



ARC-220 C4I ADVANCED HF AIRCRAFT COMMUNICATION SYSTEM

Advanced data communications system providing digital connectivity

A C4I system for rotary-wing craft

Collins Aerospace's ARC-220 advanced high-frequency (HF) communications system was designed specifically for military rotary-wing aircraft. The easy-to-operate system serves as a command, control, communications, computers and intelligence (C4I) platform that allows pilots to keep their eyes on what's outside of the cockpit.

ARC-220 provides full digital signal processing (DSP) capabilities, featuring embedded Automatic Link Establishment (ALE), a serial tone data modem and text messaging.

Currently fielded on all U.S. Army Blackhawk, Chinook and Apache helicopters, and with identical capabilities to the VRC-100 used at Army Aviation tactical operation centers, ARC-220 is one of the industry's most proven military aircraft communications systems.

KEY FEATURES & BENEFITS

- ALE provides JITC-certified clear channel connection.
- 2G ALE.
- JITC-certified data modem.
- Alternate Quick Call ALE (AQC-ALE).
- Securable automatic position reporting - (V)3/(V)4.
- Securable binary messaging with Automatic Repeat Request (ARQ) protocol - (V)3/(V)4.



SPECIFICATIONS

Frequency	2.0000 to 29.9999 MHz in 100-Hz steps
Channels/nets	<ul style="list-style-type: none"> • 20 programmable simplex or half duplex • 20 programmable ALE scan lists • 12 programmable ECCM hop sets
Frequency stability	3.3 x 10 ⁻⁷ over operating temperature range
Emission modes	USB and LSB-voice and data, continuous wave (CW), anomalous wave (AM)
ALE	IAW MIL-ST D-188-141B Appendix A Appendix A AQC-ALE – JITC certified July 26, 2002
ALE linking protection	ALE Linking Protection AL1, AL2, AL3 (MIL-ST D-188-141B Appendix B)
ECCM	IAW MIL-ST D-188-148A (with ALE) – JITC certified July 18, 2002, IAW CR-CX-0218-001 (Army enhanced)
Modem	IAW MIL-ST D-188-110B and STANAG 4285 – JITC certified July 18, 2002
Power requirements	+28 VDC per MIL-ST D-704 (550 W max)
Reliability	1,000 hours mean time between failure (MTBF) minimum
Fault Isolation/ Detection	95% LRU fault detection 98% fault isolation (LRU level)

FIELD REPROGRAMMABLE

Mission data	DS-101, EIA -232, MIL-ST D-1553B
Transec keys (RT -1749/UR C)	DS-101
Software (OFP) IA	IAW MIL-ST D-2217

RECEIVE

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

TRANSMIT

Characteristics	IAW MIL-ST D-188-141B
Power output	3 levels: 175 W peak envelope power (PEP) (100 W avg) 50 W and 10 W
Reliability	1,000 hours MTBF minimum
Antennas	Shorted loop, open loop, open wire and 50-ohm resistive

INTERFACES

Audio voice	0 or up to +17 dBm (50 mW) max, 150-ohm balanced
Audio data	1 mW (0 dBm), 600-ohm balanced
Secure voice/data	Compatible with KY-100 (AIRTER M),
Antennas	Shorted loop, open loop, open wire and 50-ohm resistive
Operation	USC-43 (TACTER M)
Data sources	1553, EIA -232C, GPS (time & position)

ENVIRONMENTAL

Operating temperature	-40°C to +55°C
Storage temperature	-51°C to +85°C
Altitude	25,000 ft maximum
Humidity	95%
Vibration	2.5 g
Operational shock	20 g
Crash safety shock	40 g
ENV	IAW MIL-STD 810E
EMI	IAW MIL-ST D-461D

Specifications subject to change without notice.