

Model D-1509 Direction Finding (DF) Spinning Antenna System

CAES' D-1509 is a compact, lightweight, MIL qualified DF Spinning Antenna System suitable for ground, sea, and airborne platforms. Frequency coverage is from 0.5GHz to 18 GHz. All antennas are slant linear polarized and consist of a log periodic dipole array for mid band operation, and a shaped reflector/feed for high band operation.

The system operates in the following selectable modes: full spin, variable spin, sector scan, or manual, providing versatility and adaptability to mission requirements. A direct drive positioner design provides high precision and reliability and includes an integral antenna control unit with RS-422 or RS-232 serial communication interfaces. The positioner also includes a 2-channel RF coaxial rotary joint.

Optional features include: extended band version for 40 GHz operation, high strength radome, heaters for operation below -40° C.



FEATURES:

- Mid band LPDA
- High Band shaped reflector/feed
- Multiple operational modes; halt, point, continuous spin, sector scan
- 2-channel RF coaxial rotary joint
- Fast mechanical scanning
 - Cued pointing mode (any position azimuth)
 - Auto scan mode (up to 200 RPM)
 - Sector scan programmable
- Pointing accuracy of 0.05 degrees (0004° resolution)
- Integrated antenna control electronics
- Integrated Power Inrush Limiters
- Elapsed Time Indicator (ETI)
- DC brushless motor and resolver for long life

FREQUENCY BANDS

LOW BAND	HIGH BAND	EXTENDED BAND
0.5 - 2.0 GHz	2.0 - 18 GHz	2.0 - 40 GHz

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Environmental

ALTITUDE:	Up to 50,000 feet
TEMPERATURE:	-40°C to +65°C (without heaters) -50°C to +65°C (with heaters)
HUMIDITY:	0 - 100% condensing
EMI:	Qualified IAW MIL-STD-461

Positioner / Antenna Control Unit

WEIGHT:	< 60 pounds (includes antenna)
SPIN RATE/DF SEARCH:	0-200 rpm (selectable)
MODES:	Standby, Designate, Scan, Spin, Variable Spin, Halt, Resume
COMMUNICATIONS INTERFACE:	RS-422 or RS-232

Electrical / RF

FREQUENCY (GHz)	NOMINAL GAIN (dBiL)
0.5 - 2.0	6.5
2	10.5
4	14.5
8	16.5
12	19.0
18	21.0
VSWR:	< 3.5 : 1
INPUT POWER:	28 VDC IAW MIL-STD-704

