

CM-350 (V2) UDX VDX Software-Defined ATC Transceiver

Remote management for limited access sites and frequency agility



Embedded Frequency Agile Co-site filter option

Remote Control Unit Option

Passively Cooled

ED-137 Compliant VoIP

Overview

For more than 20 years, General Dynamics has been delivering radios to the Federal Aviation Administration and Military that allow air traffic control personnel to communicate with commercial and military aircraft throughout the National Airspace System (NAS).

Designed for transceiver needs with frequency agile co-site requirements, the new CM350 (V2) UDX and VDX ATC options leverage the FAA certified CM-300/350 (V2) series and build on our reputation for quality and reliability and deliver:

- Embedded Frequency-agile Co-site Filter – Increased RF interference protection without the need for 1 for 1 fixed frequency back-ups – reducing the footprint
- Optional Touch Entry Display Remote Control Unit – Facilitates emergency back-up communication systems
- Software-defined Upgradeability – To meet future standards
- Voice over Internet Protocol (VoIP) – Compliance to EUROCAE ED-137 for standard digital audio interfacing and remote connections
- Built-in Test – Comprehensive and rapid equipment status information
- Automatic Switch-over – For back-up power engagement
- Passive Cooling – No fan means less maintenance, quiet and highly reliable operation
- 100% Useable Receive Channels – Ensures reliable reception regardless of frequency assignment

Multi-mode Functionality in One Software-Defined Radio

The new General Dynamics software-defined UDX and VDX ATC radios deliver more modes and a broader frequency range in a rack-mount, passively cooled chassis. Legacy AM voice interoperability and ED-137 VoIP in compliance with international ATM standards.

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Advanced Information

Transmit

- **Transmit Mode:**
 - 115 VAC: 3.9 A typical
- **Transmit Output Power:**
 - 2W to 35W filtered, 0.2dB step size
- **Transmit Duty Cycle:**
 - 50% under all conditions
 - 100% with external airflow
- **VSWR:**
 - Up to 2:1 without power reduction
- **Modulation Depth:**
 - 0 to 100% (adjustable)
 - 1% step size
- **Harmonics: < -80dBc**
- **Spurious: < -80dBc**
- **Audio:**
 - Remote Input: Balanced 600 Ohm, -25 to +20 dBm (auto levelling)
 - Local Microphone with PTT Input
 - Local Headset Output
- **Distortion: <5%, 1kHz, 90% AM**
- **Timeout:**
 - 5 sec to 5 min
 - 5 sec step size
 - Can be disabled
- **Protection: Thermal, VSWR, Low Voltage**
- **Carrier Offset: Per ICAO Annex 10**
- **External Reference: 10MHz**
- **Switchover:**
 - Automatic switchover AC-to-DC

Receive

- **Receiver Sensitivity**
 - A3E: ≤ -102 dBm (SINAD ≥ 10 dB, 1 kHz, 30%)
- **Receive Mode:**
 - 28V DC: 500 mA typical
 - 115V AC: 270 mA typical
- **Audio Output:**
 - Balanced 600 Ohms; -25 to +20 dBm* 0.25 dB step size
 - Local Speaker / Volume Control
 - Local Headset / Volume Control
- **Audio Distortion: < 2% (1kHz, 30% AM)**
- **Spurious Rejection: > 75dB**
- **Adjacent Channel Rejection: >60dB**
- **Squelch:**
 - Carrier Level and SNR methods
 - Independent Thresholds
 - Attack / Release Time: <35msec
 - >80dB audio attenuation
- **Mute: Selectable from 15dB, 20dB, or >80dB**

Physical Characteristics

- **Receiver:**
 - Size: 19" W x 1.75" H x 18.5" D (1U)
 - Weight: approximately 11 lbs
- **Transmitter:**
 - Size: 19" W x 5.2" H x 17" D (3U)
 - Weight: approx. 35 lbs

General Data

- **Power Supply**
 - 28V DC: 14 A typical (Transmit Mode); 500 mA typical (Receive Mode)
 - AC: 85-265 V, 50-60 Hz
 - DC: 24V DC (VHF), 28V DC (UHF)
- **Frequency Range:**
 - VHF: 112 –150 MHz
 - UHF: 225 – 399.975 MHz
- **Channel Spacing:**
 - VHF: 25 kHz, 8.33 kHz
 - UHF: 25 kHz
- **Modulation:**
 - VHF: A3E (Voice)
 - UHF: A3E (Voice)
- **Frequency Stability:**
 - ≤ 1 ppm
- **Frequency Change Time:**
 - 14 seconds with less than 10 seconds typical
- **Command / Control:**
 - (SNMPv3) with Ethernet
 - Local: Front Panel Keypad / Display
 - Remote: Ethernet or Remote Head
- **Built-in-test:**
 - Continuous or User Initiated
 - Results Available via Front Panel or Remote Head
- **Maintainability:**
 - < 15 minutes MTTR
- **Certifications:**
 - FCC 47 CFR Part 2 and 47 CFR Part 15
 - FAA-E-3014
 - EUROCAE ED-137
 - ETSI EN300-676 (VHF)
 - ETSI EN302-617 (UHF)

Environmental

- **Temperature:**
 - Operating: -10°C to $+50^{\circ}\text{C}$
 - Storage: -40°C to $+70^{\circ}\text{C}$
- **Humidity:**
 - 90% at 40°C (non-condensing)
- **Altitude:**
 - Operating: 0 to 12000 feet

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