

MOBILE AIR RELAY ANTENNA (MARA)-FLYING LOCAL AREA NETWORK (FLAN)

Next-generation, high-efficiency, hemispherical antenna for the C-17

L3Harris mobile air relay antennas are designed with a unique, patented architecture that provides greater geographical coverage than common communications antennas.

LOW-PROFILE, OMNI-DIRECTIONAL ANTENNA

The L3Harris MARA-FLAN antenna is a variant of the recently released MARA-NEXT antenna and the next generation of the highly successful MARA-LITE antenna currently deployed with special operations forces (SOF).

Operating in the 1300-2600 megahertz L/S band, the new MARA-FLAN antenna supports intelligence, surveillance and reconnaissance (ISR) video and voice communications when:

- > Operating within flying local area networks
- > Communicating with ground forces
- > Communicating with applicable right-hand circularly polarized (RHCP) satellite systems

Like its predecessor, the MARA-FLAN antenna creates a hybrid polarization using linear and RHCP elements to create a three-dimensional hemispherical pattern with full 360 degree azimuthal and 180 degree elevation coverage. With full azimuthal and elevation coverage, the aircrew can maintain clear line-of-sight communications without regard to aircraft attitude. The hybrid polarization allows users to communicate with RHCP satellite systems such as Inmarsat, Iridium and others.

The MARA-FLAN antenna operates in the same frequency bands as various global navigation satellite systems (GNSS) for ascertaining global positioning data.



BENEFITS

- > **Wide-bandwidth antenna increases versatility by using a wider variety of onboard radios**
- > **Extended range enables communications at longer distances**
- > **Passive operation requires no external power source**
- > **Single radio frequency (RF) connector allows for simple installation**

With a power rating of 50 watts, the MARA-FLAN antenna can be deployed with a power amplifier to extend the range of communications. The MARA-FLAN is a drop-in replacement for the current FLAN antenna. It has a similar “blister” profile and maintains the same mounting hole pattern and connector location. It’s low profile height (3.2 inches) eliminates the need for extensive aerodynamic computational fluid dynamics (CFD) analysis. The MARA-FLAN offers excellent performance in a low size, weight and power (SWaP) package.

MODEL FA-00601-01	
Electrical specifications	
Frequency range	1300-2600 MHz
Peak efficiency	80%
Peak gain	5 dB
VSWR	Less than 1.9
Impedance	50 ohms
Polarization	Hybrid (linear/RHCP)
Maximum input power	50 W
Mechanical	
Size	10.5in l x 3.3in w x 3.2in h
Weight	1.6 lbs
Connector	TNC (F)
Top attach	8X SS316 bushings 0.218in clearance holes
Radome	Chemically resistant, high-impact plastic (white)
Housing 6061-T6	MIL-DTL-5541, Cl 1A
Future 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) TBD

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1025 W. NASA Boulevard
Melbourne, FL 32919