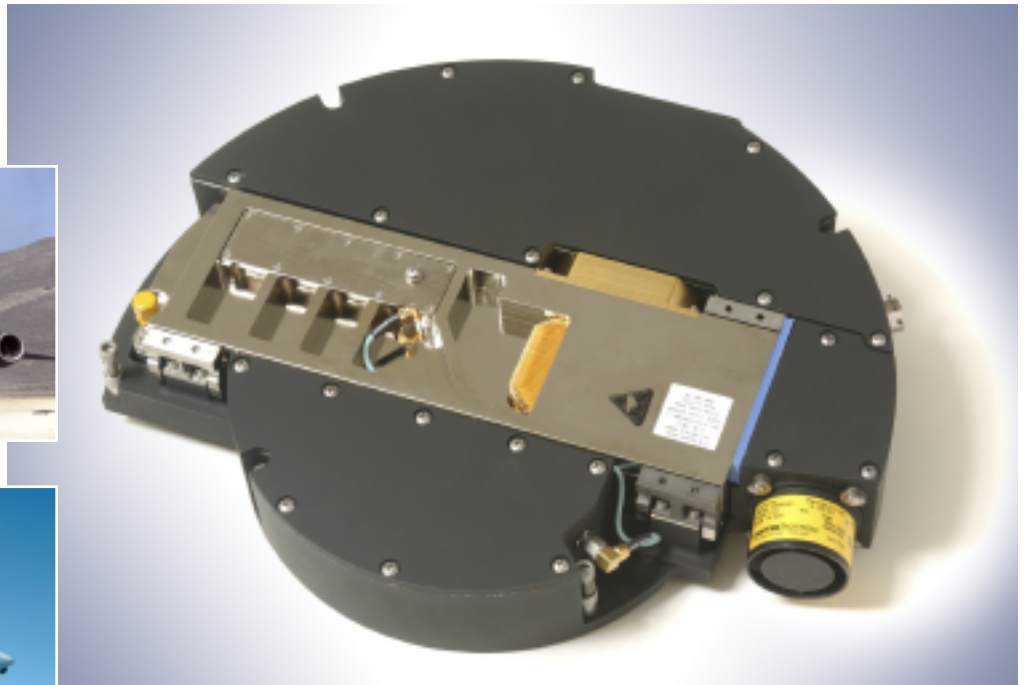


**NORTHROP GRUMMAN**

## Multi-Band Laser Capability

### Qualified and Available Today

*Small, Lightweight  
Self-contained Package  
... Big Protection*



Northrop Grumman's Viper™ is a small, lightweight multi-band laser for infrared countermeasures (IRCM) applications. All Viper™ components, including all wavelength conversion and beam-forming optics controller and power supply, fit in a 13-inch diameter x 2-inch high chassis, weighing less than 10 pounds. Viper™ is the lightest laser available for IRCM applications.

Viper™ draws minimal power from the aircraft, yet provides the jamming power output required to protect large transports and fast jets whose IR signatures make them especially vulnerable to IR-guided missiles.

### Plug and Play

Viper™ is a component in a modular system architecture. It is available as part of Northrop Grumman's laser-based AN/AAQ-24(V) NEMESIS Directional Infrared Countermeasures (DIRCM). The AAQ-24(V) NEMESIS system is the world's only deployed DIRCM self-protection system.

The laser mounts directly to the AAQ-24(V) NEMESIS transmitter, and requires no optical wave-

guides or modifications to the laser-ready turret.

Viper™ is the laser of choice to protect low, medium and high signature aircraft from sophisticated heat-seeking missiles.

- Selected by U.S. Air Force to protect the C-17, C-130, and foreign Heads of State aircraft.
- Selected by U.S. Special Operations Command to protect the CV-22 and MH-53.
- Selected by Royal Australian Air Force to protect the Project Wedgetail AEW&C platform.
- Selected by the U.S. Department of Homeland Security to participate in the C-MANPADS program as a possible solution to protect the commercial airline fleet.

### Demonstrated Benefits

- Fast, accurate, simultaneous breaklock jamming in all MANPAD threat bands
- Power margin to defeat future threats
- All-weather, all-altitude operation
- Single shop replaceable unit (SRU) configuration

## Multi-Band Laser Capability Qualified and Available Today

### Proven in Flight and Live Fire Tests

The Viper™ laser has been successfully tested as part of the AN/AAQ-24(V) NEMESIS system. In all tests and demonstrations, the systems operated autonomously and had no prior knowledge of threat type or location.

- Successfully completed Large Aircraft Infrared Countermeasures (LAIRCM) live fire tests — including multiple missile engagements. (U.S. Air Force-sponsored tests, conducted with heat sources representing a C-17 signature, June/July 2002)
- Successfully defeated different missile types launched from various ranges that represent combat scenarios [U.S. Navy-sponsored Tactical Aircraft Directional Infrared Countermeasures (TADIRCM) live fire tests; White Sands Missile Range, September/October 1999]
- Defeated several captive missile seekers (in different bands) 52 out of 52 times. Engagements were at various operational ranges.
- Begins flight test on MD-11 and B-747 in mid 2005 for FAA certification. Extended operational test and evaluation scheduled to begin in early 2006 on numerous commercial aircraft in revenue service.

### In Production and Available Now

The Viper™ laser was fully qualified in 2003 and is available now.

### Specifications

Weight: Less than 10 lbs

Size: 2 inches high x 13 inches diameter (nominal)

Power: 400 W 28 VDC (nominal)



August 1999



June 2002



Small Laser Transmitter Assembly

For more information, please contact:

Northrop Grumman Corporation  
EO/IR Countermeasures  
Director of EO/IR Countermeasures Business  
Development  
600 Hicks Road  
Rolling Meadows, IL 60008-1098  
Phone: (847) 259-9600, ext. 4450  
Fax: (847) 590-3143  
e-mail: eoircm@ngc.com  
website: www.dsd.es.northropgrumman.com

Specifications and features subject to change without notice.