

Satcom-on-the-Move™

Model 24-30L Terminal



Description

All General Dynamics SOTM products share a legacy of proven, reliable performance on aircraft, ships, fast boats and a variety of military wheeled and tracked vehicles, including HMMWV, Bradley and Stryker and a variety of commercial vehicles. This terminal shares a common technology base, common components, and a common user interface with the other products in the General Dynamics SOTM family.

Key to the performance of any SOTM product is the availability to maintain the link during dynamic platform motion. General Dynamics SOTM products provide world-class "on satellite" tracking accuracy via combination of integral tracking receiver, gyro stabilization, and inertial measurement unit.

General Dynamics' Model 24-30 series terminals provide high data rate, reliable Ku, or Ka Mil and Commercial band satellite communications while on-the-move over a wide range of operational conditions, and can be ordered with an Inertial Measurement Unit. The modular design of the terminal allows it to be customized to meet specific customer requirements.

Key Features

- Reliable high data rate satellite communications
- Superior link availability and performance over a wide range of operational conditions
- Interchangeable RF payloads provide maximum operational flexibility, including Ku, Ka MIL and Ka Commercial Band
- The RF payload interchange can be accomplished in less than 15 minutes after radome is removed.
- 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 includes the antenna positioner, servo controller, tracking receiver, block up and down-converters and high efficiency solid state power amplifier all contained on the pedestal with interface for power, Ethernet and L-Band Tx/Rx interface to modem

Technical Specifications

SPECIFICATION (radome included)	Ku	Ka MIL	Ka COM
Frequency - Receive	10.95 to 12.75GHz	20.20 to 21.20 GHz	19.20 to 20.20 GHz
Frequency - Transmit	13.75 to 14.50 GHz	30.00 to 31.00 GHz	29.00 to 30.00 GHz
Model Number	M24-30 Ku	M24-30 Ka Mil	M24-30 Ka COMMERCIAL
Aperture Size	30 inches (75 cm)		
Pedestal	2 Axis Az/EI		
SSPB P1dB	25 Watts	13 Watts	13 Watts
G/T Typ at Midband (30° EI, 25°C)	16.2 dB/K	17.6 dB/K	16.9 dB/K
EIRP Typ at Midband and P1dB	51.7 dBW	55.4 dBW	55.1 dBW
Beamwidth, 3 dB, Rx/Tx, midband	2.2°/1.9°	1.3°/0.9°	1.4°/1.0°
Sidelobes, Tx	Meets FCC VMES	MIL-STD-188-164A	MIL-STD-188-164A
Polarization	Linear H/V or V/H Remotely Selectable	LH/RH, RH/LH, RH/RH or LH/LH Remotely Selectable	
Transmit Cross Polarization Within Track/Point	30 dB Typ, 26 dB Min	N/A	N/A
Axial Ratio, Rx/Tx Within Track/Point	N/A	1.5/1.0	1.8/1.3
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	N/A
Pointing Performance	FCC VMES Compliant ¹	< 1 dB pointing loss - 99% of the time during Churchville B conditions, (EI angle < 80°)	
Satellite Acquisition Time	< 5 sec hot, <5 min from cold start		
Height	37.5 inches (from mounting surface) (95.25 cm)		
Diameter Radome	33.3 inches (84.6 cm)		
Diameter (Footprint at Base)	27.5 inches (69.8 cm)		
Weight	182 lbs (82.7 kg)		
Operating Temperature	-40°C to +51°C		
L Band IF Tx/Rx Range	950 to 1700 MHz	1000 to 2000 MHz	1000 to 2000 MHz
Supply Voltage	28 VDC per MIL-STD-1275E ²		
Power	350 Watts Continuous, 1260 Watts Peak (theoretical)		

¹FCC VMES Compliant (<.20° - 99% of the time during Churchville B conditions, EL angle <80°)

²Steady State, Transient, Rev Pol, EMC and ESD

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