

URG-IV HF communications system

DIGITAL HF THAT GOES THE DISTANCE

Modernized, wideband,
BLOS ground communications



Collins Aerospace

CLEAR AND CAPABLE

HF like you've never heard it before

Your needs for a turnkey communications system can change – over time or through mission diversity. We've got you. Our URG-IV high-frequency (HF) communications system can meet your requirements.

URG-IV works with ancillary equipment chosen from long-standing reputable suppliers to provide reliability and flexibility where it counts. Whether you need a single radio under local operator control or multiple radio systems dispersed geographically and under remote control by a network controller or multiple operators, URG-IV delivers.

The system uses the latest HF technology to provide clear HF voice quality like you've never heard it before. Combined with the local control or our Remote Control Console (RCC) software, URG-IV enables powerful, user-friendly communications.

Modernized. Easy to use. Clear, capable digital voice quality. These elements and more can now be part of your long-distance communications with URG-IV digital HF. It offers an advantageous alternative to expensive, narrow-band SATCOM in contested battlespaces. And it can provide the critical beyond-line-of-sight (BLOS) communications capability you need in a satellite-denied environment.

At the heart of the URG-IV system are our RT-2200A high-frequency receiver-exciter and PA-2010 1 kW power amplifier. A color, liquid-crystal display and touchscreen provide intuitive radio control and status interfacing, along with analog voice, digital data and radio keying.



ADVANCED HF CAPABILITY BACKED BY EXPERIENCE

Since 1933, Collins Aerospace has been an expert and innovator of HF networking worldwide.

In the HF community we have been instrumental in defining industry standards in HF, including both 4G Automatic Link Establishment (ALE) and 48 kHz wideband waveforms. We continue to invest in bringing next-generation HF capability to our customers.

Today, we're the preferred supplier of HF communications equipment to U.S. and allied government, military and commercial users.

SYSTEM ELEMENTS

RT-2200A HIGH-FREQUENCY RECEIVER-EXCITER

The RT-2200A's wideband channel (3-48 kHz) operation provides significant advantages over legacy HF. It facilitates better link establishment and maintenance in poor propagation and operating environments than legacy narrow-band HF can support.

Even under poor conditions, the RT-2200A will support text chat and low-rate digital voice. Under normal conditions, its data rates are up to 20 times faster than legacy narrow-band HF. With high throughput and reliability, it supports networking, image transmission, remote control and split-site operability. Users can transmit images and chat while in a ground or maritime environment.

The RT-2200A provides modernized, BLOS digital communications in ground fixed site, transportable shelter and maritime applications.



PA-2010 POWER AMPLIFIER

Combines solid-state radio-frequency (RF) power amplification and control technology to produce reliable HF power at continuous duty.

This amplifier interfaces directly with the RT-2200A and operates over a frequency range of 1.5 MHz to 29.99 MHz. It delivers rated output for a load VSWR up to 2:1 over the full-temperature operating range, with graceful degradation for load VSWR up to 3:1. The amplifier is protected from damage from VSWR above 3:1 and short or open circuits.

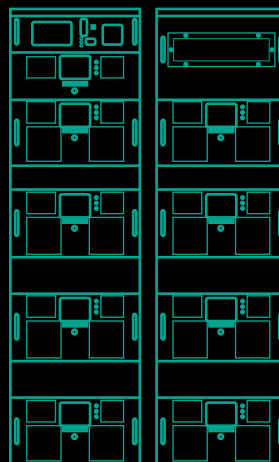
The PA-2010 uses two power amplifier modules, each capable of producing over 500 W. This enables the units to deliver conservative averages of 1 kW. Combining multiple power supplies and power amplifiers in a single unit provides redundancy and protection against failures. The modular design also eases maintenance and upgrade throughout the equipment life cycle at minimal expense.

The front panel display provides the user access to information on internal functionality, including faults and degraded operation. A user-initiated built-in-test capability allows operators and maintainers a means of verifying PA operation without removing it from the system. Front panel indicators provide status of basic operations, such as transmit, service and fault.



5 KW PA-2050

The 5 kW PA-2050 is derived from the combination of four PA-2010s, running at 1250 W each. In addition to the PA-2010, there is a controller and 5 kW RF power combiner. This configuration provides for system commonality for sparing.



10 KW PA-2050

The 10 kW PA-2050 is derived from the combination of eight PA-2010s, running at 1250 W each. In addition to the PA-2010, there is a controller and 10 kW RF power combiner. This configuration provides for system commonality for sparing.



SOFTWARE FEATURES

- Chat – sending and receiving text messages over HF
- File transfer – sending and receiving files over HF
- Position report mapping – receiving position reports from Collins HF Cellular and providing a Google Earth map interface
- Call stacking – allowing multiple incoming calls to be received and managed
- Remote control via web browser – multiple terminals can connect to a single user interface

ANCILLARIES

DVP-200 digital voice privacy processor

The processor provides integrated digital voice and AES-256 encryption via the Remote Control Console interface.



URG-IV SPECIFICATIONS

Frequency	1.5 to 29.9999 MHz transmit and receive frequency ranges in regular operation
Narrow-band and wideband HF compliance	Per MIL-STD-188-110D and MIL-STD-188-141D
Data rates	Waveforms support 75 bps up 240 kbps in up to 16 x 3 kHz channels (48 kHz max BW)
Simplex, half-duplex and split-site operation RF output	
Output power	Per ML-STD 188-141D 5.3.7 1 kW (+/-1dB) – PEP and average up to 1.3:1 VSWR
Max VSWR	3:1
Duty cycle	100%
Output impedance	50 ohms at 1.5:1 VSWR
Emissions compliance	Per MIL-STD-188-141D 5.2.7.1-, 5.2.7, 5.3.1.1, 5.3.1.2, 5.3.1.3, 5.3.2.3
Antenna connector	N-type female

CONTROL

RT front panel	LCD touchscreen
Ethernet	Remote HTML or remote-control software
Serial RS-232	Remote-control software
Interlock	Antenna interlock available to override keying of PA when not connected
Data interfaces	Ethernet, RS-232, EIA-530 (sync serial, A sync serial)

SIZE

Height	30.9 in. (785 cm)
Width	22.6 in. (574 cm)
Depth	31.6 in. (803 cm)
19 in. rack, 16U rack space	
Weight	325 lbs. (147 kg)
Input power	180-264 VAC single phase, 47-63 Hz, 15 amp

TEMPERATURE

Operating	-4° F to 122° F (-20° C to 50° C)
Storage	-4° F to 158° F (-20° C to 70° C)
Humidity	95% non-condensing
Built-in control, audio panel, power amplifier, power supply for size, weight and power savings	
Software updates/datafill	Via USB on front panel or remote via Ethernet

To learn more, go to
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