



Communications & Power Industries



malibu division

# Model AT-20 Dual Axis Directional Antenna

Product Data Sheet

## Features:

- Slotted Waveguide Array
- Designs up to 24 dBi Gain
- Flexible Control Interfaces
- TCDL Frequencies
- Low SWAP Design
- Ideal for Low Profile Radome
- Direct Drive (Both Axis)
- Brushless DC Motor
- CP Polarizer



The AT-20 Dual Axis slotted waveguide array is designed for use in Airborne and Ground Airborne Tactical Common Data (TCDL) Applications. The AT-20 features a Dual Axis Positioner and a slotted waveguide array antenna. The slotted waveguide array is available in antenna gains from +17 dBi to +24 dBi.

The systems brushless motors and servo control system has been sized to accommodate the various array

configurations. Control interfaces for the AT-20 are RS-422, analog input, +/- VDC or the servo can be controlled as a simple step and direction interface.

The AT-20 has the ideal performance qualities for a small ground terminal or a moderate airborne terminal with the flexibility of the slotted array and various antenna gains.

## Related Data Sheets

• AT-20 Dual Axis Directional Antenna

• TT-10 Omni Directional Antenna

• HD-30 Dual Axis Ground Data Terminal

# Model AT-20 Dual Axis

## Specifications

### KEY PERFORMANCE VALUES WITH STANDARD HARDWARE COMPLEMENT

RF/Electrical Parameters		Ku-band
Frequency Range Swapable	Receive	15.15 - 15.35 GHz
	Transmit	14.40 - 14.85 GHz
VSWR		1.8:1 Maximum
(Nominal)		17dBi
Antenna Type		Slotted Waveguide Array
Beamwidth Azimuth		14.8°
Beamwidth Elevation		36.4°
Axial Ratio		<2.0 dB
Polarization		RHCP (Tx/Rx)
Sidelobe Performance		-13 dBc
Tested Certification		MIL-810 F MIL-461 E
Mechanical Parameters (Nominal @ 20°C)		
Positioner Type		Direct Drive; Brushless DC Motor
Velocity		30° second
Acceleration		30° second <sup>2</sup>
Travel		Azimuth 360° continuous / Elevation 0° - 85°
Weight		< 9.5 lbs.
Power Consumption		0.680 Amperes @ 28 VDC
Compliance Gear		0° - Direct Drive Both Axis
Mounting Flange Diameter/Antenna Depth (No Radome)		8 inches / 9.5 inches
Control Interface Connector		1 MIL control; Type "N" RF
Environmental Parameters & Control Interface		
Temperature	Operating	-40°c to +55°c (Enhanced Version Available)
	Storage/Transit	-55°c to +71°c
Control Interface		RS422; Analog +/- VCD; Step & Direction
Input Power		+28 VDC
Relative Humidity		up to 100% Non-Condensing (In-Radome)
Altitude	Operating	up to 40,000 ft (Enhanced Version Available)
	Storage/Transit	0° - Direct Drive
Pointing Accuracy		~0.05deg

