L3HARRIS®
FAST. FORWARD.

9.5" DIRECTIONAL ANTENNA

Compact and Reliable Directional Ku-band Antenna

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L3Harris compact 9.5" Directional Antenna provides 26 dBi of gain in the Ku-Band and is packaged in a lightweight two-axis pedestal. This antenna is ideal for use in UAVs or manned platforms requiring maximum gain for high-throughput, long-range applications.

PRODUCT DESCRIPTION

The 9.5" Directional Antenna is a low-profile, low-drag solution to implementing CDL and STANAG 7085 systems where long-range and high-availability requirements necessitate the use of airborne directional antennas. The 9.5" Directional Antenna offers 26 dBi of gain and is right-hand circularly polarized.

PRODUCT CUSTOMIZATION

The 9.5" Directional Antenna is a member of the L3Harris data link product family, but it can be used for any application requiring a Ku-Band, high-gain, two-axis antenna. The antenna interfaces with 28 VDC standard power, a standard RF coaxial connector and an RS-485 antenna control port.

The antenna consists of the following major components:

- A directional radiating RF element
- RF interconnecting components
- A two-degrees-of-freedom antenna pedestal for pointing
- Motors and angular position feedback sensors
- An electronic module for motor drive, position-sensing interface, data interfaces and power conversion

The antenna pedestal operates as a pointing antenna, receiving its positioning commands over the RS-485 bus at up to 20 times per second, ensuring precise pointing even during dynamic airborne maneuvers. The two-degrees-of-freedom pedestal ensures proper pointing at long and short ranges.

The antenna assembly uses nonvolatile memory to store user-defined boresight offsets as necessary. The antenna contains built-in test capability to detect 95 percent of possible faults and report the results of the test on the RS-485 status bus.

Reliable Performance in a Compact Design

KEY FEATURES

- **Reliable, low-cost, two-axis gimble**
- **High-efficiency parabolic reflector**
- **Compact, high-gain design**

BENEFITS

- **Rapid pointing capabilities maintain link through flight dynamics**
- **Highest gain in class, maximizing throughput and range**

SPECIFICATIONS

PERFORMANCE CHARACTERISTICS

RF

> Ku-Band CDL: 14.40 GHz to 15.4 GHz

Gain

> 26 dBi

Beam Width Maximum

> 7.0˚ at 3 dB

Side Lobes

> 15.0 dB down from main beam

Polarization

> Right-hand circular

Axial Ratio at Beam Peak

> 2.0 dB (max)

VSWR (over frequency)

> 1.5:1 (max)

RF Power Handling

> 50 W

Control/Status Interface

> RS-485 interface to and from data link antenna controller

PHYSICAL CHARACTERISTICS

SWaP:

> Size: 10.2" (dia) x 14.6" (h)

> Weight: < 10 lb.

> Power: 42 W (max) at +28 VDC +/- 10%

Environmental

> Humidity: (antenna) 95% with condensation, operating

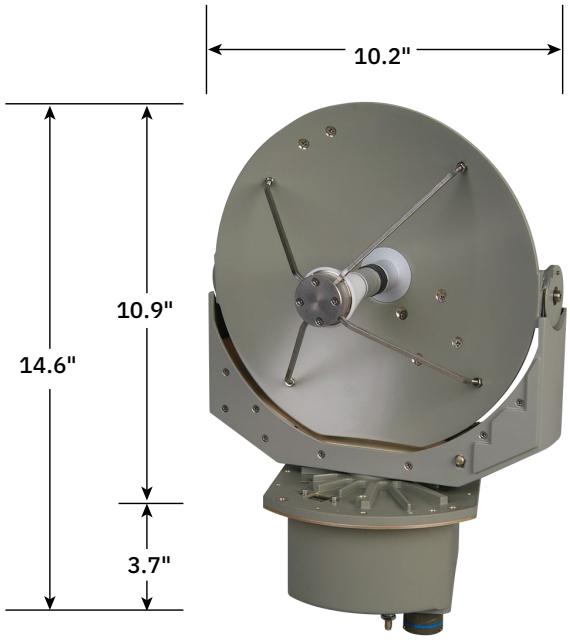
> Altitude: 70,000 ft. (max), operating

> Temperature:

- Operating: -54 °C to +71 °C
- Non-operating: -57 °C to +95 °C

> Shock:

- Operating: 20 G
- Non-operating: 30 G, 18 msec, half sine



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