Leveraging Technology to Deliver Best Value

Rockwell Collins is a leader in the design, production and support of communications, aviation, integrated systems and platform electronics solutions for government and commercial customers worldwide. We deliver on our commitments and are able to bring affordable technology quickly to market. Our business balance and open systems architecture approach allow Rockwell Collins to deliver advances in commercial technology seamlessly to our government customers for greater product extensibility.
Rockwell Collins is a proven leader in delivering high frequency (HF) communications to commercial and government customers worldwide. Rockwell Collins’ unmatched HF heritage includes pioneering voice transmissions for the first North Pole expedition and all communications to and from the moon in the Apollo program. That advanced innovation continues today with Rockwell Collins’ advanced HF networking communications solutions.
Rockwell Collins provides tailored, flexible HF systems solutions that meet requirements for worldwide interoperability – a key to enabling network centric operations. Our HF systems meet survivability and reliability requirements at significantly lower operating costs compared to satellite systems such as INMARSAT.
Turnkey, Tailored Solutions

Rockwell Collins’ HF systems solutions enable the exchange of voice and data linking among air, land and sea platforms around the globe. From understanding your mission needs and system design – through installation, training, maintenance and capability growth, Rockwell Collins provides total life cycle/turnkey HF communication solutions.
Rockwell Collins ALE simplifies HF use for long distance or short non-line-of-sight paths by automating the channel selection and linking processes. Radio users no longer need to understand the complexities of ionospheric skywave propagation or continually monitor a list of alternate frequencies for possible incoming calls. The automation provided by ALE significantly reduces operator workload and improves communications quality and reliability. HF ALE is undoubtedly the best thing that has happened to HF communications since the implementation of single sideband.
Rockwell Collins’ HF Cellular system is the backbone that provides reliable HF communications with the U.S. Customs and the U.S. Coast Guard HF infrastructure. HF Cellular systems management capability uses ALE for drag and drop connectivity. HF Cellular evaluates link quality data in real time and directs the “best” station link with the mobile platform. The HF Cellular system also provides at-a-glance network analysis and active platforms icon display. HF Cellular comes with TRACS position location capability, enabling the use of GPS data from the mobile platform to locate positions and track routes of ground, air and sea assets on maps.
With Rockwell Collins’ High Frequency (HF) Messenger™ software, wireless, digital, satellite-free communication has become reality for communications to and from aircraft, ships, vehicles and remote locations where terrestrial-based links are not traditionally possible. For military and commercial users alike, the HF Messenger software is a scalable, affordable communication solution ensuring global interoperability and ease of use through the wireless transmission of data. What was an environment that heavily depended on individual training and expertise is now as easy to use as sending email.
Rockwell Collins is developing digital voice technology for HF communications. The technology is designed to meet future user requirements and implements the Mixed Excitation Linear Prediction (MELP) Vocoder Algorithm compliant to STANAG 4591, with data rates of 2400 and 1200 bps.
Rockwell Collins offers a variety of network design and management tools and services to aid the HF user with setting up and operating simple to complex communications networks. Rockwell Collins can also provide full turn key system design, installation and test of HF communications systems tailored to airborne, shipboard, transportable and fixed ground applications.

