

THE VALUE OF PERFORMANCE.

NORTHROP GRUMMAN

Scalable Agile Beam Radar (SABR)

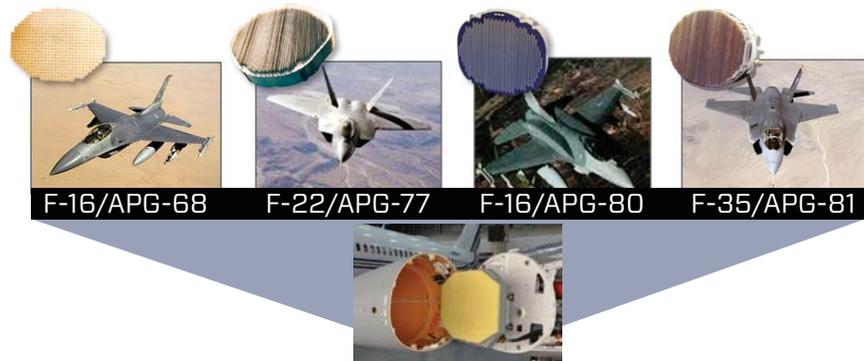
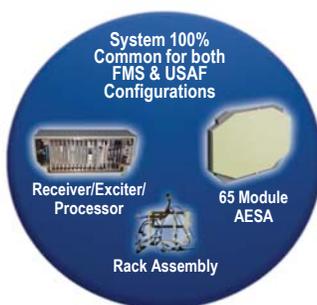
Northrop Grumman's Scalable Agile Beam Radar (SABR) is a full-performance, multi-function, active electronically scanned array (AESA) fire control radar. Developed as an affordable, low risk AESA radar retrofit solution, SABR offers advanced operational capabilities and greater system reliability. SABR was selected to upgrade USAF and Taiwan F-16 aircraft, and as an option for new production aircraft.

and cooling provisions for a wide variety of aircraft configurations.

Fighter Radar Heritage

Northrop Grumman has four successful decades of F-16 radar development and integration experience and is the AESA fire control radar provider for both U.S. 5th generation fighter aircraft. This fighter radar development experience and expertise

is leveraged in SABR's design, which incorporates proven hardware and advanced operating modes from Northrop Grumman's F-35 and F-22 AESAs. Approximately 95 percent of SABR's mode suite comes directly from the F-35's AN/APG-81 AESA radar, including robust and proven Electronic Protection to counter the most advanced threats.

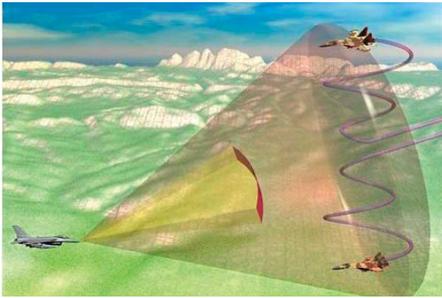


SABR was initially developed for the F-16. However, as the name implies, the AESA system is scalable to meet the unique form factor, power,



5th Generation Radar Capability

SABR's electronically scanned beams enable much faster area searches resulting in earlier and longer range target detections and tracking.



Electronic scanning also ensures rapid target updates and makes interleaved mode operations possible for greater mission effectiveness, situational awareness, and survivability.

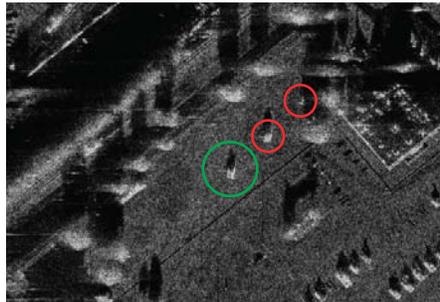


SABR's larger area, high-definition, Synthetic Aperture Radar capability is called "BIG SAR." This mode provides pilots with unprecedented target area detail and digital map displays that can be tailored with slew and zoom features.

The advanced capability enables greater situational awareness, flexibility and quicker all-weather targeting.



Northrop Grumman's advanced processing and proprietary algorithms automatically scan entire SAR maps, precisely locating and classifying targets of interest, and greatly reducing pilot workload.



Operational Viability and Supportability for the Future

SABR was selected as the new AESA radar and primary system upgrade for the USAF's F-16 Combat Avionics Programmed Extension Suite. This avionics modernization program is designed to ensure the F-16 Block 40-52 aircraft remains

viable in the threat environments beyond 2025. SABR is also being integrated as part of an international customer's F-16 avionics upgrade program and will be the baseline AESA radar for all the aircraft manufacturer's future F-16 upgrade and new production aircraft.

Unlike mechanically scanned radars, SABR scans electronically, eliminating the requirement for moving parts, and has a single consolidated line replaceable unit containing the receiver, exciter, and processor functions. These features along with solid state electronics provide reliability rates three to five times greater than current fire control radar systems. This higher reliability translates into greater radar system availability and lower sustainment costs.

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