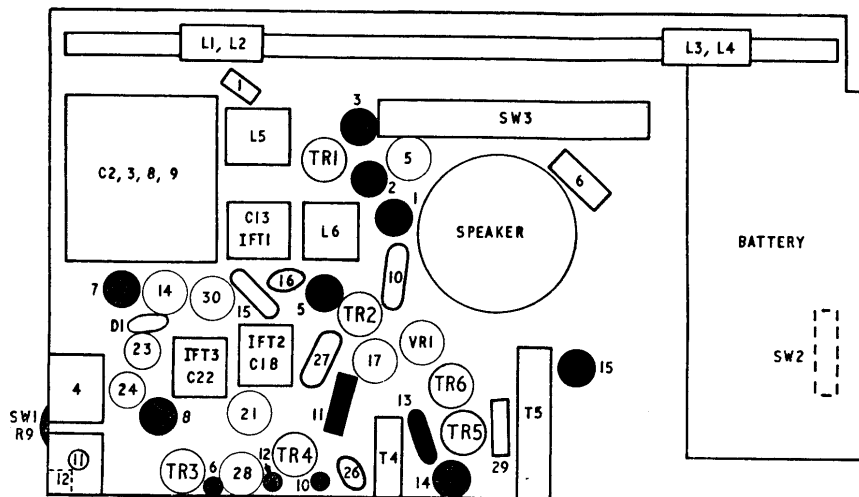
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Voltages are negative with respect to battery positive (earth) line and taken with 20,000 ohms/volt meter under normal signal conditions



Negative bias for output transistors is supplied to centre tap of T4 secondary through R13 stabilised by varistor VRI. This provides compensation for temperature and voltage changes.

Push-pull output stage has common emitter limiting resistor R14 and tone correction capacitor C29 across primary of output transformer. Secondary is tied to positive line and output is fed to internal speaker or via switched jack socket to external unit.

ALIGNMENT

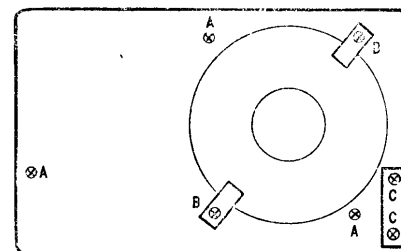
Equipment required. Modulated signal generator covering MW, LW and IF frequencies, output meter or multirange test set, trimming tools, 10pF capacitor.

Connect generator via 10pF capacitor to aerial socket on set. Connect output meter, or multirange meter set to 3V AC range, to output socket. Reduce generator output as circuits are aligned so that receiver output does not exceed 25mW or 0.5V.

IF. Switch on receiver and set wavechange to MW. Turn gang to HF end of scale 1,650 kc/s (fully open). Set generator to 455kc/s and adjust cores of IFT3, IFT2 and IFT1 in that order for maximum output. Repeat until no further improvement is obtained.

RF MW. Turn gang to fully closed position (525kc/s). Inject 525kc/s from generator and adjust L5 for maximum. Turn gang to fully open position, set generator to 1,650kc/s and adjust C9 for maximum. Repeat last two operations.

Above, layout of printed board viewed from component side. Below, location of crosspoint screws securing chassis and speaker in cabinet



Set receiver dial to 1,400kc/s and inject this frequency from generator. Adjust C2 for maximum. Tune receiver to 600kc/s and inject this frequency from generator. Adjust position of L1 on ferrite rod for maximum output. Repeat last two operations.

RF LW. Switch receiver to LW and set gang in fully closed position. Inject 150kc/s from generator and adjust L6 for maximum. Fully open gang, set generator to 360kc/s and adjust C12 for maximum. Repeat last two operations.

Tune set to 160kc/s and inject this frequency from generator. Adjust position of L3 for maximum output. Tune set to 330kc/s and inject this frequency from generator. Adjust C4 for maximum output. Repeat last two operations.