

NORTHROP GRUMMAN*Electronic Systems*

AN/AAR-54(V) Missile Warning System

Available Now for Transport, Fighter and Rotary Wing Aircraft



The Northrop Grumman AN/AAR-54(V) is a fourth-generation Missile Warning System (MWS), now in production and available for use on virtually every platform in your inventory – helicopters, fast jets, and tactical and wide-

body aircraft. In all applications, this compact, light weight system provides outstanding clutter rejection, long range and short shot missile detection, rapid automatic cueing to the countermeasures system, and increased situational awareness capabilities via heads-up display (HUD) or radar warning receiver (RWR) display.

Designed for high performance protection, the AAR-54 passively detects ultraviolet (UV) energy from the missile's exhaust plume, tracks multiple sources, rapidly and accurately classifies each source, and provides threat information to the countermeasures system for optimum response.

The AAR-54 can be interfaced to a chaff/flare Countermeasures Dispenser System (CMDS) or integrated as part of a Directional Infrared Countermeasures (DIRCM) self-protection suite. With its adaptive design, all applications can use common hardware and software. System simplicity allows for internal installations or external mounting in a pod or pylon.

Demonstrated Benefits

- High sensitivity for extended detection range
- Mature declaration software provides high probability of missile detection while it minimizes false alarms
- Full spec performance across entire 120° FOV
- High resolution to separate threats in proximity to clutter
- No mission programming required
- Multiple interface options: RS-422, MIL-STD-1533, discretes
- Supports chaff/flare and DIRCM countermeasures
- Compact design offers lowest size, weight, power
- No cooling required
- Fine AOA as required for precise threat location
- All weather operation from -54°C to +71°C
- Flexible installation options including internal or external in a pod or pylon
- Accommodates up to six sensors to provide full spherical coverage and protection

AN/AAR-54(V) Missile Warning System

Available Now for Transport, Fighter and Rotary Wing Aircraft

System Description

A system consists of from one to six high-resolution, enhanced-performance UV sensors and one Electronics Unit (EU). A unique, compact design approach results in a system with the lowest size, weight and power requirements. The system provides high mean time between failures (MTBF), even without external cooling, and low mean time to repair (MTTR). The AAR-54 is designed for an MTTR of 30 minutes.

Comprehensive BIT/FIT, in conjunction with the high system reliability, allows for the implementation of a low life-cycle cost, two-level maintenance concept.

LRU	Length (in/cm)	Width (in/cm)	Height (in/cm)	Weight (lb/kg)	Power (W)	Cooling	MTBF (hr)
Sensor	4.4/11.2	3.4/8.7	3.4/8.7	3.85/1.75	8*	Ambient	57,804
Electronics Unit	8.6/21.6	6.3/16.0	4.0/9.65	10.5/4.8	34	Ambient	7,128

*+ approximately 76 w/sensor during anti-ice

Proven, Tested Technology



U.K. Hack
Sea King
Flight Test

F-16
PIDS+
Pylon
Installation

The AAR-54 has achieved maturity through extensive and diverse government testing.



- 300+ live surface-to-air, air-to-air and anti-tank guided missile firings on QF-4 drone, cable car, and combat vehicles
- 100+ hours of clutter flight tests and analysis



Live Fire Test

- Six sensor system integration with CMDS on F-16 in a PIDS+ pylon installation
- As an integral part of the AN/AAQ-24(V)/ARI 18246 NEMESIS DIRCM self-protection system, the AAR-54 has successfully passed flight testing on a Hack Sea King helicopter and a C-130, as well as live fire testing at the White Sands Missile Range, New Mexico.



U.S. C-130 Flight Test

Status



CH-47



C-160



Cougar

- Installed on 12 different transport and rotary-wing aircraft platforms for the U.S. and several international customers with planning in place to add five new platforms
- Demonstration/validation complete
- In full rate production at greater than 70 sensors per month for CMDS, DIRCM, and Avionics Suite Integration Programs

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@northropgrumman.com
website: www.northropgrumman.com

Specifications and features subject to change without notice.