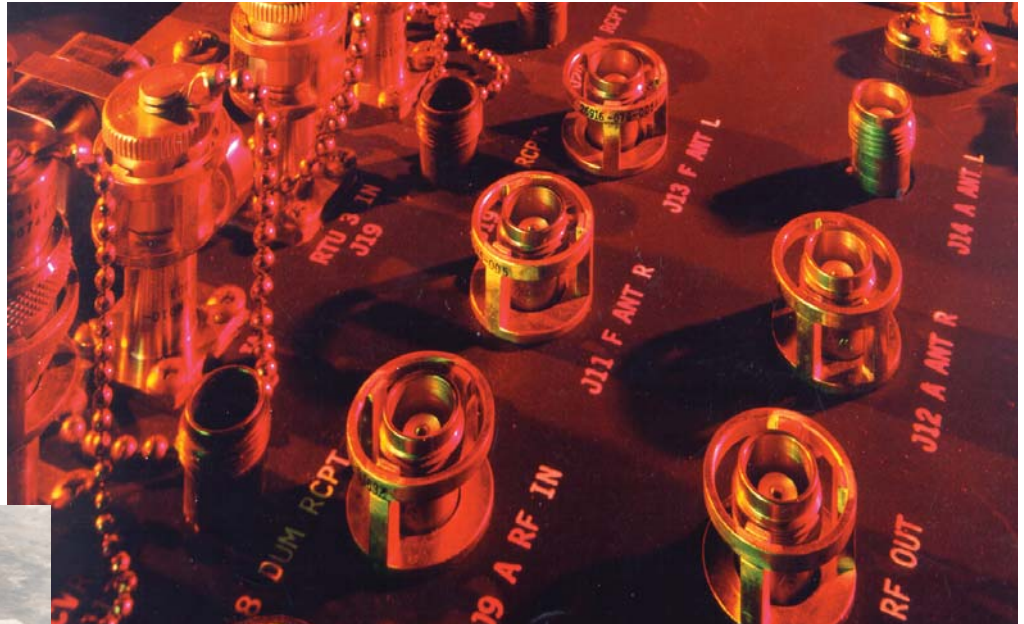


AN/ALQ-135(V)

Proven in Combat and Evolving to Meet the Future Threats



*Designated
"mission essential"
for every F-15
going into combat*

Since 1990 Northrop Grumman's AN/ALQ-135(V) internal self-protection countermeasures system has protected USAF F-15C/E aircraft and their crews in every operational deployment from

high-band RF air-to-air and surface-to-air threats. During Operation Desert Storm, the ALQ-135 logged more than 6,600 hours of combat, without losing a single aircraft to a covered threat. In addition, the ALQ-135 demonstrated superior performance in subsequent operations in the Balkans, in Kosovo and in Operations Southern Watch and Northern Watch, enforcing the "no-fly zone" over Iraq.

During the lifetime of the ALQ-135 system Northrop Grumman has continually provided upgrades in order to meet the ever-evolving threat. In the 1990's the ALQ-135 Band 3 subsystem underwent three suite updates that included improvements to threat techniques, reliability, built-in test, simultaneous coherent threat protection, and the processor. In 2000 the Suite 4 update provided greater high band threat capacity, as well as added low band coverage with the addition of the Band 1.5 subsystem.

Together the Band 1.5 and Band 3 subsystems provide complementary frequency coverage of all tactical threat systems. Both subsystems have passed IOT&E and achieved a Milestone 3 decision. The ALQ-135 is fully integrated within the F-15 Tactical Electronics Warfare Suite (TEWS) and with other onboard avionics including the F-15 fire control radar and the ALR-56C radar warning receiver.

