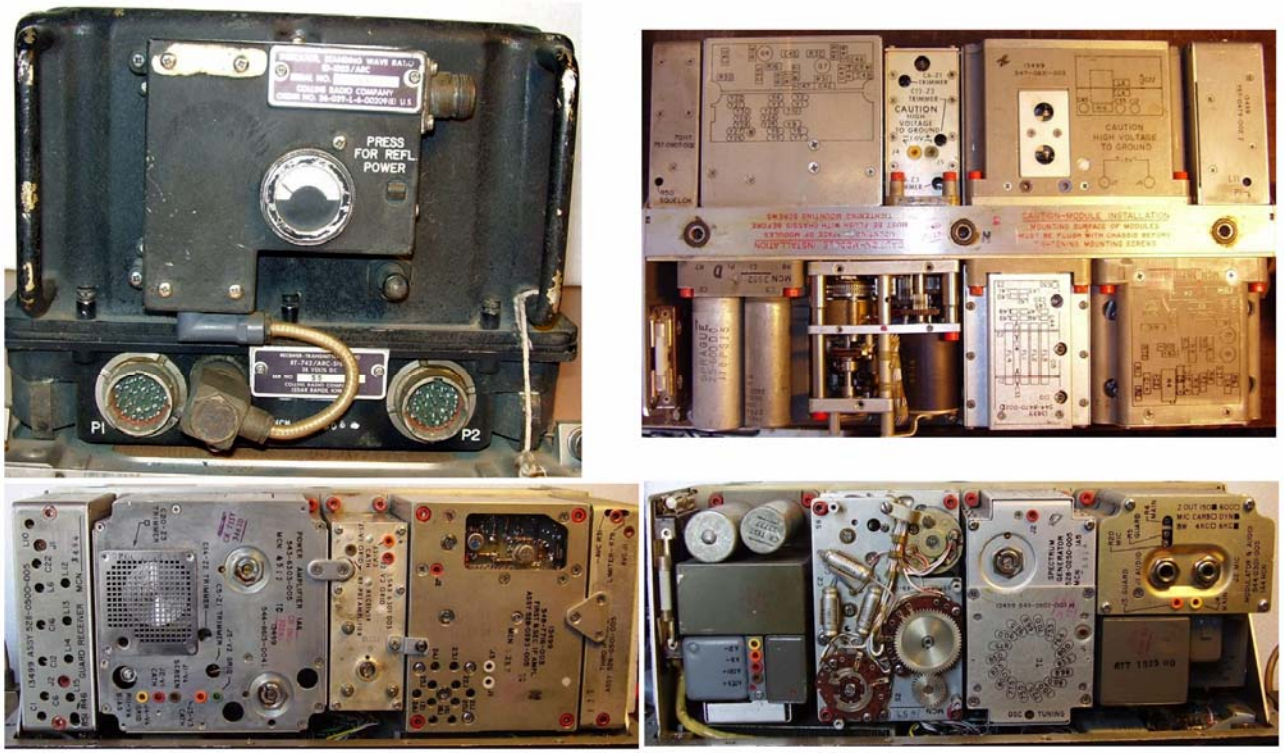
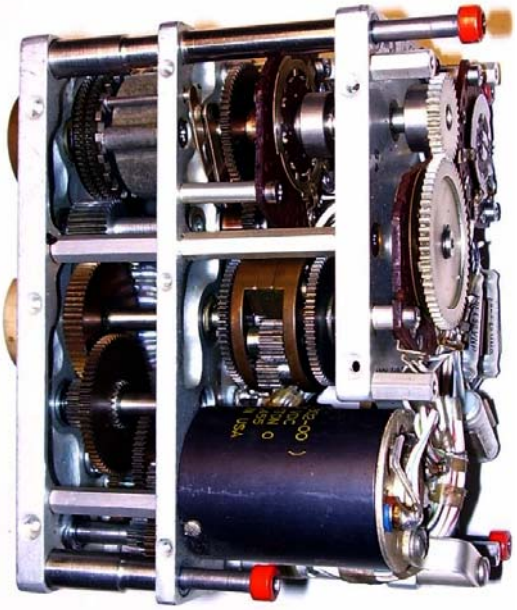
ARC-51 Collins - UHF Airborne Transceiver



The RT-742/ARC-51 is a clear example of the most advanced engineering by Collins.

The ARC-51 is a VHF AM transmitter/receiver intended for air to ground communication, covering from 225 to 399.9 MHz in 3500 channels, with 16W RF output power. The mechanic and electronic designs are extremely advanced. The external cabinet is sealed and pressurized. Tiny heat exchangers in the basement transfer heat from the internal air flow to an external one. A modular design is used, with the central frame which supports the modules and provides electrical connections and air flow to them. The equipment is almost entirely solid state, with the exception of VHF stages: three tubes are used in the transmitter, three in the receiver and two more in the spectrum generator. The tuning is motor driven, with a driving module and a complex system of gears to distribute motion to radio frequency modules. A standing wave indicator, the ID-1003/AR, is mounted outside the cabinet. This equipment was used by the others in the F-14 Tomcat.

Eight Cermet tubes: 6442 6299 6884 7554.

26.5 volts supply.

FIRST & SEC IF AMPLIFIER (A2)
J2 (P1)
(P2)
(P3)
J15
J16
J1 (P1)
(A1)
RCVR RF/PREAMP
J17
POWER AMPLIFIER (A6)
J24 (P5)
J21 (P3)
(P1)
J6
J7 (P1)
GUARD RECEIVER (A7)