

NORTHROP GRUMMAN

AN/APG-68(V)9
Improved Multimode Fire Control Radar

AN/APG-68(V)9 Radar Features

- Synthetic Aperture Radar 2-Foot Point Target Response
- 33% Greater Air-to-Air Range
- Reduced Weight, Power and Cooling
- 390 Hours Predicted Mean Time Between Failure
- 25%-45% Lower Support Costs

***Northrop Grumman and the New AN/APG-68(V)9
...Continued Leadership in Airborne Radars***



***F-16 AN/APG-66/68/80, F/A-22 AN/APG-77 and F-35 AN/APG-81
Radar Cross-Cutter Capabilities and Equipment***

Enhanced Performance and Lower Support Costs

AN/APG-68(V)9 New Radar Components and Retrofit Path

AN/APG-68 Antenna

- Inertial Measurement Unit (IMU) Added
- Enables Synthetic Aperture Radar (SAR)



Form & Fit Replacement for MLPRF



Modular Receiver/Exciter (MoRE)

- Replaces the Modular Low Power Radio Frequency (MLPRF)
- Latest open architecture design
- Wideband waveform generators for SAR
- High Bandwidth A/Ds

Form & Fit Replacement for PSP or APSP



Common Radar Processor (CoRP)

- Replaces the Advanced Programmable Signal Processor (APSP or PSP)
- COTS-Based
- Open Systems Architecture and significant processing advances combined with upgraded memory – provides substantial reserve for growth features

Modified



Medium Duty Transmitter (MDT)

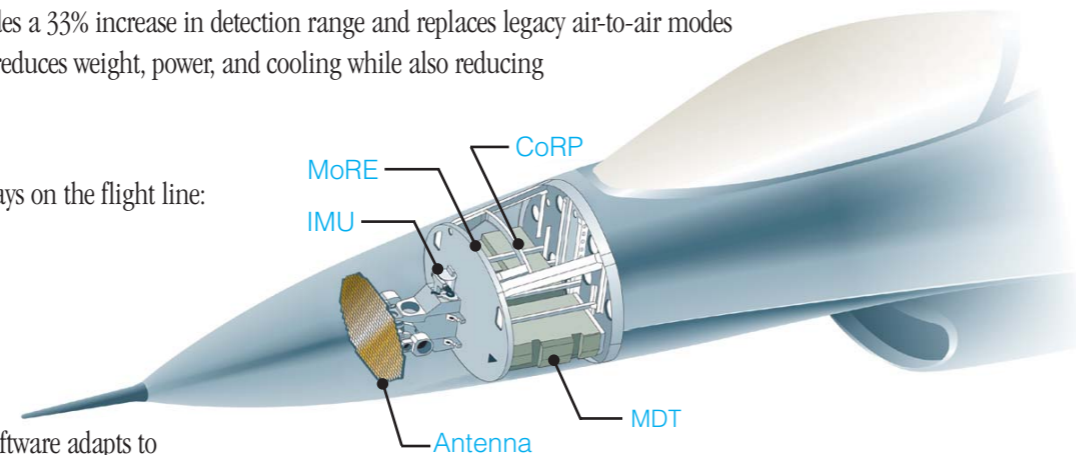
- Modified Dual Mode Transmitter (DMT)
- Higher Average and Peak Power

New Radar Features

- **New** Synthetic Aperture Radar (SAR) mode provides 2-foot PTR mapping resolution to allow all-weather precision strike capability
- **New** Extended Range Search (ERS) mode provides a 33% increase in detection range and replaces legacy air-to-air modes
- **New** technology with open systems architecture reduces weight, power, and cooling while also reducing support costs by 25%-45%

Retrofit Flexibility

- Retrofit kit can be installed in approximately 2 days on the flight line:
 - New Modular Receiver/Exciter (MoRE)
 - New Common Radar Processor (CoRP)
 - Modified Dual Mode Transmitter (MDT)
 - Modified AN/APG-68 antenna
- Retrofit kit installs in the existing radar spaces
- AN/APG-68(V)9 Radar Interface – CoRP radar software adapts to F-16 Fire Control Computers from Block 20 through Block 50



Commonality

- Logistic requirements reduced by having the same radar components for your entire F-16 fleet
- Life cycle costs reduced by system commonality with the U.S. Air Force and international users

