

Multiband Communications and Crypto Systems

Modernized battle-proven
airborne radios



BAE Systems offers a **complete family** of radio systems for **airborne platforms**.

BAE Systems is the leading airborne radio provider, with more than 100,000 systems deployed globally. These battle-proven systems offer multi-band, multi-mission, secure anti-jam voice, data transmission, and network-capable communications in a compact radio set. Our mission is to provide modernized communication products and services in support of critical tactical missions.



	AN/ARC-231 RT-1808A	AN/ARC-231A RT-1987	AN/ARC-231 MXF-4000	AN/ARC-164A MXF-4059	AN/ARC-232A MXF-4058	AN/ARC-234 RT-2004/5/6/7
Very high (VHF)	✓	✓	✓	-	✓	✓
Ultra high (UHF)	✓	✓	✓	✓	✓	✓
Type 1 cryptography	✓	✓	-	-	-	✓
Modernized cryptography	-	✓	-	-	-	✓
ATC 8.33 compliant	✓	✓	✓	-	✓	✓
HAVE QUICK	✓	✓	✓	✓	✓	✓
SATURN	-	✓	-	✓	✓	-
SINCGARS	✓	✓	✓	-	-	✓
Mobile User Objective System (MUOS)	-	✓	-	-	-	-
Demand Assigned Multiple Access (DAMA)/Integrated Waveform (IW)	-	✓	-	-	-	✓

AN/ARC-231A

RT-1987



AN/ARC-232A

MXF-4058



The AN/ARC-231A is a software defined radio (SDR) that implements an NSA modernized, Type 1, embedded cryptographic solution. It provides joint service standard line of sight (LOS), HAVE QUICK, SATURN, and SINGARS electronic counter-counter measures (ECCM), along with integrated waveform satellite communications (SATCOM). The AN/ARC-231A has MUOS capability and provides extended coverage across 30 to 512 MHz frequency with expandability up to 2 GHz.

Features and benefits

- The AN/ARC-231A programmable feature supports evolving waveform communication requirements and equipment special mission modifications for enhanced performance.
- The AN/ARC-231A SCA/SDR design allows for software only upgrades of future capability advancements.
- Performance compliance is in accordance with military waveforms and software that ensure interoperability for joint force operations.
- The AN/ARC-231A is a drop in replacement for the RT-1808A and fully backward compatible with all ancillaries.
- Multiple control interface options such as independent red and black MIL-STD-1553, Ethernet, and USB allows for flexible integration.
- AN/ARC-231 provides ED-23C (8.33 kHz) international compliance air traffic control communications.



The AN/ARC-232A is a Starfire airborne radio system providing VHF/UHF multiband communications that meets military standards. This system can be deployed across all fixed wing and rotary wing applications. It provides US DoD, North Atlantic Treaty Organization (NATO) services, and coalition partners with 30 to 400 MHz frequency coverage in support of military frequency modulation (FM), air traffic control, and maritime communications.

Features and benefits

- Qualified to military standards and meets domestic and international interoperable ability requirements for NATO and coalition military airborne applications.
- Small and lightweight, the AN/ARC-232A supports retransmission capability and continuous transmit duty cycle.
- The system offers excellent receiver sensitivity even when exposed to severe operating conditions.
- The AN/ARC-232A is software programmable, allowing radio configurations with and without ECCM such as HAVE QUICK, SATURN, SINGARS, or an optional national ECCM.
- Form fit enhancement and upgradable frequency range up to 2 GHz maximizes future capabilities while minimizing platform impact.



UH-60 Blackhawk



CH-47 Chinook



UH-72 Lakota



MQ-1C Grey Eagle



AH-64 Apache



KT-1 Woongbi



AS-532 Cougar

AN/ARC-164A

MXF-4059



The AN/ARC-164A is a Starfire airborne radio providing interoperable UHF and with VHF as an option, as well as anti-jam communications in support of military missions. With more than 100,000 legacy systems fielded across 70 countries, the AN/ARC-164A provides increased capability for future operational modes.

