

AN/VRC-100 Advanced HF Ground/Vehicular Communications System



A multifunctional HF communications system designed for tactical operations centers, air traffic control and vehicular applications.

Military users need an easy-to-operate, multifunctional, fully Digital Signal Processing (DSP) high frequency radio for a variety of ground or mobile applications. That's why Rockwell Collins designed the VRC-100, providing beyond line of sight communications for tactical operations centers, air traffic control, and vehicular applications such as the High Mobility Multi-purpose Wheeled Vehicle (HMMWV).

The fully integrated plug and play multi-mode voice or data communications system is configured in a portable case. As the primary ground radio for HF tracker interface, the VRC-100 increases your situational awareness of aviation assets. And with capabilities identical to the

ARC-220 HF radio system, it is the ideal radio to support ARC-220-equipped airborne platforms.

With the VRC-100, you can maintain beyond line of sight contact during short, mid, and long range operations. In addition to enhanced voice communications capabilities, the AN/VRC-100 advanced data communications system provides reliable digital connectivity.

KEY FEATURES/USER BENEFITS

- Standard HF radio of U.S. Army aviation - logical choice for ground support of ARC-220-equipped aircraft
- Embedded ALE, ECCM and data modem (JITC certified)
- Automatic Quick Call ALE (AQC-ALE) for faster connections - (V)4 system

- Automatic Position Reporting - (V)4 system
- Binary messaging with ARQ protocol - (V)4 system
- Personal computer (PC) or laptop connectivity
- Used with Army HF Tracker software for situational awareness and messaging
- Ground HF network entry point for U.S. Army aviation
 - Secure text messaging and digital voice
 - Situational awareness
- Scope Command Connection - SIPRNET/NIPRNET email via HF Messenger™
- Department of Homeland Security is using AN/ARC-220 and VRC-100

**Rockwell
Collins**

Building trust every day

SPECIFICATIONS

Frequency	2.0000 - 29.9999 MHz in 100 Hz steps
Channels/Nets	20 user programmable simplex or half-duplex 20 programmable automatic link establishment (ALE) scan lists 12 programmable ECCM hop sets
Frequency Stability	3.3×10^{-7} over operating temperature range
Emission Modes	USB & LSB-voice and data, CW and AME
ALE	IAW MIL-STD-188-141B Appendix A and MIL-STD-188-141B Appendix A AQC-ALE JITC certified 26 July 2002
ALE Linking Protection	ALE Linking Protection AL1, AL2, & AL3 (MIL-STD-188-141B Appendix B)
ECCM	IAW MIL-STD-188-148A (with ALE) - JITC certified 18 July 2002 IAW CR-CX-0218-001 (Army enhanced)
Modem	IAW MIL-STD-188-110B and STANAG 4285 - JITC certified 18 July 2002
Power Requirements	24 VDC vehicular power, 28 VDC IAW MIL-STD-1275, or 115 VAC + 5%, or 220 VAC +5%, 47-63 Hz
28 VDC	600 W (transmit) maximum
117 VAC	650 VA (transmit) maximum
220 VAC	650 VA (transmit) maximum
Mission Data Backup	+6 VDC to +24 VDC
Battery Input	
Reliability	1000 hours MTBF minimum
Fault Isolation/Detection	95% LRU fault detection 98% fault isolation (LRU level)
Mechanical	22.25" x 22.875" x 8.75" (LxWxH); 88.0 lbs

FIELD REPROGRAMMABLE

Mission Data	DS-101, EIA-232, MIL-STD-1553B
Transec Keys (VRC-100(V)1 only)	DS-101
Software (OFP)	IAW MIL-STD-2217

RECEIVE

Characteristics	IAW MIL-STD-188-141B
Sensitivity	-111 dBm signal for 10 dB (S+N/N)

TRANSMIT

Characteristics	IAW MIL-STD-188-141B
Power Output	3 levels: 175 W pep (100 W avg)

Tune Time

50 W avg
10 W avg
1 sec nominal, 5 sec max

INTERFACES

Audio Voice	H-250 Handset Adjustable 0 or +17 dBm (5 mW)
Audio Data	1 mW (0 dBm), 600 ohm balanced
Secure Voice/Data Operation	Compatible with KY-100 (AIRTERM), USC-43 (TACTERM)
Data Sources	1553, EIA-232C, PLGR GPS (time & position), HF Messenger™

ENVIRONMENTAL

Operating Temperature	-40°C to +55°C
Storage Temperature	-51°C to +85°C
Altitude	15,000 ft maximum
Humidity	95%

ANTENNAS

LFH-230	C&S Antennas - "Fanlite" Broadband fan-dipole antenna used with telescopic "CARRYMAST" excellent NVIS antenna
BWDS-90N	Barker & Williamson broadband Folded dipole - good NVIS antenna
AT-1011/U	32' whip, Shakespeare 120-11 longer range omnidirectional antenna
AS-2259	Telex Hy-Gain 637K-1

SELECTION GUIDE

Type Number	Description	Part Number
AN/VRC-100(V)1	HF ground/vehicular radio set	822-0793-001 NSN: 5821-01-413-4235
AN/VRC-100(V)4	HF ground/vehicular radio set without ECCM & NSA LP3 waveforms	822-0793-003
AN/VRC-100	Technical product support man-day rate at Rockwell Collins facility	NPN, MDR
AN/VRC-100	Technical product support, hourly rate onsite CONUS	NPN, TPS-HR

For more information contact:

Rockwell Collins
400 Collins Road NE
Cedar Rapids, Iowa 52498
800.321.2223
319.295.5100
Fax: 319.295.4777
E-mail: collins@rockwellcollins.com
Website: www.rockwellcollins.com/gs

**Rockwell
Collins**

Building trust every day