

SATCOM-on-the-Move™

Model 17-17A Series Terminals



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

Interchangeable X and Ku band payloads

Modem Agnostic

Lightweight and yet rugged to withstand
harsh environments

Overview

General Dynamics' SATCOM-on-the-Move (SOTM) Model 17-17A series terminals provide proven, high data rate, reliable X or Ku satellite communications while on-the-move. Leveraging a combination of integral tracking receiver, gyro stabilization, and inertial measurement unit, SOTM terminals provide vital access to voice, video and data in areas where terrestrial communication systems such as cellular, cable and radio have been compromised or simply don't exist. And while these terminals are sensitive enough to accurately receive satellite communications, they are also rugged enough to perform in challenging environments.

SOTM terminals are available in a variety of sizes and configurations and have a long history of proven, reliable performance on aircraft, ships, fast boats and a variety of wheeled and tracked military vehicles including HMMWV, Bradley and Stryker. The Model 17-17A series are configured to enable an aircraft integrator, with certified radome equipment, to install, test and qualify the terminal for airborne use. While certain users have operated the terminal on-board a variety of government aircraft platforms, the M17-17A series design is not by itself designed to meet stringent DO-160 airworthiness requirements.

This series of terminals shares a common technology base, components and user interface with the ground-centric products in the SOTM family (Models 20, 24 and 30).

Features

- Superior link availability and performance over a wide range of operational conditions
- Interchangeable RF payloads provide maximum operational flexibility, including Ku 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 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 only interface for Power, Ethernet and L-Band Tx/Rx interface to Modem

SOTM Model 17-17A series terminals provide high data rate, reliable X or Ku band satellite communications while on-the-move over a wide range of operational conditions, and can be ordered with an external Inertial Measurement Unit. The modular design of the terminal allows it to be customized to meet specific customer requirements.

SPECIFICATIONS (Radome Not Included)	Ku	X
Frequency - Receive	10.95 to 12.75GHz	7.25 to 7.75 GHz
Frequency - Transmit	13.75 to 14.5 GHz	7.9 to 8.4 GHz
Model Number	M17-17A Ku	M17-17A X
Aperture Size	17 inches	
Pedestal	2 Axis Az/EI	
SSPB P1dB	25 Watts	25 Watts
G/T Typ at Midband (30° EI, 23°C)	11.7 dB/K	7.0 dB/K
EIRP Typ Midband and P1 dB	46.3 dBW	41.7 dBW
Beamwidth, 3 dB, Rx/Tx	4.0°/3.4°	6.3°/5.8°
Sidelobes, Tx	FCC VMES Compliant	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
Axial Ratio within Tracking Accuracy, Rx/Tx	N/A	<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
Tracking Performance	FCC VMES Compliant	< 0.20° – 99% of the time during Churchville B conditions (EI angle < 80°)
Satellite Acquisition Time	< 5 sec hot, <5 min cold start	
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	-40°C to +49°C	
L Band IF Tx/Rx Range	950 to 1700 MHz	950 to 1450 MHz
Supply Voltage	28 VDC per MIL-STD-1275E*	
Power	350 Watts Continuous, 800 Watts Peak (theoretical)	

*Steady state, transient, rev pol, EMC and ESD.

GENERAL DYNAMICS SATCOM Technologies

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