

LAC-12 *Laser Airborne Communication Terminal*

ALL-DOMAIN LASER COMMUNICATIONS



Enabling Information Dominance



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OVERVIEW

The advanced *Laser Airborne Communication Terminal* (LAC-12) is a new-generation gyro-stabilized two-axis laser communication gimbal. LAC-12 enables the warfighter with a game-changing capacity of Low Probability of Intercept (LPI) and Low Probability of Detection (LPD) and includes an anti-jamming communications system with 300 times the data carrying capacity of conventional RF SATCOM systems. This latest-technology terminal provides air-to-space, air, ground, maritime, and relay connectivity, serving as a gateway to the Joint Aerial Network for forward deployed forces. LAC-12 has been demonstrated in multiple domains and can be directly integrated onto MQ-1 and MQ-9 unmanned aircraft systems.

OPTICAL

Transmit Output Power	20 dBm to 30 dBm (0.1 to 1W)	Internal EDFA, Eye Safe at Aperture
Transmit Interface (STD)	8 um SMF	APC Connection
Transmit Divergence	100 urad to 4 mrad	Software-controlled
Aperture Size	72 mm	Transmit and Receive
Transmit Wavelength	1540 nm to 1565 nmi	
Receive Wavelength	1550 nm to 1560 nmi	
Receive Interface (STD)	105 um step-index MMF	APC Connection
User Data Rate	850 Mbps @ 100 + km	Using TALON / EAGL- compliant Trellisware Modem

GIMBAL

Azimuth Range	+ / - 200°	
Elevation Range	- 70° to + 40°	
Slew Rate	100° / sec	
Stabilization	150 urad	Gimbal Only (without FSM loops)
Pointing Accuracy	2 mrad	
Command / Control Interface	10 / 100 ethernet	

MECHANICAL

Size	12" D x 15" H	
Weight	43 lb	
Power	200W max @ 28 VDC	
Bolt Pattern	8 x 5.5" diameter 1 / 4-28	
Mounting Orientation	Any	

ENVIRONMENTAL

Temperature	- 40° C to + 60° C	
Weather	Rainproof	Fully Sealed with Breather Valve and Desiccant
Altitude Airspeed - Operating	25,000 ft	Minor Electronic Changes to Support Higher Altitude
Airspeed - Operating	250 Knots	
Airspeed - Survival	500 Knots	
Structural	9 G Static	FAA FAR 25.561 Compliant

