

Satcom-on-the-Move™

Model 17-17A Airborne Terminals



Description

All General Dynamics' 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, including HMMWV, Bradley and Stryker. The Model 17 terminals share a common technology base, common components, and a common user interface with the other products in the General Dynamics SOTM family (Models 20, 24, and 30).

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.

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 (High and Low) and X 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 RFTx/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 only interface for Power, Ethernet and L-BandTx/Rx interface to Modem.

Satcom-on-the-Move™ Model 17-17A Airborne Terminals

General Dynamics' Model 17-17A series terminals provide high data rate, reliable X, Ku, or Ka (High and Low) 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.

SPECIFICATIONS (Radome Not Included)	Ku	Ka (High)	Ka (Low)	X
Frequency - Receive	10.95 to 12.75GHz	20.2 to 21.2 GHz	19.2 to 20.2 GHz	7.25 to 7.75 GHz
Frequency - Transmit	13.75 to 14.5 GHz	30.0 to 31.0 GHz	29.0 to 30.0 GHz	7.9 to 8.4 GHz
Model Number	M17-17A Ku	M17-17A Ka High	M17-17A Ka Low	M17-17A X
Aperture Size	17 inches			
Pedestal	2 Axis Az/El			
SSPB P1dB	25 Watts	13 Watts	13 Watts	25 Watts
G/T Typ at Midband (30° El, 25°C)	11.7 dB/K	13.2 dB/K	12.8 dB/K	7.0 dB/K
EIRP Typ Midband and P1 dB	46.3 dBW	50.5 dBW	50.2 dBW	41.7 dBW
Beamwidth, 3 dB, Rx/Tx	4.0°/3.4°	2.3°/1.5°	2.4°/1.6°	6.3°/5.8°
Sidelobes, Tx	FCC VMES Compliant	MIL-STD-188-164A	MIL-STD-188-164A	MIL-STD-188-164A
Polarization	Linear H/V or V/H Remote Selectable	Circular, RH/LH or LH/RH, Remotely Selectable		
Transmit Cross Polarization within Tracking Accuracy	30 dB Typ, 26 dB Min	N/A	N/A	N/A
Axial Ratio within Tracking Accuracy, Rx/Tx	N/A	1.5/1.0	1.5/1.0	<1.2 dB
Azimuth Travel	360 deg			
Elevation Travel (Full Performance)	0° (horizon) to +80°			
Elevation Travel (Total)	0° (horizon) to +95°			
Polarization Travel	360° Continuous	N/A	N/A	N/A
Tracking Performance	FCC VMES Compliant	< 0.20° – 99% of the time during Churchillville B conditions (El angle < 80°)		
Satellite Acquisition Time	< 5 sec			
Height	19.45 inches (from mounting surface) 2.25 inches Max below mounting surface (Connector Interface)			
Diameter	22.2 inches swept volume			
Diameter (Footprint at Base)	15.2 inches			
Weight	< 85 lbs			
Operating Temperature	-65°C to +65°C			
L Band IF Tx/Rx Range	950 to 1700 MHz	1000 to 2000 MHz	1000 to 2000 MHz	950 to 1450 MHz
Supply Voltage	28 VDC per MIL-STD-1275B and MIL-STD-704F			
Power	350 Watts Continuous, 800 Watts Peak (theoretical)			

GENERAL DYNAMICS SATCOM Technologies

1217 Digital Drive • Richardson, TX 75801 USA • Tel: +1 972-852-5300 • Fax: +1 972-852-5610
Email: sotmproductteam@gdsatcom.com • Web Site: www.gdsatcom.com

SOTM Airborne Rev 03/12