GENERAL DYNAMICS
Mission Systems

Digital Modular Radio (DMR)

Software-Defined Communication System

Four full-duplex channels

Complete VHF/UHF Line-of-Sight and HF/UHF Beyond Line-of-Sight waveform capability

Programmable Type 1 Multiple Independent Levels of Security (MILS) certification

Waveform and encryption algorithm upgradeability

Full qualification for U.S. Navy shipboard environment

Coalition Interoperable

Overview

The Digital Modular Radio (DMR), AN/USC-61(C), is the first software defined radio to have become a communications system standard for the U.S. Military. The compact, multi-channel DMR provides multiple waveforms and multi-level information security for voice and data communications from the core of the network to the tactical edge. The DMR is currently deployed on 12 different U.S. Navy ship and submarine platforms.

DMR Today

Digital Modular Radios currently operate aboard U.S. Navy surface and subsurface vessels, fixed-sites and other Department of Defense communication platforms using frequencies ranging from 2 MHz to 2 GHz. Certified to pass secure voice and data at Multiple Independent Levels of Security (MILS) over HF, VHF, UHF, and SATCOM channels, the DMR system was developed to the U.S. Navy's specifications and meets all the stringent environmental, EMI and performance requirements for use in the U.S. Fleet and five eye countries. DMR is certified by the Joint Interoperability Test Command (JITC) to be compliant with the U.S. government's MIL-STD-188-181B/182A/183A requirements for UHF SATCOM.

Next-Generation Communications Capability

Built using open architecture standards, General Dynamics' Digital Modular Radios continue to provide improved functionality and interoperability while setting the stage to incorporate next-generation communications, including forthcoming waveforms and advanced network connectivity, such as the Integrated Waveform and advanced network connectivity with the Mobile User Objective System (MUOS) waveforms.

Digital Modular Radio

Benefits

- Single radio for the entire 2 MHz - 2 GHz band
  - Lower spares cost and inventory
  - Single depot and common logistics
  - Common operations and maintenance training
  - Common manuals
  - Single point of control
  - Low life-cycle costs
  - Very low maintenance costs
- Dramatically simplified shipboard communications system architecture
  - Embedded Type 1 Encryption
  - Embedded red/black baseband switching and routing
- Superior co-site performance
- Reduced manpower requirements
  - Single point of control for entire HF/VHF/UHF/SATCOM system
  - High reliability
  - Built-In Test (BIT)
- Full logistical support in the U.S. Navy system
- FMS approved

Technical Specifications – Communication

- Reprogrammable Waveform Capabilities
  - SATCOM – MIL-STD-188-181B, 182A, and 183A
  - SATCOM – Integrated Waveform
  - SATCOM – MUOS*
  - SINCGARS SIP/ESIP
  - Havequick I/II*
  - HF/UHF Link-11
  - UHF Link-4A
  - MIL-STD-188-110B HF Modem
  - MIL-STD-188-141B HF ALE
  - VHF/UHF LOS
  - AM Civil and Military Aviation (WB/NB)
  - FM Voice and Data (WB/NB)
  - FSK/BPSK/SBPSK/QPSK/CPM
  - Others as Required**
- Reprogrammable Voice and Data Security Options
  - KY-57/58
  - KGV-10, 11
  - KG-84A/C
  - KYV-5 (ANDVT)
  - KY-99A
  - KWR-46
  - HAIPE*
  - Others as Required**
- Key Fill
  - DS-101 & DS-102 via CYZ-10 (DTD) and PYQ-10 (SKL) devices
- Configuring, controlling, and operating
  - Single HMI can control up to 128 DMR channels
  - Single DMR can be controlled from up to 15 networked operator stations

System Characteristics

- Frequency Range:
  - 2 MHz – 2 GHz, contiguous
- Size:
  - 17.5"W x 19.25"H x 22"D (EIA-310-D Clearance) (44.45 x 48.90 x 55.9 cm)
- Input Power:
  - 100 - 140 VAC, (47 - 63 Hz)
- Operating Temperature:
  - 0° to 55° C
- Vibration
  - MIL-STD-167
- Shock
  - M-S-901
- EMI
  - MIL-STD-461, and MIL-STD-1399

Call for complete system characteristics

** For U.S. government use only.*

*** Upgradeable. Call for availability*

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