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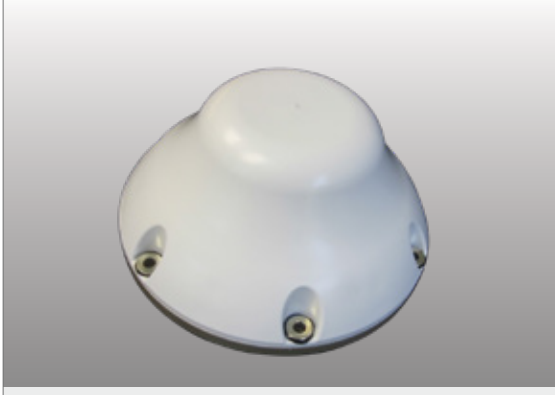
MOBILE AIR RELAY ANTENNA (MARA)-NEXT



Next-generation high-efficiency hemispherical antenna

L3Harris Mobile Air Relay Antennas are designed with a unique, patented architecture that provides greater geographical coverage than is possible with common communications antennas.

OMNI-DIRECTIONAL AND HIGH GAIN ON THE HORIZON

L3Harris' MARA-NEXT is the next generation of the highly successful MARA-LITE that is currently deployed with special operations forces (SOF) units. Operating in the 1300-2600 MHz L/S band, the new MARA-NEXT supports intelligence, surveillance and reconnaissance (ISR) video and voice communications on the high-band side of L3Harris' AN/PRC-163 radio.

Like its predecessor, MARA-NEXT creates a hybrid polarization using linear and right hard circular polarized (RHCP) elements to create a three-dimensional hemispherical pattern with full 360-degree azimuthal and 180-degree elevation coverage.

When deployed as a mobile air relay antenna in a TSMx mobile ad hoc network (MANET) system, MARA-NEXT maintains voice communications at ranges up to 26 miles within line of site (LOS) and supports streaming of full motion video.

MARA-NEXT is well suited for a variety of missions and applications, especially for use with relay or terminal nodes in MANET systems. With full azimuthal and elevation coverage, the warfighter can maintain clear LOS communications without regard to antenna orientation or terrain elevation. In addition, the hybrid polarization allows users to communicate with RHCP satellite systems that operate within the applicable frequency band.

Photo credit: U.S. Army

BENEFITS

- Extended range enables communications at longer distances
- Passive operation requires no external power source
- Single frequency connector allows for simple installation
- Lightweight antenna reduces fuel consumption

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MODEL FA-00466-01	
Specifications	
Frequency range	1300-2600 MHz
Peak efficiency	80%
Peak gain	5 dB
VSWR	<2:3:1
Impedance	50 ohms
Polarization	Hybrid (linear/RHCP)
Maximum input power	50 W
Mechanical	
Size	6.0” d x 3.0” h
Weight	1.2 lbs
Connector	TNC (F)
Top attach	6X 7075-T6 bushings 0.200” clearance holes
Radome	Chemically resistant, high-impact plastic (white)
Housing 6061-T6	MIL-DTL-5541, Cl 1A
Qualification Testing	
MIL-STD-810G	501.6 Storage Temperature, High (85 C) 502.6 Storage Temperature, Low (-55 C) 507.6 Humidity, Procedure II (Aggravated, 10 days) 514.7 Vibration, Category 9 CH47D, UH-60 combined, external stores CH47D, UH-60 combined, external stores (sine on random, 4 hours each axis)

With a power rating of 50 watts, MARA-NEXT can be deployed with L3Harris’ future next-generation radio offerings. MARA-NEXT is a drop-in replacement for the MARA-LITE and maintains the same mounting hole pattern, connector type and connector location.

MARA-NEXT uses a lightweight aluminum housing, dome cover and bottom-mounted connector. Like its predecessor, the system offers excellent performance in a low size, weight and power (SWaP) package.

Mobile Array Relay Antenna (MARA)-NEXT

L3Harris Technologies is an agile global aerospace and defense technology innovator, delivering end-to-end solutions that meet customers’ mission-critical needs. The company provides advanced defense and commercial technologies across air, land, sea, space and cyber domains.

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