

721S VHF-UHF Receiver-Transmitter



Combining best-in-class RF performance and Clarity™ noise reduction with the flexibility of Ethernet and Voice over IP (VoIP) for ground-air-ground communications.

Trusted, reliable and flexible communication is critical in today's battlespace. Rockwell Collins' software defined 721S High-power AM/FM VHF-UHF Radio Transceivers provide a tailorable solution for standalone or networked receivers, transmitters or transceivers. The system's Ethernet-based command and control system employs open system standards to deliver superior connectivity.

721S radio sets are fully configurable to satisfy your VHF and UHF line-of-sight needs and support multiple voice and data operating modes. The 721S can be customized to provide AM and FM frequency coverage in any specific band up to the entire 30-512 MHz range. Frequency-agile EPM waveform options are available

to meet specific performance targets. The radio sets can be upgraded for seamless interoperability with numerous frequency-agile radio platforms such as TALON™/TALON II, SATURN, Have Quick I/II and country-unique waveforms.

The 721S provides reliable long range communications and can be optimized for highly congested operational conditions. Flexible, robust control software with an intuitive user interface makes networking multiple radios and/or controllers exceedingly simple.

A full color display and software-definable touchscreen on the removable RCU-700 Remote Control Unit provide an intuitive user interface for radio control and

status along with voice audio and keying connections. When used remotely the RCU-700 uses a single standard 10/100 Ethernet interface for radio control, keying, status, and audio via Voice over Internet Protocol (VoIP). The system supports the installation of Ethernet encryptors between each network component for added security. A robust Microsoft® Windows® application is available for a standard IBM® compatible PC to allow 721S radio sets to be controlled and monitored through an Ethernet connection or network.

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KEY FEATURES

- A flexible selection of AM/FM operating frequency bands anywhere from 30-512 MHz
- 100 W high power RF transmitter with selectable 20 dB RF output power turndown in 0.1 dB increments
- RCU-700 Control Unit — installed in the radio front panel, or remotely connected via IEEE compliant 10/100 Ethernet link
- A single RCU can manage multiple RTs for monitor and control, voice audio, and transmitter PTT keying
- Clarity™ noise reduction algorithms increase talk power, link margin and range
- Networked remote controllers and radios allow flexible control options and the decentralized system architecture typically precludes the need for expensive Voice Switching Systems and VoIP gateways
- Software Defined Radio (SDR) implementation and Digital Signal Processors (DSPs) allow simplified customization and future upgrades
- 70 MHz IF interface for external appliques/modems
- Comprehensive Built-in-Test (BIT) for quick, simplified equipment status indication and troubleshooting aid
- GRC-171/RT-1272 compatible mounting configuration, connectors, and pin-outs for easy system upgrades
- Embedded scanning 121.5 MHz or 243.0 MHz guard receiver mode
- Highly efficient primary power inputs — broad range AC voltage and/or 24/28 VDC with auto switchover
- Internal tracking filter options tailor performance to operate efficiently in any cosite environment

OPTIONS (INQUIRE FOR AVAILABILITY)

- Electronic Protection Measures (EPM) with TALON, TALON II (up to 500 hops/second), Have Quick I/II and SATURN waveforms
- Additional RCU-700s for radio control, status, voice audio, and transmitter keying of a radio or multiple radios through Ethernet link
- 121.5 MHz VHF dedicated guard channel receiver
- 243.0 MHz UHF dedicated guard channel receiver
- Full duplex operation (repeater mode)
- Inputs for external timing or frequency standards
- Frequency tracking severe cosite filter
- PC-based software for remote control over Ethernet
- RT slide mount and connector kits

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Rockwell Collins delivers smart communication and aviation electronic solutions to customers worldwide. Backed by a global network of service and support, we stand committed to putting technology and practical innovation to work for you whenever and wherever you need us. In this way, working together, we build trust. Every day.

- Control desktop mount
- Link 11 (TADIL-A) data mode (requires external modem)
- Vibration damping RT mount for shipboard or transportable applications
- Blank front panel (no local control option)

SPECIFICATIONS

Part numbers	270-3148-010 (108-174 MHz VHF RT) 270-3148-020 (225-400 MHz UHF RT) 270-3148-030 (108-400 MHz V/UHF RT) 270-3148-040 (30-512 MHz Ext Rng RT) 270-3148-061 (RCU-700 Control)
Operating frequency	30.000 – 511.975 MHz (available)
Channel spacing and modulation modes	25 kHz (AM DSB, FM, FSK) 12.5 kHz (AM DSB, FM, FSK) 8.33 kHz (AM DSB in VHF ATC band)
Receiver sensitivity	-103.5 dBm (1.5 µV), AM voice -108 dBm (0.9 µV), FM voice -97 dBm (3.2 µV), AM or FM WB
Stability	1.0 PPM (0.1 PPM available)
Transmit power	100 W FM 30 W AM carrier
Transmit duty cycle	Continuous duty under all conditions Full power at VSWR <2:1; up to 6 dB power reduction VSWR >2:1
RT physical	Standard 19" (483 mm) rack mounted 7" (178 mm 4 RU) high, 20" (520 mm) deep; weight 40 lbs (18 kg) typical, but not more than 50 lbs (23 kg)
RT control	Removable front panel control unit, external RCU or remote networked PC
Built-In-Test	Continuous fault detection (C-BIT), User initiated fault Isolation (I-BIT)
Power input	85 to 264 V ac, 47-63 Hz 24 to 30 V dc
Temperature	-30°C to +55°C operating -40°C to +85°C storage
Humidity	5% to 95% non-condensing
Cooling	Internal forced air
Audio	NB voice and WB data; Balanced 600 Ohm, -10 to +10 dBm output level Adjustable in approx. 1 dB steps
Reliability	>50,000 hours MTBF ground benign
Maintainability	NMT 15 minutes MTTR

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

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