L3HARRIS®
FAST. FORWARD.

MAQA

Modular Aperture Quad-band Antenna Terminal

MAQA provides today's expeditionary forces with a sturdy, transportable, quad-band 3.8 meter SATCOM terminal. The terminal supports operations with the Wideband Global SATCOM (WGS) constellation, legacy Department of Defense (DoD) satellites and commercial satellites.

OVERVIEW

The 3.8 meter MAQA terminal is the next-generation product designed to operate and support the warfighter in the tactical environment. MAQA provides quad-band operations including X and Ka band over military satellites and Ku and C band over commercial satellites. MAQA is a commercial off-the-shelf/non-developmental item (COTS/NDI) SATCOM system enabling satellite diversity for military and commercial applications. Combined with best-in-class RF electronics, MAQA provides superior transportability and simultaneous X-/Ka-band capability.

MAQA's band changes can be made in less than five minutes through a simple swap of the feed via quick disconnects. Satellite acquisition is enhanced by a motorized ±90 degree azimuth turntable range and 5–90 degree elevation range.

The terminal's carbon fiber antenna is simple to assemble with instructional labels on the individual components and transport cases. All transport cases meet the two-man lift requirements (less than 174 pounds) and will fit through a 32-inch doorway.

Satellite Communications

KEY BENEFITS

- Rapid two-person setup requires no tools and enables user to be on the air in less than one hour
- Traq graphical user interface simplifies satellite acquisition and operations
- High throughput and data rate allows for large 50+ user hub node applications with small distant end Very Small Aperture Terminals (VSATs)
- Ruggedized outdoor radio frequency (RF) equipment maximizes life span in extreme operating conditions
- Standard L-band terminal interface supports a variety of commercial and military modems
- Lightweight and transportable transit case design reduces cost per deployment

SYSTEM CHARACTERISTICS

Operational Dimensions	Ground footprint 8 ft x 8 ft Swept volume 14 ft diameter x 14 ft tall
Transport Dimensions	<2,500 lbs total weight with hard cases Stacked case volume: 74 in L x 84 in W x 76 in H
Power	1.5 kW AC typical consumption (band dependent)
Tracking Loss	No wind (C, X, Ku) <0.5 dB No wind (Ka) 0.8 dB 30/45 mph (Ku, Ka) <2 dB 45/60 mph (C, X) <2 dB

LOGISTICS

Land Transport	Flatbed truck or single HMMWV with optional pallet carrier (M1113, M1097, M35, and M939 vehicles)
Air Transport	MIL-STD-209, 463L pallet or ISU-90 container, or two half 463L pallets (mission specific)
Shipboard Transport	Weatherproof transport cases designed for outdoor exposure
Safety	Designed in accordance with MIL-STD-1472

ENVIRONMENTAL

Temperature	Nonoperating: –40°C to 60°C Operating: –30°C to 55°C
Humidity	100% (–30°C to 40°C)
Altitude	Nonoperating: 40,000 ft Operating: 7,000 ft
Salt Spray	No rust after 48 hrs 5% condensation
Ice/Snow	0.5 inch ice or snow loads of 20 lbs/ft^2
Wind	Operating: 25 mph without anchors, 60 mph with anchors, pointed in any position Nonoperating: 90 mph stowed
Shock/ Vibration	Transport via tactical vehicles on primary/secondary roads and improved cross-country terrain

PARAMETER	C BAND	KU BAND	X/KA SIMULTANEOUS (WGS CERTIFIED FOR X/KA MULTICARRIER OPERATION)	
Rx frequency band	3.4–4.2 GHz	10.95–12.75 GHz	7.25–7.75 GHz	20.2–21.2 GHz
Tx frequency band	5.850–6.425 GHz	13.75–14.5 GHz	7.9–8.4 GHz	30.0–31.0 GHz
Polarization	Circular: LHCP/RHCP Orthogonal/reversible Linear: motorized V/H	Linear: motorized V/H	Rx: LHCP/Tx: RHCP Rx: RHCP/Tx: LHCP	Rx: LHCP/Tx: RHCP Rx: RHCP/Tx: LHCP
Tx axial ratio	0.75 dB	-	1.0 dB	1.0 dB
Tx cross-polarization	Intelsat IESS 207	Intelsat IESS 208	MIL-STD-188-164	MIL-STD-188-164
Compliance	FCC, Intelsat	FCC, Intelsat	ARSTRAT	ARSTRAT
G/T min. @ 25° El with Rx out of band filtering	22.5 dB/K	31.0 dB/K	24.8 dB/K	31.6 dB/K
Equivalent isotropically radiated power (EIRP) (Single carrier at midband)	63 dBW	71 dBW	63 dBW	71 dBW


C-Band Feed


Ku-Band Feed


X-/Ka-Band Feed

MAQA

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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