



Strategic Radio Products

AN/URC-131(V)

HIGH FREQUENCY

RADIO GROUP

*The most advanced high frequency
communications system on the high seas.
Period.*

next level solutions



State-of-the-art ships demand state-of-the-art communications.



The U.S. Navy has chosen Harris' HFRG system for use on its NIMITZ-class carriers.

HFRG makes waves

Naval ships have never been more complex. Shipboard communications requirements have never been more demanding. Or more prone to change.

For over 35 years, Harris has understood the radio communications needs of the world's navies and answered them like no one else. No wonder Harris has become the leading HF equipment supplier to the US Navy.

The best of the class: HFRG

The most sophisticated HF radio communications system we've ever built may be officially known as AN/URC-131(V), but the people who depend on it most, simply call it HFRG.

The Harris High Frequency Radio Group system offers unmatched reliability, survivability, and collocation and EMI performance. This system was designed from the ground up to meet the exacting reliability, environmental, and performance specifications of the US Navy.

A completely integrated, solid-state communications suite, HFRG was engineered to provide the ideal balance between transmitter and receiver performance in a collocated shipboard environment. And because future communications is a great unknown, it was also designed to readily accept expansions and technology upgrades.

The HFRG achieved one of the best OP/EVAL performances for a comm system in the history of the US Navy. Results like that have led the Navy to rank Harris' HFRG as the HF external communications system of choice for its LPD-17, CV/CVN, DDG-51, LHA, LCC, AGF, CG-47, AOE-10, and LSD classes of ships and today, as a proven system, it is daily meeting and exceeding the expectations of commanders and communications specialists alike.

Best of all, HFRG is the tip of the Harris iceberg. When you come to us, you have a single source for complete ship and shore communications systems. From state-of-the-art integrated systems to expert installation, testing, training and support services, nobody can beat our reputation for and commitment to customer satisfaction. Worldwide.

Compare. You'll see why other comm systems are oceans apart.

Maintainability

The HFRG system has the most extensive surveillant and diagnostic Built-In Tests (BIT) ever built into an HF communications system.

- A Harris exclusive: failed Power Amplifier modules can be safely replaced while keyed
- Unique, comprehensive subsystem and equipment Built-In Test (BIT) isolates faults to the LRU
- Another unique Harris feature: BIT on idle circuits without interrupting active circuits
- Remote command/readback of test results and fault monitoring
- Both on-line and off-line diagnostic test and fault reporting

Logistics Support

The HFRG system is backed by comprehensive, user-friendly technical manuals, training services, and courseware.

- HFRG system installed and in use at the US Navy's Fleet Training Center, San Diego
- Complete, bonded sparring at the Harris facility in Norfolk, VA
- Complete depot repair services available through Harris
- Provisioning to the component level through NAVICP

Our HFRG integrated communications system includes outstanding training, documentation, and around-the-clock, around-the-world service and support. With Harris, these aren't costly "add-ons" but rather are standards we've set for the industry to match.

You can certainly understand why the US Navy has ordered the Harris HFRG integrated HF communications system in record numbers. Call Harris to learn more about how this system can answer your toughest shipboard communications needs.



The optional RF-5710A-MD001 High-Speed Modem provides MIL-STD-188-110A/B and STANAG 4285 communications up to 9600 bps.

Capabilities available with the AN/URC-131(V) include:

COMSEC/INFOSEC

- Harris has a long history of providing embedded encryption and key management modules to the US Government and prime contractors
- Harris is the right source for COMSEC/INFOSEC solutions for shipboard communications

Modem

- The RF-5710A-MD001 High Speed HF Modem provides MIL-STD-188-110A/B and STANAG 4285 communications up to 9600 bps, the highest available throughput for narrowband (3 kHz) channels

HF E-Mail

- Seamless E-mail communications over HF

Automatic Link Establishment

- MIL-STD-188-141A ALE capability

Remote Control/Monitor Subsystem (RCMS)