**PropMan2000™** – Reliably predicts and optimizes propagation links between two fixed locations.

**PropCov™** – Predicts coverage to support antenna type/placement and RF power level trade-offs.

**FreqPlan™** – Optimizes propagation predictions for moving platforms such as aircraft and ships.

**HF-CPS** – Network and ALE data management tool.

**RF Analysis** – Dynamic modeling for co-site mitigation.
The ARC-190 is the preferred HF communication system for the U.S. Air Force. It’s a 400-watt system that is the standard for long haul missions on the C-5, C-130, C-141, B-1B, KC-135 as well as the E-6A, E-4B and F-15 aircraft. In addition to being the U.S. Air Force’s HF mainstay, Rockwell Collins is a leader in airborne long haul communications around the world, including aircraft such as the F-15, C-130 and C-160. Optional LRUs provide for HFDL/ECCM/ALE capabilities CP-2024C/ARC-190(V), SIMOP operation F-1535/ARC-190(V), and HF Email using Rockwell Collins HF Messenger™. The AN/ARC-190(V) family has a complete line of agile tuned couplers for fixed wire, whip, shunt and probe antennas.
Designed for high performance installations with Link 11/TADIL-A requirements and severe simultaneous operation (SIMOP) requirements, the AN/ARC-230/HF-121C family of radios is installed on the U.S. Air Force’s RC-135, E-3B/C, YAL-1A, VC-25A and C-32A. It is also installed on the United Kingdom RAF E-3D, the Singapore E-2C, Chilean P-3A/B, the Norwegian ULA Class Submarines, the Canadian CP-140, and was selected for the U.S. Navy/Boeing MMA and the U.S. Navy P-3C COP programs. The HF-121C is the latest in a series of Rockwell Collins HF radios, which includes embedded MIL-STD-188-141B ALE, MIL-STD-188-110B Modem, ARINC 714 demodulator, and HF Email using Rockwell Collins HF Messenger™.
Designed for the U.S. Army Nap of the Earth program and now used by all of the U.S. Armed Forces, the AN/ARC-220(V) is one of the most sophisticated HF systems available. Used on fixed-wing and rotary-wing aircraft, this compact, lightweight, 200-watt radio system meets the demanding communications needs of tactical situations. The AN/ARC-220(V) is the latest in a series of Rockwell Collins HF radios which includes embedded MIL-STD-188-141B ALE, MIL-STD-188-110B Modem, MIL-STD-188-148A ECCM and HF Email using our HF Messenger™. The VRC-100 is a multifunctional HF system designed for tactical operations centers, air traffic control and vehicular applications utilizing the same receiver/transmitter, power amplifier/coupler and control display as the AN/ARC-220.
The HF-9000 systems are a family of full frequency HF systems designed for use on a broad range of military fixed wing and rotary wing airborne, transportable, shipboard and fixed site applications. The integrated multimode system provides data communication capability over HF modems, secure voice devices and data encryption devices, while continuing to provide superb voice HF communications. The HF-9000D embedded system functionality includes MIL-STD-188-141B ALE, MIL-STD-188-110B, data modem functionality, Independent Sideband (ISB) data operation, and ARINC 714-6 SELCAL decoding with growth capability for future HF waveforms. The HF-9000D is compatible with the requirements of MIL-STD-188-203-1A for LINK 11 (TADIL A) data communications. The HF-9000F is the newest edition to the HF-9000 product line. Functionally equivalent to the HF-9000D, it has been ruggedized to meet the most demanding environmental conditions such as tactical fighter aircraft. The HF-9000D/F Lightweight HF Airborne systems are versatile, digital signal processor (DSP) based high-frequency radio communications systems that provide a single integrated system solution to current and future HF voice and data communication requirements such as HF Email using Rockwell Collins HF Messenger™.
The HF-9500 400-watt airborne multimode HF system is Rockwell Collins’ latest HF system featuring simultaneous operation (SIMOP) capability in addition to the features expected of a high performance HF radio system. Embedded system functionality currently includes MIL-STD-188-141B ALE, MIL-STD-188-110B data modem functionality, ARINC 714-6 SELCAL decoding and compatibility with the requirements of MIL-STD-188-203-1A for Link 11 (TADIL A) data communications. The HF-9500 system employs digital signal processing (DSP) techniques and advanced high-efficiency power amplifier (HEPA) technology to minimize system size, weight and power consumption. The embedded features and compact design of the HF-9500 provide as much as 30% savings in size, weight and cost compared to legacy HF system configurations.
The MDM-Q9604 software defined modem is the most versatile modem on the market. It is the next-generation, high-speed data modem that provides four-channel HF capability and multifunctional radio services IP gateway capability. The modem’s extensive HF waveform selection, V/UHF autobaud waveform, and configurable system parameters enable data transmission even in distressed channel conditions. The MDM-Q9604 networking capability provides a multi-functional radio services IP gateway, including Serial Control over IP (SCoIP) and Voice over IP (VoIP). This networking technology provides the capability to integrate both legacy and new radio systems into an IP infrastructure such as the Global Information Grid (GIG) or Network Centric architectures. This can significantly reduce recurring costs by replacing dedicated copper circuits with IP networks. The MDM-Q9604 modem family is the core of several HF data networks including the U.S. Air Force SCOPE Command, FEMA’s FNARS, Homeland Security and the U.S. Coast Guard’s HFDX.
The URG-III HF product family provides three turnkey systems: 400W, 1KW and 4KW. These systems are utilized by civil, military and commercial customers around the world for high performance, high reliability HF voice and data communications. The URG-III systems are the backbone of major worldwide HF networks including the U.S. Air Force’s SCOPE Command, U.S. Coast Guard, U.S. Customs, UK DHFCS, and the Australian MoD. The versatile URG-III HF product family can be tailored to any ground, transportable or maritime HF application.
Connectivity For Global Reach

SCOPE Command is a highly automated, ground HF communications network with 15 stations worldwide that link U.S. Air Force command and control functions with globally deployed fixed and airborne users. The addition of Rockwell Collins HF Messenger™ to SCOPE Command provides authorized users with cost-effective global access to send and receive classified and unclassified messages with over-the-air data rates of up to 9,600 bits-per-second.
After the customer decides on a system, Rockwell Collins provides in-depth training for users and network administrators. A variety of courses provide them with an understanding of how HF networked communication functions and how to get the most out of it.

After installation and training, Rockwell Collins continues its commitment to the customer with our award-winning, worldwide service network.
Rockwell Collins’ Performance Based Logistics and Integrated Logistics Support solutions are focused on:

- **Increased**
  - System Reliability
  - Asset Availability

- **Reduced**
  - Total Life Cycle Costs
  - Weapon System Obsolescence
  - Customer Wait Times

Rockwell Collins’ extensive experience in implementing performance based solutions for commercial and military aircraft has consistently demonstrated increased mission capability at lower costs. Agile, responsive, flexible, cost effective...count on us. Collins Reliability.
Rockwell Collins designs HF communication systems to fit the customer’s needs and requirements. Rockwell Collins personnel possess the knowledge and expertise to take commercial off-the-shelf or third-party equipment to construct the right HF networked communication system to fit any need.

We are committed to providing best value, innovative HF solutions to our customers.