

NEXT GENERATION TALON – RT-8400 INTERNATIONAL SOFTWARE DEFINED RADIO (SDR)

As communication necessities evolve, so do we.



Reliable secure communication is a key to your success in today's advanced networking battlespace. The Rockwell Collins Next Generation Talon software defined radio (SDR) is the latest fully exportable Receiver-Transmitter (RT) stemming from our proven ARC-210 advanced communication system family. Rockwell Collins has supplied more than 36,000 ARC-210 based radio variants to over 40 countries, on over 180 different platforms, making it the accepted "radio of choice" for multi-band, multi-mode communications. The Next Generation Talon RT-8400 version is designed to meet your growing requirements and conforms to the latest SDR tenets and architectures and remains interoperable with earlier Talon variants and other airborne V/UHF radio systems.

On air, sea, or land, military forces depend on fully secure communications and interoperability with not only themselves but also civil agencies supporting homeland security and "first responder" disaster relief. The Next Generation Talon delivers this mission critical capability, relying on its proven performance required by advanced warfighters calling for mobile ad hoc networked communications or point-to-point data, voice and imagery.

As a SDR radio, the RT-8400 provides superior versatility and independence to our customers. Utilizing waveform development kits, our customers are able to independently develop and port country unique SCA compliant waveforms to the radio. Additionally, the Next Generation Talon embedded programmable cryptographic security system (CSS) supports the development of customer unique cryptographic algorithms. The Next Generation Talon SDR radio is truly "next generation," is available today and is a direct replacement for earlier versions of COMSEC ARC-210 and Talon based radios.

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Building trust every day

FEATURES

- Software Defined Radio capable of hosting country unique encryption and waveforms
 - Mobile Ad Hoc Networking (MANET)
 - Software reprogrammable in the field via Memory Loader/Verifier Software (MLVS)
 - Consistent connector configuration minimizes integration cost
 - Designed replacement for earlier versions of airborne V/UHF radios (RT-1794(C)/RT-1824(C)/RT-1851A(C)/RT-1939(C)/RT-1990(C)/629-F23)
 - Supports ARC-210 legacy waveform/functions
 - Support structure including logistics, training, test sets, PC based loader and controller
 - Control via 1553 or Ethernet, full size or half size remote control
 - Multiwaveform software architecture
 - Secure Communications Architecture (SCA)
 - 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
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Technical specifications

Frequency range

- Coverage 30-512 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

Channel bandwidths

5, 6.25, 8.33, 12.5, 25 kHz and software definable

Tuning

1.25 kHz increments

Transmit output power

- AM: 10W – 15W (30-400 MHz)
- FM: 15W – 23W (30-400 MHz)
- FM: 5W +/- 1db (400-512 MHz)

Carrier modulation

AM, ASK, FM, MSK, CPM, D8PSK, SQPSK, DEQPSK, QPSK, PM

Software Defined Radio

- Airborne FlexNet™
- Indigenous Encryption
- Indigenous Network Waveforms

Frequency stability

1 PPM

Receive sensitivity (10 dB SINAD)

- AM: -103 dBm (30-400 MHz)
- FM: -108 dBm (30-400 MHz)
- FM: -106 dBm (400-512 MHz, 12 dB SINAD))

Data ports

- MIL-STD-1553B
- MIL-STD-188-114A
- Serial port
- Ethernet
- MIL-STD-188C (wideband data port)

Audio ports

- 150/600 ohm
- High impedance
- Voice over Internet Protocol (VoIP)

Control

- MIL-STD-1553B
- RS-422/RT-485
- Ethernet

Input power

28 VDC per MIL-STD-704D/E

Supported waveforms



Core software

- Scan (4 channel)
- AM voice/data and FM voice/data
- ATC (8.33 kHz and 25 kHz with embedded FM immunity)
- 121.5 MHz and 243 MHz guard
- AES-256 encryption

Waveform options

- HaveQuick I/II
- SATURN
- TALON I/TALON II
- Quicklook 1A
- Citadel I/II Encryption
- Networking waveforms
- Indigenous waveforms
- Airborne FlexNet

Emergency beacon and GPS

- GPS interface

Physical parameters

- Size: 5.6 in H x 5.00 in W x 9.85 in D (14.2 cm x 12.7 cm x 25 cm)
- Weight: 12.2 lbs (5.5 kg) (maximum)

Reliability

- NLT 3400 hrs AIC
- NLT 1050 hrs AUF

Environmental specifications

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

EMI specifications

MIL-STD-461E

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 Ethernet or DS-101 fill
- Black fill data
 - EPM variables
 - Presets
 - 25 single channel
 - 25 ECCM
 - 5 half-duplex

Ancillary equipment

- Full size remote control: C-12561A/379F-16A/C-12561B
- Half size remote control: C-12719/379F-21
- PC based 1553 controller
- Field reprogramming kit
- Isolated and low profile mounts: MT-4935 and MT-6567
- High power UHF amplifier: AM-7526/A
- High power VHF amplifier: AM-7189A

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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