

AvL TECHNOLOGIES

MODEL 960 & 980

AvSat Mobile Satellite Antenna System



Mechanical

Reflector/Feed System

Model 960

Channel Master Model 960 96cm

Model 980

Prodelin Model 1981 98cm

Mount Geometry

Elevation over Azimuth

Polarization Axis

Rotation of Reflector/Feed System about Boresight

Travel

Azimuth

400° or $\pm 200^\circ$ from Stow Position

Elevation -Operational
Total

0-65° or 0-90° of boresight
0-150°

Polarization

$\pm 55^\circ$ or $\pm 95^\circ$

Speed

Slewing/Deploying
Peaking

10°/sec. in Azimuth, 5°/sec. in Elevation, 5°/sec. in Polarization
0.2°/second

Motors

24V DC Variable Speed with Optical

Electrical Interface

RF

Tx and Rx Type F Connectors at Base of Antenna

Controller

15 ft. Cable with Connectors for Controller to Remote Box

Weight

100 lbs. With Standard RF Electronics

Environmental

Wind

Survival

Deployed

80 mph

Stowed

140 mph

Operational –Tracking

60 mph at 60° F

Boresight Backlash

Az Degrees

.01 dB

EI Degrees

.05 dB

Pol Degrees

.05 dB

Beam Deflection-Transmit

20 mph

.2 dB

30 gusting to 45 mph

.5 dB

Temperature

Operational

-20°F to 125°F

Survival

-30°F to 125°F

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Electrical RF

Frequency	10.95-12.75 GHz	13.75 -14.5 GHz
Gain (Midband)	39.7 dBi	41.7 dBi
VSWR	1.30:1	1.30:1
Beamwidth in Orbital Arc(degrees)		
-3 dB	1.3	1.1
-10 dB	2.2	1.9
First Sidelobe Level (+/- 2 dB)	-23 dB	-23 dB
Radiation Pattern	29-25 Log Θ	29-25 Log Θ
Antenna Noise Temperature		
30° Elevation Angle	47°K	
Polarization	Linear	Linear
Allowable Transmit Power		
95cm		8 Watts
Cross-Pol Isolation		
On-Axis	30 dB	30 dB
Off-Axis within 1 dB BW	28 dB	28 dB
Maximum Off-Axis	21 dB	25 dB
Feed Port Isolation		
TX/RX		80 dB

Controller

Type	Automatic Satellite Acquisition with GPS/Compass/Level Sensors/Pre-loaded Library of Satellite Positions
Manual Mode Input	Menu Driven by Front Panel Buttons
Automatic Mode Input	Automatically Locates, Peaks-Up, and Minimizes Cross-Pol
Display	Two Lines 3/8" High 16 Characters per Line
Size	Two Rack Units High or Two Units 6"x 6" x 3.5"
Input Power	110V AC, 1ph, 60Hz, 7 amps peak