

AN/PRC-150(C)

ADVANCED HF/VHF TACTICAL RADIO SYSTEM

*a fully integrated, compact
communications system,
offering the security and
performance features your
missions demand*



NSA CERTIFIED

The AN/PRC-150(C) is a member of the Falcon® II family of multiband tactical radio systems. It is an advanced HF-SSB/VHF-FM manpack radio that provides reliable tactical communications through enhanced secure voice and data performance, networking, and extended battery life. In addition to the HF capability, the transceiver's extended frequency range (to 60 MHz) provides secure FSK 16 kbps CVSD voice and data in the VHF band.

The NSA-certified AN/PRC-150(C) provides U.S. Type 1 voice and data encryption compatible with ANDVT/KY-99, ANDVT/KY-100, VINSON/KY-57, and KG-84C cryptographic devices, eliminating the need for external encryption. An integral Citadel® encryption mode offers secure communication interoperability with coalition and Partnership for Peace forces.

High speed data rates, up to 9600 bps (HF), and selectable ARQ modes reduce on-the-air transmission time and enhance secure data transmission for improved communications reliability and throughput. The combined robust digital voice (MELP, LPC-10) and serial tone data modem operate over poor communication channels. The AN/PRC-150(C) includes a last ditch voice mode that transmits digital voice using ultra robust 3G waveforms for operation in channels where no other waveforms will work.

A serial-tone ECCM waveform with DSP-based excision filtering and a 600 bps MELP vocoder are combined to provide reliable, secure HF communications in the presence of jamming. Secure digital voice, 75 to 2400 bps data, and ARQ are supported in the ECCM mode.

In addition to MIL-STD-188-141B ALE, the AN/PRC-150(C) includes STANAG 4538 third generation HF Link Automation. It provides high performance ALE and data link protocols, providing superior linking and error-free data transfer. The radio also provides Scope Command telephony calling capability.

The AN/PRC-150(C) can connect to a standard PLGR GPS device. The accurate GPS timing data can be used for ECCM and advanced ALE synchronization.

Integrated telephony capability allows the radio operator to place and receive telephone calls using the radio keypad when used with the RF-6010 Tactical Network Access Hub.

The data capability and network management features of the radio utilize industry standard IP-based protocols to provide fast, simple, and direct communications.



Specifications for the AN/PRC-150(C) Series

General

Frequency Range	1.6 to 59.999 MHz
Net Presets	75, fully programmable
Frequency Stability	$\pm 0.5 \times 10^{-6}$
Emission Modes	J3E (single sideband, upper or lower, suppressed carrier telephony) H3E (compatible AM single sideband plus full carrier) A1A, J2A (compatible CW), selectable; F3E (FM)
RF Input/Output Impedance	50 ohm nominal, unbalanced
Power Input	26 VDC (21.5 to 32 VDC)
Data Interface	Synchronous or asynchronous (RS-232C; MIL-STD-188-114A)
Dimensions (with battery case)	10.5W x 3.5H x 13.2D inches (26.7W x 8.1H x 34.3D cm)
Radio Weight	10 lb (4.7 kg) without batteries

Receiver

Sensitivity	SSB: -113 dBm (0.5 μ V) minimum for 10 dB SINAD
Audio Output	15 mW at 1000 ohm to external handset
Squelch	Front panel adjustable, active squelch selectable
IF Rejection	Greater than 80 dB
Image Rejection	Greater than 80 dB (First IF image)
Intermodulation Distortion	-80 dB or better for two -30 dBm signals separated 30 kHz or more
Overload Protection	Receiver protected to 32 VRMS

Transmitter

Power Output	1, 5, 20 watts PEP/Average -1/+2 dB (1, 5, 10 watts FM)
Audio Input	1.5 mV at 150 ohm or 0 dBm at 600 ohm for full rated output
Carrier Suppression	Greater than 60 dB below PEP output (J3E mode)
Undesired Sideband Suppression	Greater than 60 dB below PEP output
Spurious Outputs (Greater than 20 kHz from Fc)	-50 dB relative to rated output, except harmonics which are -40 dB Minimum for $f_o = 1.6$ -30 MHz
Antenna Tuning Capability	OE-505 10-foot (3 m) whip (1.6 to 60 MHz) RF-1936P (AS-2259) NVIS (3.5 to 10 MHz) RF-1940-AT001/RF-1941 dipole

Environmental

Test Method	Per MIL-STD-810E
Vibration	Ground Tactical
Immersion	3 ft. (.9m) of water
Operating Temperature	-40°C to +70°C

HF Features

Encrypted Data	HF: MIL-STD-188-110B App. C (9600bps and 12,800 bps uncoded), App. B 39 tone (to 2400 bps) Serial Tone (to 9600 bps) STANAG 4285 (2400 bps), STANAG 4415 (75 bps) STANAG 4539 (9600 bps), FSK ((600 bps) VHF: FSK (16 kbps)
Automatic Link Establishment (ALE)	STANAG 4538 FLSU, MIL-STD-188-141B Appendix A with Appendix B AL-1 LP, including the Scope Command telephony call type
Frequency Hopping	Serial Tone ECCM
Vocoder	HF: LPC-10-52E (600/2400) MELP (600/2400), VHF: CVSD
Data Link Layer Protocol (ARQ)	STANAG 4538 (3G), pFED-STD-1052

VHF Features

Data	Wideband FSK (16 kbps)
Voice Digitization	CVSD (16 kbps)

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COMSEC Interoperability	ANDVT/KY-99, ANDVT/KY-100, KG-84C, KY-57 VINSON (VHF), CITADEL (coalition)
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Accessories & Options

RF-5800H-V001	150 Watt Vehicular Adapter
RF-5800H-B003	400 Watt Base Station Adapter
RF-5800H-V006	20 Watt Vehicular Adapter
BB-390B/U	Nickel Metal Hydride Battery (Rechargeable)
BB-2590/U	Lithium Ion Battery (Rechargeable)
10512-0465-01	Backpack Carrying Bag
RF-5850-PS001	Battery Eliminator
10535-8010-002	LPI/D option

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