Demonstrated Benefits

- Simultaneously defeats multiple simultaneous pulse, pulse Doppler and continuous wave threats
- Fully self-contained hybrid receiver system provides threat detection and comprehensive threat identification and monitoring
- Multiple transmitters tailored to protect the F-15 radar cross section over the entire threat envelope
- Proven reliability and maintainability; continuously being improved
- Selects optimal countermeasures based upon mission environment, threat lethality and mission priority

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Band 3 + Band 1.5 = Full Spectrum Threat Protection for F-15s

In the 1970's the original ALQ-135 Band 1/2 system was developed to provide F-15 aircraft with a full complement of self-protection countermeasures against evolving threat systems. Band 3, first installed in 1988, provides high band coverage against all modern air-to-air and surface-to-air threat radar systems. Band 3 is totally integrated with other onboard systems and is deployed worldwide protecting more than five hundred (500) F-15s.

Band 1.5 provides both additional multiple threat capabilities and a full-up low band capability to counter widely-deployed threats and integrated air defense networks. Band 1.5 integration into the ALQ-135 provides full spectrum coverage for the F-15, making it the most well-protected fighter aircraft in the Air Force inventory. Band 1.5 successfully completed Operational Test in December 2000 and is now in full-rate production. Installations aboard F-15E aircraft worldwide began in late 2000 and Band 1.5 is now operational.

Band 1.5 also offers improved capabilities and reliability as a retrofit for F-15C aircraft. With more than 70% hardware commonality with Band 3, logistics and maintenance benefits alone are compelling. F-15C Band 1.5 installation eliminates two LRUs. At the same time, it gives the F-15C twice the multiple threat capability in key air-to-air combat threat environments as well as needed protection against widely-deployed low band threat systems.

Continuous Improvement: Technology Insertion and Modernization

Northrop Grumman continues to install a series of upgrades into the ALQ-135 providing the latest jamming capabilities and technologies. These upgrades ensure that the ALQ-135 will remain modern and supportable for decades to come.

- 486 processor upgrade implemented late 1990s
- Power PC upgrade now underway (2002)
- Coherent jamming upgrade implemented in mid-1990's, made possible by the introduction of highly integrated application specific and monolithic microwave integrated circuits.
- Transmitter upgrade now underway with international sponsorship leveraging award-winning microwave power module (MPM) technology to reduce volume and power consumption and increase reliability and sustainability (2002)



ALQ-135 Transmitter upgrade delivers power comparable to existing transmitters with 85% less weight.

- Fiber-optic towed decoy integration underway (2002)
- Long-term supplier agreements in place to alleviate Diminishing Manufacturing Sources (DMS) issues

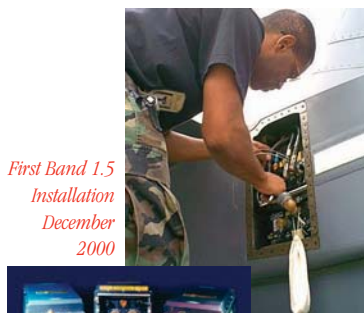
Specifications

	B3 RF Amplifier	B3 Control/Oscillator	B1.5 RF Amplifier	B1.5 Control/Oscillator	LRU-14
Weight	97 lb/44 kg	116 lb/52.7 kg	95 lb/43.2 kg	100 lb/45.5 kg	10.5 lb/4.8 kg
Volume	2030 in ³ / 0.033 m ³	2408 in ³ / 0.039 m ³	2030 in ³ / 0.033 m ³	2408 in ³ / 0.039 m ³	195 in ³ / 0.0032 m ³
Envelope	11.8 x 8 x 21.5 in/ 30 x 20.3 x 54.6 cm	14 x 8 x 21.5 in/ 35.6 x 20.3 x 54.6 cm	11.8 x 8 x 21.5 in/ 30 x 20.3 x 54.6 cm	14 x 8 x 21.5 in/ 35.6 x 20.3 x 54.6 cm	3.5 x 8.25 x 6.75 in/ 8.9 x 21 x 17.1 cm

Specifications and features subject to change without notice.



Band 3



*First Band 1.5 Installation
December 2000*



For more information, please contact:

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