Sustainability

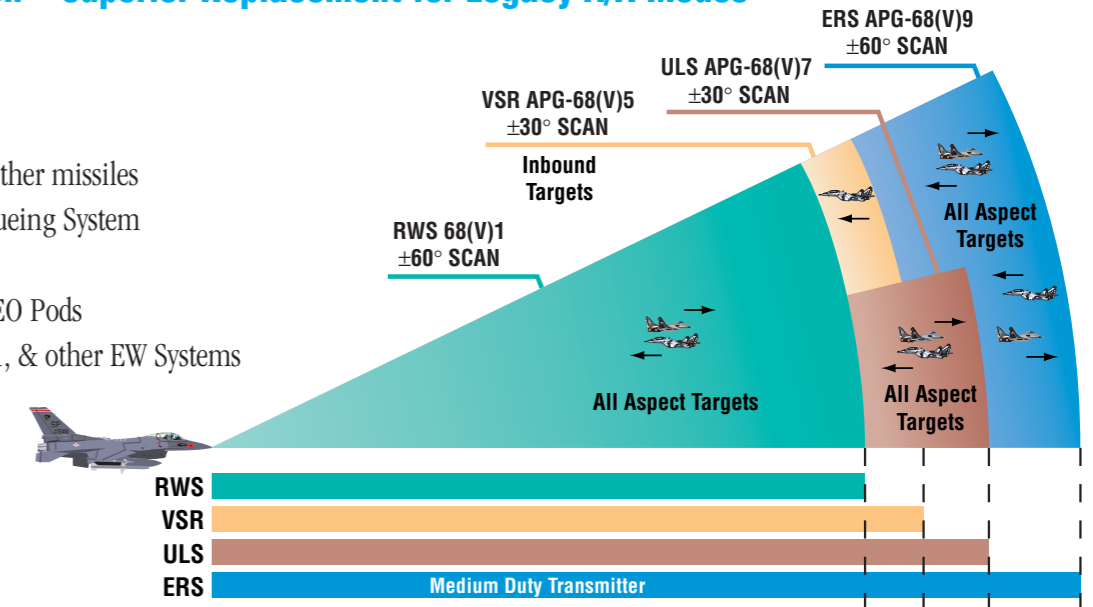
- AN/APG-68 radar reliability improved by a factor of 1.5 – 2.6, resulting in 25%-45% lower support costs
- Improved reliability and fault isolation supports 2-level maintenance

Physical Statistics	
AN/APG-68(V)9	
Weight	362 lb (164 kg)
Cooling	19.0 lb/min @ 27°C
Power	5606 VA
Volume	4.6 ft ³ (1.3m ³)

Enhanced Air-to-Air and New SAR Capabilities

Extended Range Search – Superior Replacement for Legacy A/A Modes

- Enables first detect outside target's radar
- Compatible with:
 - AMRAAM, AIM-9X, and other missiles
 - Joint Helmet Mounted Cueing System
 - JDAM, JSOW, and WCMD
 - LITENING II and other EO Pods
 - ASPJ, ASPIS, AN/ALQ-131, & other EW Systems



New Features

- Increases maximum detection range by 33%
- Four-target Situation Awareness Mode

2-Foot PTR Synthetic Aperture Radar (SAR)



- All-weather precision attack
- Improves pilot situational awareness
- Improves weapons' probability of kill
- Allows pilot to map the target outside the threat envelope
- Optimized for single-seat operation

