

AN/VRC-110

**DUAL 50-WATT SINCGARS
COMPATIBLE MULTIBAND
VEHICULAR SYSTEM**



Versatile
multimission vehicular
system for long-range
communications reliability
and quick-dismount
applications

The AN/VRC-110 is a fully integrated, high-performance multiband vehicular radio system with an advanced architecture that ensures performance comparable to existing SINCGARS systems. With 50 watts output power in the key 30 to 90 MHz band, the radio system also includes multiple power output options for the 90 to 512 MHz band.

Separate VHF and UHF antenna ports and automatic port switching on each amplifier provide the AN/VRC-110 with true multimission capability. The user can switch between ground, ground-to-air, or SATCOM communications by simply selecting the required net on the radio. The VHF antenna port provides a 50-watt output from 30 to 90 MHz, and the UHF antenna port provides up to 20 watts UHF(90-512 MHz) and up to 50 watts SATCOM output.

The system includes the AN/PRC-152(C) Software Communications Architecture-based handheld radio, providing SINCGARS, Havequick II, VHF/UHF AM and FM, DAMA, and MIL-STD-188-181B with Advanced Narrowband Digital Voice Terminal (ANDVT) and up to 56 Kbps data. The AN/PRC-152(C) uses the Harris Sierra™ II software programmable encryption module, ensuring support of future waveforms and encryption modes.

To maintain communications in dismount operations, the system's "jerk-and-run" capability allows the AN/PRC-152(C) handheld radio to be quickly removed while remaining powered on. An integrated handheld battery charger provides simultaneous operation and charging of the handheld radio battery.

The AN/VRC-110 also provides VIC-1/3 interface and heat-sinking for an extended-use duty cycle. For vehicular applications, a standard MT-6352 SINCGARS install kit may be used. The multimode, multimission capabilities of the AN/VRC-110 maintain interoperability with legacy radio-equipped forces through the transition to JTRS. The AN/VRC-110 is compatible with the RF-310M-HH Suite B Handheld radio.



Specifications for the AN/VRC-110

General

Frequency Range	30-512 MHz
Transmission Modes	FM, AM (90-512 MHz), PSK, CPM, FSK, ASK
Presets	99 (standard); unlimited using multiple mission plan files.
Power Input	20-32 VDC MIL-STD-1275B Protection
Power Consumption	25 Amps single, 50 Amps Dual at 20 VDS
Tuning Resolution	10 Hz

Interfaces

DATA	RS-232
Remote Control	RS-232
VHF Antenna Port	50 Ohm BNC
UHF Antenna Port	50 Ohm BNC
Audio	VIC-1, VIC-3, LS-671 compatible
Battery Charger	Six-hour charge time

Transmitter

Output Power	30-90 MHz: 5, 20 or 50 watts PEP 90-512 MHz: 20 watts PEP with 50 watts PEP in SATCOM bands
Harmonic Suppression	Greater than 60 dBc (50 watts) Greater than 56 dBc (20 watts) Greater than 50 dBc (5 watts)
Spurious Suppression	VHF: Greater than 80 dBc typical UHF: Greater than 60 dBc (50 watts) Greater than 56 dBc (20 watts) Greater than 50 dBc (5 watts)

Radio Interoperability

Crypto Fill Devices	AN/CYZ-10 DTD (supports DS-101, DS-102 and MODE 2/3), KYX-15, KYK-13, DTD-2000
Crypto Modes	KY-57, ANDVT/KYV-5, KG-84C, AES, FED-STD-1023, Fascinator
Radios	AN/PRC-117G, AN/PRC-117F, AN/PRC-113, AN/PRC-119A/B, AN/PRC-148, AN/PRC-77, PSC-5, AN/PRC-139, XTS-5000, ARC-210, ARC-164, ARC-231, RF-310M-HH
GPS	PLGR, DAGR

Receiver

Sensitivity	-113 dBm @ 12 dB SINAD (FM)
Image Rejection	Greater than 80 dB
IF Rejection	Greater than 70 dB

Physical Specifications

Height	10.2 in.
Depth	13.4 in.
Width	7.5 in. (single channel)
Width	15.2 in. (dual channel)
Weight	23 lbs. (single channel)

Environmental

Temperature	-30°C to +60°C
Shock/Vibration	MIL-STD-810F
Sand/Dust	MIL-STD-810F

Key Radio Waveforms

SINCGARS
VHF/UHF AM/FM
HAVEQUICK I/II
MIL-STD-188-181B
DAMA (Option)
HPW (Option)
APCO P25 (Option)
HPW-IP (Option)

Key Radio Features

SCA v2.2 Compliant (no waivers)
Sierra™II programmable Type-1 crypto
Built-in speaker/microphone
Full numeric display
NVG compatible display
MELP
Wireless cloning



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