Features and benefits

- Software definable as a legacy AN/ARC-164 drop-in replacement.
- Qualified to military standards and meets domestic and international interoperable ability requirements for NATO and coalition military airborne applications.
- Supports external cryptographic solutions providing optional secure communications.
- The system offers excellent receiver sensitivity even when exposed to severe operating conditions.
- The AN/ARC-164A is software programmable, allowing radio configurations with and without ECCM such as as HAVE QUICK, SATURN, SINGARS, or an optional national ECCM.
- Form fit enhancement for the AN/ARC-164 and expandable up to 2GHz frequency range.



F-16 Falcon



C-130



F-15 International

AN/ARC-234

RT-2004/5/6/7



The AN/ARC-234, known as the Airborne Integrated Terminal Group (AITG), is an internationally deployed, multi-purpose SDR used by Air Force strategic platforms. This SDR provides downloadable, Type 1, embedded cryptographic algorithms, upgradable joint service standard LOS and SATCOM waveforms, and downloadable new waveform capability. The AITG boasts unique features including a built-in 100 Watt transmitter.

Features and benefits

- Full-duplex (FDX) SATCOM capability vastly improves DAMA and IW channel access.
- Dual ports provide simultaneous voice and data or two data users to communicate independently over DAMA/IW SATCOM using a single AIT radio.
- SDR capabilities provide software programmable and upgradeable waveforms, eliminating the need to replace equipment.
- Built-in 40-character by 10-line human-machine command and control interface allows for easy operation from the ¼ video graphics array remote control unit.
- Both legacy and modern crypto versions have enhanced cosite performance and receiver sensitivity.
- An available radio rack houses up to 10 individual FDX SATCOM AIT radios with echo suppression, allowing a beyond line of site satellite to satellite communications relaying capability.
- An available Multiple AIT Remote Control (MARC) system provides control of ten or more AITs from a single, very remote, PC application.



EC-130H
Compass Call



E-3 Sentry



B-2 Spirit



CP-140 Aurora



RC-135 Rivet Joint



E-7A Wedgetail
E-7T Peace Eagle

AN/ARC-231 RT-1808A



The AN/ARC-231 RT-1808A Skyfire airborne radio is a VHF/UHF multi-band, voice/data tactical communications system. The AN/ARC-231 RT-1808A implements military standard communications and is intended for use on fixed wing, rotary wing, and unmanned aerial vehicle (UAV) aircraft. The system provides reliable and secure LOS and SATCOM that are joint service interoperable and compatible with internal standards.

Features and benefits

- Extensive self-test and failure diagnostics combined with replaceable modules simplifies maintenance.
- Advanced voice digitization with mixed excitation linear predictive (MELP) voice coding and noise reduction greatly enhances voice recognition.
- Noise reduction algorithm is also applied to LPC-10e voice transmissions to enhance voice recognition and intelligibility.
- Provides Type 1 embedded cryptographic solution and capable of external cryptographic units.
- ECCM such as HAVE QUICK and SINCGRS protects the radio communication from jamming.
- SATCOM DAMA/IW coordinates multiple users on a waveform improving channel efficiency.



AH-64 Apache



UH-60 Blackhawk



UH-72 Lakota



CH-47 Chinook



MQ-1C Grey Eagle

AN/ARC-231 MXF-4000



The AN/ARC-231 MXF-4000 series of radios provides ECCM, LOS, and dedicated SATCOM communications. The MXF-4000 capitalizes on the expandable modular architecture of the AN/ARC-231, including software programmable upgrades. Identical in form, fit, and operator interface, the MXF-4000 series uses the same ancillaries as the AN/ARC-231 and is capable of supporting external encryption capability.

Features and benefits

- Extensive self-test and failure diagnostics combined, with replaceable modules, simplifies maintenance.
- Fully compatible with all AN/ARC-231 ancillaries.
- 239 operational radio channel presets simplify the operator's mission workload.
- The radio can add a country specific National ECCM waveform, enabling customization based on customer needs.
- Supports external cryptographic solutions, providing optional secure communications.
- The AN/ARC-231 provides radio retransmission capability.



AH-64 Apache



UH-60 Blackhawk



CH-47 Chinook



UH-72 Lakota

For more information contact:

BAE Systems
Michael Navarro
620 Discovery Drive Suite 325
Huntsville, AL 35806
T: 256 210 2639
M: 256 426 9909
W: baesystems.com/MCC

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