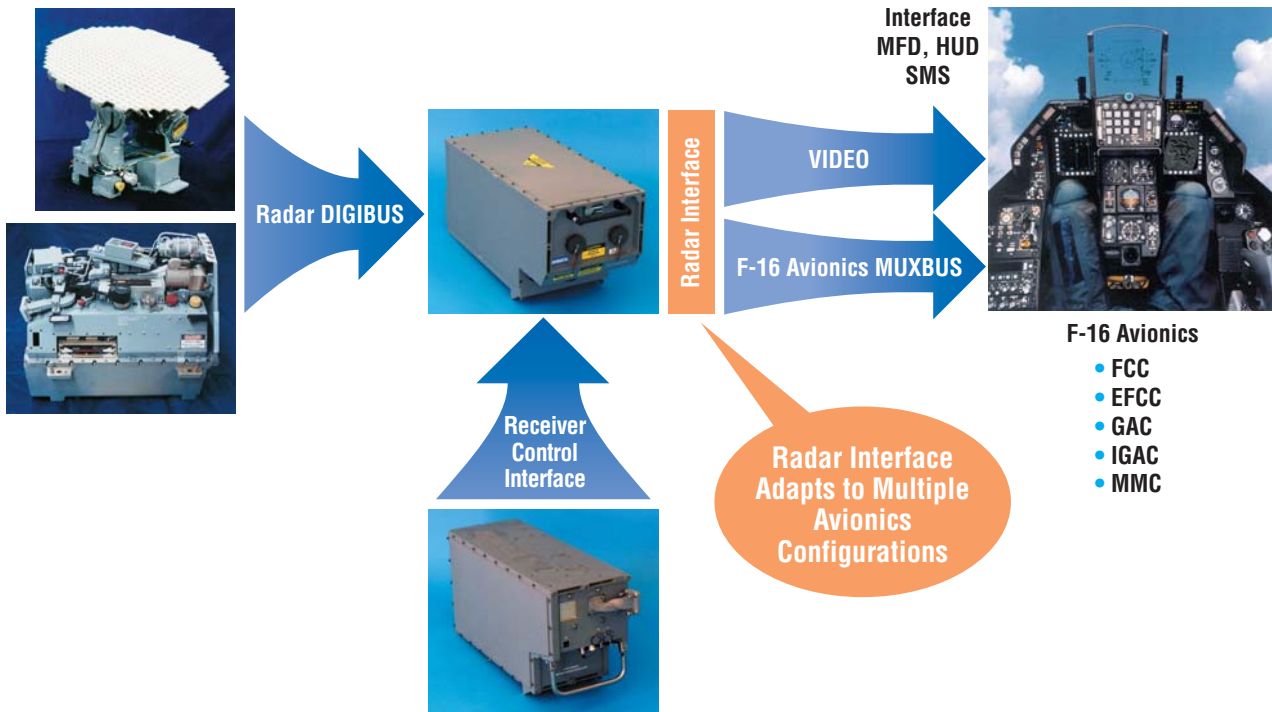


Ft. McHenry Photograph



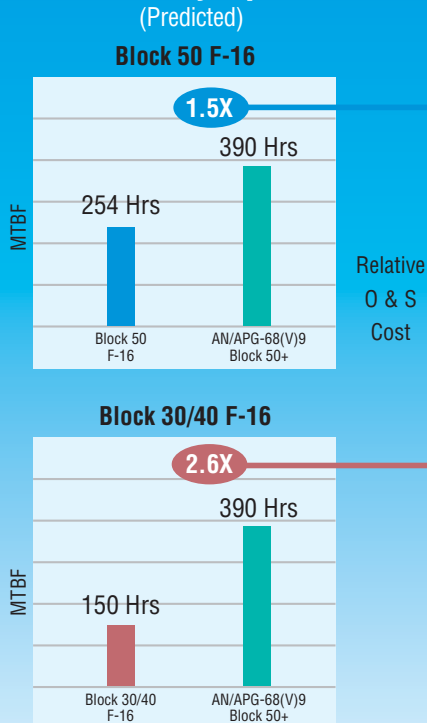
Ft. McHenry AN/APG-68(V)9 SAR Image (actual display size)

AN/APG-68(V)9 Radar Interface Allows Ease of Integration

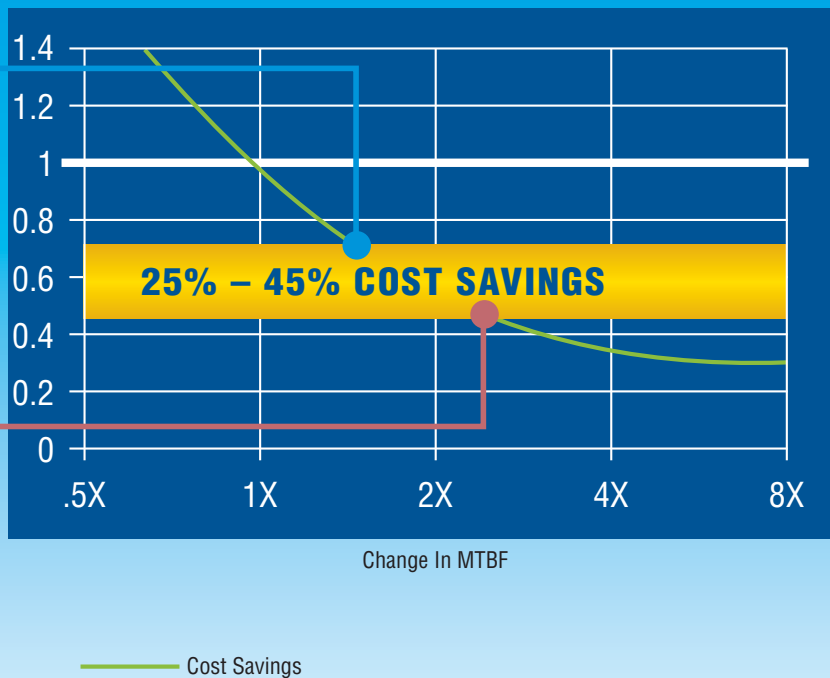


Cost of Ownership Reduced 25% to 45%

Radar Reliability Improvement (Predicted)



Cost of Ownership Reduction (Predicted)



Note: Cost savings are MTBF dependent. Lower MTBF on earlier F-16 Block configurations would benefit from increased cost savings.

NORTHROP GRUMMAN

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