As communication necessities evolve, so do we.

In the field or in the midst of a crisis, reliable communication is a key to your success. The Rockwell Collins RT-1990A(C) (ARC-210, Generation 5) is the most advanced Receiver-Transmitter (RT) in our proven ARC-210 communication system family. Rockwell Collins has supplied more than 38,000 AN/ARC-210 radios worldwide on over 180 platforms, making them the accepted choice for multiband, multimode communications. Specifically, the RT-1990A(C) has been designed to better meet your needs and conform to Software Defined Radio (SDR) tenets and architectures.

Versatility is key in today's battlespace and the RT-1990A(C) adapts by providing superior performance in the transfer of networked or point-to-point data, voice and imagery. In response to the world's constantly evolving transmission and communication security needs and to comply with the National Security Agency's (NSA) Cryptographic Modernization Initiative, the RT-1990A(C) is one of the first military airborne transceivers to provide an embedded, fully programmable INFOSEC capability. In the air and on land, military forces stay connected and civil agencies supporting Homeland Security and disaster relief stay linked with the RT-1990A(C).

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Building trust every day

The RT-1990A(C) is a "two-connector" rear panel configuration versus the three-connector version offered by the RT-1939A(C) radio. The RT-1990A(C) supplies full form, fit, function (F3) and integration replacement for existing COMSEC ARC-210 RTs. In addition, warfighters and communicators will experience the following new or planned capabilities.

> Frequency extension to cover 30-941 MHz
> MIL-STD-188-220D and MIL-STD-2045-47001D networking and data transfer (future)
> Second-generation Anti-jam Tactical UHF Radio for NATO (SATURN) (future)
> Joint Precision Approach Landing System (JPALS) (future)
> External Ethernet data connectivity
> MELP vocoder, Integrated Waveform (IW) for UHF SATCOM
> Growth for evolving capabilities, including APCO 25, Intelligence Broadcast System (IBS), Automated Identification Systems (AIS)
> Soldier Radio Waveform (SRW) (future)

KEY FEATURES

> Software reprogrammable in the field via Memory Loader/ Verifier Software (MLVS)
> Replacement for RT-1794(C)/RT-1824(C)/RT-1851(C)/ RT-1851A(C)/RT-1990(C) and supports all ARC-210 legacy waveform/functions
> Support structure including logistics, training, test sets, PC based loader and controller
> Control via 1553 or RS-422/RS-485
> Embedded software programmable cryptography
> Multiwaveform software architecture
> Extensible module interconnect for future scalability and growth
> Interoperable with a variety of high power amplifiers, low noise amplifiers, tunable filters and interference cancellation systems
> Compatible with ICAO Annex 10 and ED-23B, including FM immunity
>> – 8.33 kHz operation

Technical specifications

Frequency range
> Coverage: 30-941 MHz
> VHF 30-88 MHz close air support
> VHF 108-118 MHz navigation
> VHF 118-137 MHz air traffic control
> VHF 137-156 MHz land mobile
> VHF 156-174 MHz maritime
> UHF 225-512 MHz military/homeland defense
> UHF 806-824, 851-869, 869-902, 935-941 MHz (public safety bands)

Channel bandwidths
5, 8.33, 12.5, 25 kHz and software definable

Tuning
1.25 kHz increments

Transmit output power
> AM: 10 W-15 W (30-400 MHz)
> FM: 15 W-23 W (30-400 MHz)
> FM: 5 W ± 1 dB (400-512, 806-824, 851-869, 896-902, 935-941 MHz)

Carrier modulation
AM, ASK, FM, MSK, GMSK, FSK, CPM, D8PSK, BPSK, QPSK, SOQPSK, DEQPSK, BEAM (future)

Frequency stability
1 PPM

Receive sensitivity (10 dB SINAD)
> AM: -103 dBm (30-400 MHz)
> FM: -108 dBm (30-400 MHz)
> FM: -106 dBm (400-941 MHz, 12 dB SINAD))

Embedded COMSEC functionality
> Embedded TRANSEC KGV-10
> KY-58
> KYV-5 (ANDVT)
> KY-100
> KG-84A/C
> KGV-11
> Thornton Smart Fill
> Fascinator (FED-STD-1023)
> MEDLEY
> Tactical Secure Voice (TSV)
> Advanced Encryption Standard (AES)
> Programmable Cryptographic Sub-System (CSS)

Data ports
> MIL-STD-1553B
> MIL-STD-188-114A
> RS-232
> Ethernet data port
> MIL-STD-188C (wideband data port)

Audio ports
> 150/600 ohm
> High impedance

GPS
> GPS time interface

Control
> MIL-STD-1553B
> RS-422/RS-485

Input power
28 VDC per MIL-STD-704D/E

Supported waveforms

SATCOM
- MIL-STD-188-181B (dedicated)
- MIL-STD-188-182A (5 kHz)
- MIL-STD-188-183 (25 kHz)

Line-of-Sight (LOS)
- Link 11 (with external audio interface)
- SINCGARS
- HaveQuick
- HaveQuick II
- Link 4A
- SATURN
- MIL-STD-188-220 B/C (Tactical Internet specification)
- Scan (4 channel)
- LOS: AM voice/data, FM voice/data
- ATC (8.33 kHz and 25 kHz channels) with embedded FM immunity
- CASS/DICASS
- Auxiliary receiver provides standard 121.5 MHz and 243 MHz guard channels
- MIL-STD-188-220D Notice 1 – Combat Net Relay (CNR)
- BEAM Line of Sight Technology (BLT)

Physical parameters
- Size: 5.6 in H x 5.00 in W x 9.85 in D
- Weight: 12.2 lbs (maximum)

Upgrades
Supports upgrades for:
- Software Defined Radio (SDR) waveforms
- Auxiliary 30-400 MHz receiver with programmable guard
- SINCGARS ESIP (Enhanced SINCGARS Improvement Program)
- Joint Precision Approach Landing System (JPALS)
- Soldier Radio Waveform

Reliability
- NLT 3400 hrs AIC
- NLT 1050 hrs AUF

Environmental specifications
- Temperature operating: -40°C to +71°C (intermittent to +86°C)
- Storage: -54°C to +95°C
- MIL-STD-810F
- Altitude up to 70,000 ft

EMI specifications
MIL-STD-461E

TEMPEST compliance
Per NSA requirements

General attributes
- Initiated Built-In-Test (BIT) (over 100 discrete tests)
- >95% fault detection and isolation
- Continuous built-In-test (real time monitoring of critical functions)
- Black single point fill (DS-101) of up to 10 radios from one fill port
- Red single point fill (DS-101) of up to 10 radios from one fill port
- Black fill data
    - HaveQuick and SATURN WOD/MWODS
    - SINCGARS Hopsets, TRANSECs and Lockouts
    - Presets
        - 25 single channel
        - 25 ECCM
        - 10 DAMA SATCOM
        - 5 half-duplex
- Red fill data
    - COMSEC and DAMA order wire keys

Ancillary equipment
The RT-1990A(C) will operate with the currently fielded ARC-210 equipment.

- Full size remote control: C-12561A
- Half size remote control: C-12719
- PC based 1553 controller
- Link 11 mount: 994M-4/994M-4A
- Field reprogramming kit
- Isolated and low profile mounts: MT-4935 and MT-6567
- High power UHF amplifier: AM-7526 and AM-7526A
- High power VHF amplifier: AM-7189A
- LNA/diplexer: MX-11641
- LNA/diplexer with HI/LO relay: MX-11745
- VDL-2000

Future
- AM-7642
- MX-12366
- C-12561B
- C-12719A

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE.

Building trust every day.

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.

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