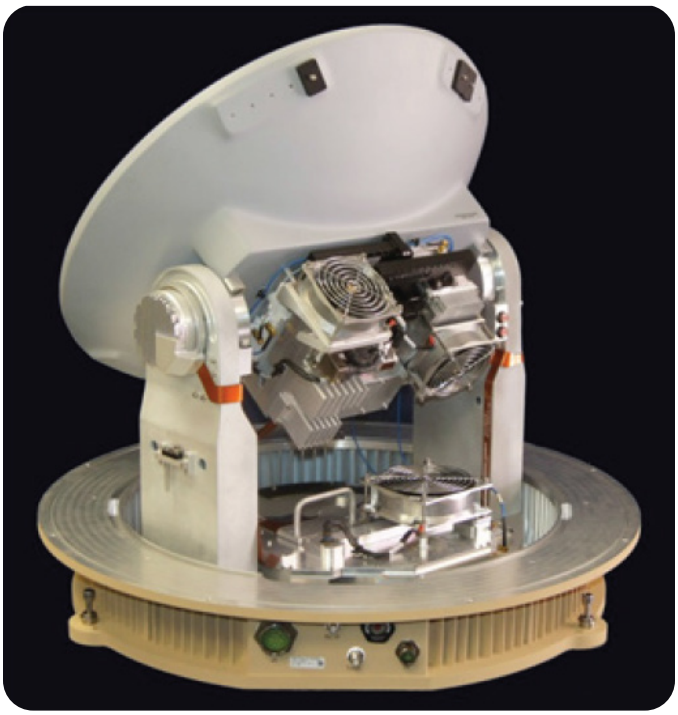
GENERAL DYNAMICS
Mission Systems

SATCOM-on-the-Move®

Model 20-24M Terminal



(General Dynamics Mission Systems furnished radome not shown)

Reliable high data rate satellite communications while on-the-move

Interchangeable KU and KA band payloads

Modem agnostic

Lightweight and rugged to withstand the harshest environments

Overview

General Dynamics Mission Systems SATCOM-on-the-Move (SOTM) products share a legacy of proven, reliable performance on aircraft, ships, fast boats and a variety of military wheeled and tracked vehicles.

The M20-24M was specifically designed for ground vehicle command, control and communications (C3) missions where beyond line of sight (BLOS) SATCOM capabilities are mission critical.

Key to the performance of any SOTM product is the ability to maintain the link during dynamic platform motion. SATCOM-on-the-Move products provide world class "on satellite" tracking accuracy via a combination of integrated tracking receiver and high-bandwidth line-of-sight stabilization.

The modular design of the terminal leverages a common gimbal with band-swappable certified RF payloads enabling frequency band changeover within 5 minutes.

Features

- Reliable high data rate satellite communications
- Superior link availability and performance over a wide range of operational conditions
- RF bands provide maximum operational flexibility, including Ku and Ka MIL band
- Leverages a wide range of commercially available modem systems
- Modular design enhances maintainability and minimizes life cycle cost
- Lightweight, low profile design with all RF Components on Elevation Payload for high efficiency RF Tx/Rx
- Antenna houses the antenna positioner, servo controller, tracking receiver, and complete suite of RF components
- Antenna interface includes +28VDC power, data (Ethernet), navigation, and L-Band Tx/Rx (To Modem)

SATCOM-on-the-Move®

SPECIFICATION	Ku	Ka (MIL)
Frequency - Receive	10.95 to 12.75 GHz	20.20 to 21.20 GHz
Frequency - Transmit	13.75 to 14.50 GHz	30.00 to 31.00 GHz
Model Number	M20-24M Ku	M20-24M Ka MIL
Aperture Size	24 inches	
Pedestal	2 Axis Az/El	
SSPB P1dB	25 Watts	13 Watts
G/T Typ at Midband (30° El, 25°C)	14.1 dB/K	16.4 dB/K
EIRP Typ at Midband and P1dB	49.6 dBW	53.5 dBW
Beamwidth, 3 dB, Rx/Tx Midband	2.8°/2.3°	1.6°/1.1°
Sidelobes, Tx	FCC VMES Compliant	MIL-STD-188-164B
Polarization	Active Pol Alignment	Circular, RH/LH or LH/RH, or RH/RH, or LH/LH Remotely Selectable
Transmit Cross Polarization Within Track/Point	30 dB Typ, 26 dB Min	N/A
Axial Ratio inside 1 dB BW, Rx/Tx	N/A	1.5/1.0
Environmental/EMI	MIL-STD 810G/MIL-STD-461F (Land-Army)	
Azimuth Travel	360° deg continuous	
Elevation Travel (Full Performance)	0° (horizon) to +80°	
Elevation Travel (Total)	0° (horizon) to +95°	
Polarization Travel	360° Continuous	N/A
Tracking Performance	FCC VMES Compliant	Availability 99% of the time during Churchville B conditions
Satellite Acquisition Time	< 5 sec and < 5 min from cold start	
Height	28.9 inches	
Diameter Radome	28.6 inches	
Diameter (Footprint at Base)	27.5 inches	
Weight	142 lbs	
Operating Temperature	-40°C to +49°C	
L Band IF Tx/Rx Range	950 to 1700 MHz	1000 to 2000 MHz
Supply Voltage	28 VDC per MIL-STD-1275E*	
Power	350 Watts Continuous, 800 Watts Peak	

*Steady state, transient, rev pol, EMC and ESI

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