HFRG is designed for “lights out” operation in the transmitter and receiver compartments. Its features include:

- Ruggedized, PC workstation with full ASCII keyboard and pointer for function selection/activation
- Redundant control busses and subsystem controllers to ensure system survivability
- User-friendly X-Windows interface, which lets you easily create, edit, store, command, and modify communications plans
- Ability to command test and read-back test results, and provide on-line fault reporting



The Harris HFRG integrated HF system excels in communications performance. Consider these examples:

- Rapid reconfiguration takes only seconds
- Unique architecture means antennas are selected without the use of duplexers or triplexers and resulting holes in frequency coverage
- Flexible “milliwatt-to-kilowatt” power output per circuit to meet changing communications requirements
- Link 11 capable

Collocation Performance



- Operates with 5% separation between transmit and receive frequencies with no performance degradation
- Superior IMD due to its patented broadband architecture and the NTG high-power tuned postselector
- Outstanding harmonic performance
- Rx system sensitivity limited only by atmospheric noise
- NTG can be tuned in the presence of interfering signals

Reliability and Survivability



No other HF radio communications system can compare to Harris' HFRG in reliability and survivability. It features:

- A solid-state system architecture that avoids high-power switching
- Components fully qualified for shipboard environments, meeting full military shock and vibration standards
- Redundant system control busses and subsystem controllers
- Automatic routing and rerouting around failed equipment/modules in the BTG
- Transmitters that continue to operate at reduced power levels with failed power amplifier modules

Ease of Operation



The HFRG's control system, providing a single point of control, ensures simple, straightforward operating procedures:

- User-friendly X-Windows human interface
- Creating, editing, and storing communications plans is quick, easy, and intuitive
- Ionospheric propagation prediction (IONCAP) is built into the software

HFRG. Its advanced features will be stretching the performance horizon for years to come.

The Broadband Transmit Group (BTG)



This modern, third-generation solid-state design incorporates the best ideas learned over years of extensive field experience. Features include:

- Three available systems: 4 kW (8 circuits); 8 kW (17 circuits); 12 kW (26 circuits)
- Fewer topside antennas; all three systems use only 2 broadband antennas
- Superior collocation performance
- Instantaneous coverage of the 2-30 MHz band

The Narrowband Transmit Group (NTG)



Consisting of advanced, solid-state, 1 kW transmitters with power postselectors and digital antenna couplers, it can also serve as a stand-alone system aboard small ship platforms. The NTG:

- Has up to three 1 kW narrowband transmitters
- Can be tuned in the presence of adjacent-antenna interference
- Has superior collocation performance
- Offers tuning that is completely silent, particularly important under hostile conditions
- Has a digital rapid-tune antenna coupler

Except for the antenna and coupler, the NTG is self contained within an equipment rack.

The Receive System



Based on the venerable R-2368 family, the receive system's R-2557A/URC Receiver operates over the full LF, MF, and HF frequency range from 10 kHz to 30 MHz. Other features include:

- Up to 49 receive circuits
- Passive antennas, which require no electronics topside
- An atmospheric noise-limited design, which insures maximum communications performance

**Communications solutions
for today and beyond**

Harris Corporation is a global communications company, providing solutions that take customers to the next level of competitiveness, productivity and profitability.

The capabilities, products and applications at Harris are focused in four communications markets — wireless, broadcast, government systems and network support. Harris solutions include microwave and wireless loop systems; secure radios, national law enforcement and air traffic control communications systems; analog and digital television and radio systems; enhanced services and digital switching platforms, telecommunication tools and test systems and network management systems for worldwide communications service providers and broadcasters.

The company's 104-year history of strong technological resources and reputation, with an aggressive concentration on the global communications market, allows it to address the escalating demand for broader bandwidth communications. The corporation has sales and service facilities in nearly 90 countries.



Wireless



Broadcast



Government Systems



Network Support