



## T-4000 INMARSAT High Gain Antenna



### FEATURES:

- Exceeds INMARSAT and ARINC 741 performance specifications
- Compatible with all INMARSAT approved terminals; multi-channel, voice and data
- Excellent performance under all route conditions—including polar
- Low profile, low drag design
- Continuous built-in test with remote read-out capability
- High MTBF (16,000 hours); Low MTRR (less than one hour)
- Simple, low cost installation

Electrical Specifications	
Operating Frequency Band	Receive: 1525.5 - 1560.0 MHz Transmit: 1626.5 - 1660.5 MHz
Antenna Coverage	75% of upper hemisphere 5° above the horizon, excellent low-angle coverage.
Beam Steering	Antenna beam can be steered to 5,000 discrete positions. Beam to beam spacing is approximately 2°
Receive System Figure of Merit	Greater than -13 dB/°K (Antenna Combined with Diplexer/LNA)
Satellite Discrimination	Greater than 13dB
Polarization	Right Hand Circular
Axial Ratio	Less than 6dB over antenna coverage
VSWR	Less than 1.5:1
RF Input Power	60 Watts Max.
Prime Power Requirements	15 Watts Nominal (Provided by BSU)

Environmental Specifications			
Temperature		Altitude	
Operating	-55°C to +70°C	Operating	70,000 Feet
Survival	-55°C to +85°C	Survival	70,000 Feet
		Humidity	Category C, 95% Min
		Lightning	Category 2A, Zone 2A
Finish	Stock radome is painted with white teflon paint; other colors may be applied.		
Other Environmental Specifications			
Other tests are conducted using RTCA/DO-160C test procedures (can be qualified for rotary wing installation).			

Interface and Dimensions	
RF	Type N Jack
Control	MS 3126F12-10S
Dimensions	5.4" H x 23.0" W x 67.8" L (137mm x 584mm x 1722mm)
Radome:	12 Lbs. (5.5 kg.)
Total Assembly Weight	59 Lbs. (26.8 kg.)

### BEAM STEERING UNIT (BSU) FEATURES

- Continuous built-in test (BIT) identifies system faults within seconds
- Built-in LED display provides readout of fault messages
- Serial maintenance port for remote readout and progress

Electrical Specifications	
System Interface	
Input (command)	Port ARINC 429, High Speed Serial
Output (BITE)	Port ARINC 429, Low Speed Serial
Message Format	Per ARINC 741
Discrete Inputs	(2) Steering Inhibit, LNA BITE
Discrete Outputs	(1) LNA On/Off
HGA Interface	
HGA Power	Overload-Protected with Auto Reset
HGA Command	ASYNCRS-422, 57600 bps
HGA BITE	ASYNCRS-422, 57600 bps
Controls and Indicators	
BITE Display and Push Buttons	8 character Alphanumeric LED display Indicates BITE status messages. Multiple messages are observed by pressing the "Next" push button.
Power OK	Single LED indicates that all internal power supplies are nominal.
Remote Diagnostic Port	
Signal Type	Full Duplex ASYNCRS-232 Serial ASCII data for display at remote maintenance terminal or optional diagnostic display.
Electrical Characteristics	
Prime Power	115VAC, 400 Hz (Nom.)
Power Demand	40 Watts (Max.) including HGA

Mechanical Specifications	
Dimensions	7.64" H x 2.25" W x 12.62"L (194mm x 57mm x 320mm)
Volume	Standard 2 MCU
Weight	5.8 Lbs. (2.6 Kg.)

### DIPLEXER/LNA FEATURES

- Proven, off-the-shelf component
- Small, compact, light weight
- Mounted inside the airframe near the HGA
- Approved by FAA and INMARSAT for numerous commercial and general aviation aircraft types

Electrical Specifications	
Transmit Insertion	Loss Less than 0.6 dB
Receive Noise Figure	Less than 1.8 dB
Transmit-Receive Rejection	Greater than 120 dB
Power Requirement	115VAC, 400Hz

Mechanical Specifications	
Dimensions	1.97" H x 7.76" W x 11.05" L (50mm x 197mm x 280mm)
Weight	6.5 Lbs. (2.7 Kg.)

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