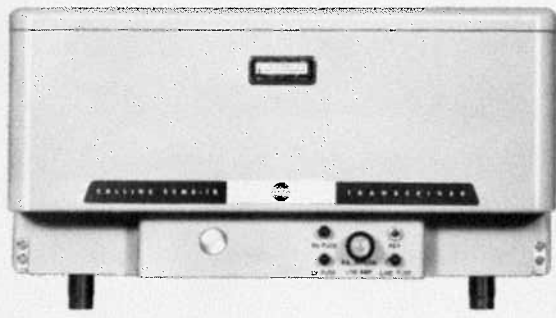


(Rev.)



PRODUCT DESCRIPTION
AND
APPLICATION

COLLINS 32MS-1B MOBILE TRANSCEIVER



GENERAL

The Collins 32MS-1B Mobile Transceiver provides voice communication on any one of four pretuned channels in the 1.6- to 15.0-mc range. Output power is 100 watts PEP in the SSB mode or 50 watts in compatible AM.

All functions, including pushbutton channel selection, are controlled from a small remote control unit. The 32MS-1B may be used in autos, trucks, military vehicles and marine installations, and as a fixed station. A minimum number of controls facilitates use by nontechnical personnel.

Each channel frequency employs separate sets of inductors to ensure optimum selectivity. All initial adjustments and tuning are accomplished by removing the top and bottom dust covers. Tuning requires no external test equipment.

Cooling is by convection. In transmission, a blower forces air directly on the PA tubes. Additional forced air can be employed in accordance with ARINC standards for installations where normal ambient air circulation is restricted.

A variety of antenna tuners, antennas, and control units may be used with the transceivers as determined by installation parameters and the user's requirements.

FEATURES

- SIMPLIFIED OPERATION** - Minimum controls and push-button channel selection require no advanced operator training.
- INSTALLATION VERSATILITY** - Design permits use in fixed-station, mobile, or marine applications.
- POWER OPTIONS** - Either 12-vdc, 28-vdc, or 115-vac or 230-vac, 50-400-cps plug-in power supplies may be used.
- RAPID INSTALLATION** - Plugs or cable connectors are used to couple all system components. A separate antenna tuner is not needed if the Collins 437P-1 Mobile Antenna is used.

SPECIFICATIONS

PRIMARY POWER: Power supplies available for operation from either 115 vac or 230 vac, 50-400 cps, 28 vdc or 12 vdc.

POWER REQUIREMENTS: At 117 vac - nominal transmitting test tone, 3 amp; transmitting average speech, 2.4 amp; receive, 1.2 amp. At 14 vdc - transmitting test tone, 22.5 amp nominal; transmitting average speech, 17 amp; receive, 7 amp. At 28 vdc - transmitting test tone, 11.5 amp nominal; transmitting average speech, 9 amp; receive, 3.8 amp.

ENVIRONMENTAL CONDITIONS: Ambient temperature range (operating) - from -20° to +55°C. Altitude - 30,000 ft (9,144 meters). Humidity - 0%-95%. Vibration - mounted on 390L-1A Shockmount and vibrated according to MIL-E-5400-E curves 1 and 3, figure 5, up to 250 cps; that is, suitable for aircraft use.

MODE: Single sideband or AM with reinserted carrier.
STABILITY: ±1 part per million.

TRANSMIT POWER OUTPUT: SSB - 100 watts PEP with two-tone input using the ac power supply, or 80 watts PEP with two-tone input using dc power supplies. Compatible AM with single-tone input - either 50 watts average using ac power supply, or 40 watts average using dc power supply.

TRANSMIT OUTPUT IMPEDANCE: 52 ohms with swr of less than 2.5:1.

HARMONIC AND OTHER SPURIOUS RADIATION: Second harmonic - at least 45 db below rated PEP. Carrier - at least 50 db below rated PEP static. Unwanted sideband - at least 60 db below rated PEP. Two-tone distortion products - at least 27 db below rated PEP.

All other spurious radiation - at least 50 db down from rated PEP.

TRANSMIT AUDIO INPUT: Telephone handset at control box or balanced 600-ohm input with 0-dbm input level.
SPEECH CLIPPING LEVEL: -3 dbm on AM; +8 dbm on SSB.

AUDIO-FREQUENCY RESPONSE: Transmitter, overall, ±3 db, 400-2700 cps measured across 52-ohm resistive load.

NOISE LEVEL: More than 40 db below rated power output.
AUTOMATIC LOAD CONTROL: Capable of maintaining at least 6-db compression.

RECEIVER BANDWIDTH: SSB - 3 kc, determined by mechanical filter. AM - 6 kc nominal.

RECEIVER SENSITIVITY: Less than 1-uv input signal for 10-db signal-to-noise ratio in SSB service; less than 3-uv signal, modulated 30% with 1000-cps tone for 10-db signal-to-noise ratio in AM service.

AGC CHARACTERISTICS: Output audio change is less than 6 db for input variation from 10-100,000 uv.

RECEIVER IMAGE REJECTION: 1.6-12.0 mc, more than 50 db; 12-15 mc, more than 40 db.

RECEIVER AUDIO OUTPUT POWER: SSB - 0-dbm output for 1-uv input; AM - 0-dbm output for 3 uv, 30% modulation, 1000 cps.

RECEIVER AUDIO DISTORTION: Less than 10% harmonic distortion at audio output.

RECEIVER AUDIO FIDELITY: Overall ±3 db, 400-2700 cps for SSB; ±3 db, 300-3000 cps for AM.

SIZE: 15-3/8" w, 7-1/2" h, 21-5/8" d (39.05 cm w, 19.05 cm h, 54.93 cm d).

WEIGHT: With ac supply, 48-3/4 lb (22.11 kg); with 28 vdc supply, 36-3/4 lb (16.67 kg); with 12 vdc supply, 36-1/2 lb (16.56 kg).

COMMUNICATION/COMPUTATION/CONTROL



COLLINS RADIO COMPANY/WORLD HEADQUARTERS/DALLAS, TEXAS