

# ZENITH "ROYAL 50K" Chassis 6KT43ZI

**General Description:** These are a series of six-transistor (plus crystal diode), medium-waveband portable receivers. Mixed *p-n-p*- and *n-p-n*-type transistors are used with *n-p-n*-types for all A.F. stages. Models covered by this information include Royal 50CK, Royal 50WK, Royal 50VK, Royal 40 and Royal 60. Chassis 6KT44ZI is also similar.

**Power Supply:** 3 volts (two 1.5-volt penlight cells or two 1.34-volt mercury cells). No-signal consumption about 11 mA.

**Waveband:** M.W. 540-1600 kc/s.

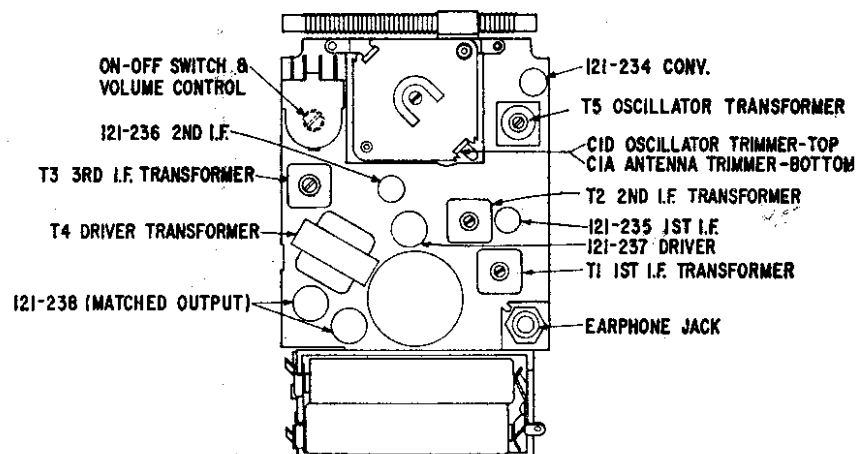
**Transistors:** In the following list Zenith coding for the transistors is shown first, the other numbers being standard designations of the American Electronics Industry Association. The transistors fitted are manufactured by Texas Instruments.

121-234 (frequency changer) GC282 (*p-n-p*); 121-235 (1st I.F.) GC283 (*p-n-p*); 121-236 (2nd I.F.) GC284 (*p-n-p*); 121-237 (A.F. driver) GC286 (*n-p-n*); 121-238 (matched output pair) GC285 (*n-p-n*). Crystal diode: (X1) 103-19 (detector) 1N87G.

**Alignment Procedure:** Signals are injected via one turn coil loosely coupled to rod aerial with outer shield of lead from signal generator connected to chassis via isolating capacitor.

Operation	Input Frequency (kc/s.)	Set Dial at (kc/s.)	Adjustment	Purpose
1	455	600	T <sub>3</sub> , T <sub>2</sub> , T <sub>1</sub>	I.F. alignment
2	1620	gang wide open	C1D	To set oscillator to dial scale
3	600	near 600	Core T <sub>5</sub>	Adjust for maximum output regardless of dial accuracy while rocking gang
4	1260	1260	C1A	To align rod aerial
5			Repeat 2 and 3	

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COMPONENT PANEL LAY-OUT

**Notes:** Speaker impedance 11 ohms at 1000 c/s. Earphone impedance should be about 15 ohms at 1000 c/s. Undistorted output power 80 mW. Sensitivity about 400  $\mu$ V./metre for 50 mW. output.

**Servicing Notes:** Zenith recommend the following tools and techniques for servicing the printed panel. Good pair of long-nose pliers. Sharp wire cutters. Small stiff glue brush to remove solder. Pencil type soldering iron with small tip (25 watts or less—excessive heat may damage panel if higher power iron is used). Tin leads on component before soldering. Use only solder with an extremely low melting point. Use small metal pick as soldering aid. The following notes will prove useful when replacing components. Resistors and capacitors should be replaced by clipping out the defective part and neatly soldering in the replacement part. If a unit, such as the oscillator coil or I.F. transformer is to be removed, heat the mounting lugs with low wattage soldering iron and move them away from the soldered connection with long-nose pliers or metal pick. Continue heating the lugs and brush away molten solder with a small stiff glue brush. Remove the defective unit by lifting it off the chassis. Before inserting the new unit be certain that the lug holes are open and free from solder. Forcing a lug against a solder filled lug hole may break the bond between the chassis base and the printed wiring. It is therefore necessary to exercise care when replacing units.

An open or damaged section of printed circuit wiring can be replaced by soldering a short jumper wire across the points to be connected.

