

Exhibit 12 – Operational Description

General Dynamics C4 Systems CM-300 (V2) VHF Digital Transmitter (VDT)

FCC ID: MIJCM300V2

Model No. CM-300 (V2) VDT

12.0 Operational Description

Transmitter Operational Description

The General Dynamics, CM-300/350 (V2) Series VHF Digital Transmitters provide line-of-sight Double Side Band (DSB) AM transmission of voice in the VHF frequency band used in air traffic control operations. The transmitters can be used with DSB-AM receivers operating in the VHF frequency range of 112.000 to 150.000 MHz in 25 kHz or 8.33 kHz channel spacing. The transmitters are designed for deployment in air traffic control, fixed-station environments, and provide air -to - ground voice communications. They support legacy analog audio and also Voice over Internet Protocol (VoIP) digital audio as defined in ED-137A, Part 1.

The VHF transmitters have the same physical dimensions and are each enclosed in a rack mount housing. The front panel includes the operating controls, indicator LEDs, Maintenance Data Terminal (MDT) interface, and local audio interfaces. The rear panel includes the power inputs, the master AC power switch, RF connections, and remote audio (analog and VoIP) and control interfaces.

The operating functions are controlled by an internal processor. The operator can select the operating frequency, make adjustments, and monitor various transmitter functions using the front panel controls or an MDT device. Whichever the source, the processor monitors the inputs, changes the configuration of the transmitter accordingly, and displays configuration information on the front panel and MDT.

The main differences between the transmitters are as follows:

- The CM-300 (V2) VDT Low Power Transmitter has an output power level adjustable from below 2 watts to at least 12 watts and operates in the VHF frequency band.
- The CM-350 (V2) VDT High Power Transmitter has an output power level adjustable from below 12 watts to at least 35 watts and operates in the VHF frequency band.

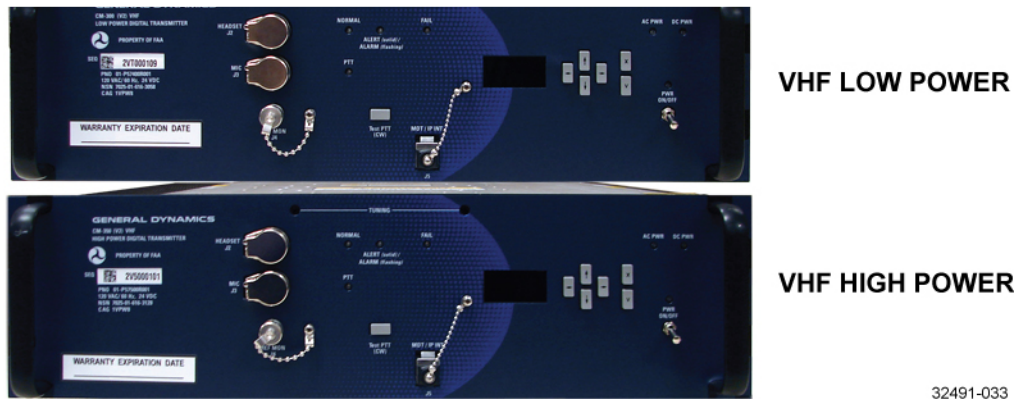


Figure 12-1 CM-300/350 (V2) VHF Transmitters

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