

Advanced Precision Kill Weapon System (APKWS™) Innovative Technology for Transformation



ELECTRONICS & INTEGRATED SOLUTIONS

BAE SYSTEMS

APKWS™

The APKWS uses Distributed Aperture Semi-Active Laser Seeker (DASALS) Technology in the wings to generate a large non-gimbaled field-of-view.

APKWS Guidance and Control Section offers the U.S. Army, Special Operations Forces, Air Force, Navy and the Marine Corps a new weapon capability using existing rocket motors, warheads, launchers, designators, and fire control systems. With the addition of a guidance section installed between the motor and the warhead, the 70 mm rocket becomes a laser-guided weapon. APKWS adds precision capability for point and lightly-armored targets. Targets, missions, and urban operations requiring surgical precision and minimal collateral damage are now possible with the multi-purpose, affordable APKWS.

Our APKWS Guidance and Control design is the result of four years of cooperative development with the Army. Our six-degree-of-freedom simulation has been validated through Hardware-in-the-Loop testing in the Army laboratory and was demonstrated for the Advanced Technology Demonstration program with a first shot, first hit on 19 September 2002. BAE Systems is proud to be partnered with the Project Manager's Office, Joint Attack Munition Systems, Northrop Grumman and General Dynamics Armanent and Technical Products in the development, integration and delivery of APKWS to the warfighter.

The APKWS provides the warfighter with a surgical strike capability that can be integrated directly onto the Apache, SuperCobra, Blackhawk, and Kiowa Warrior helicopters, and UAV's. APKWS is compatible with autonomous and remote designator systems, allowing for long-standoff engagements. The wide field-of-view and long range laser acquisition allow precision engagements against moving and stationary targets in a variety of tactical situations or engagements. All this is achieved with limited integration, with no special tools required on the General Dynamics 70 mm rocket.

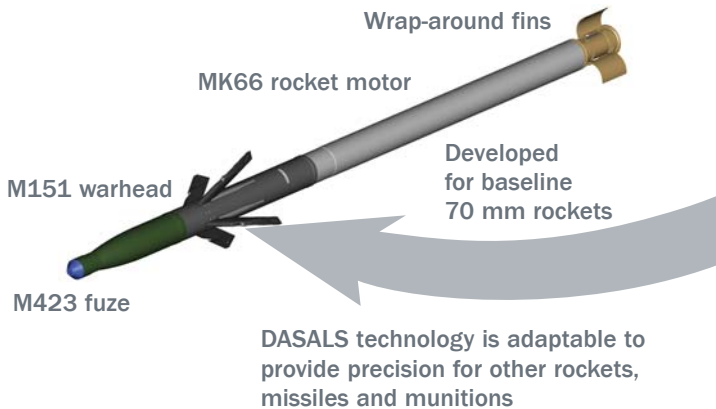


APKWS features:

- "Plug and Play" modular design
- Easy integration on the 70 mm rocket
- Guidance Section fits between rocket motor and warhead – no modifications to current rocket needed
- Envisioned to be compatible with multiple warheads
- Integration is platform dependent, but is envisioned to be minimal for aircraft employing 70 mm rockets and equipped with a laser designator
- Compatible with current laser designators
- Reduced collateral damage by increased accuracy
- Distributed Aperture Semi-Active Laser Seeker (DASALS) Technology



APKWS Precision Guided 70 mm Rocket



High performance

- Accuracy up to 1.5 meter circular error probable (CEP)
- 1.5 to 5 kilometer range
- Compatible with a wide range of laser designators
- HELLFIRE-like designation for engagements

Integration planned or available for

- AH-64A/D Apache
- AH-1W/Z SuperCobra
- MH-60, SH-60R, OH-58D, AH-6
- M260/261 and LAU68/61 Launchers
- UAV
- Armed reconnaissance helicopter

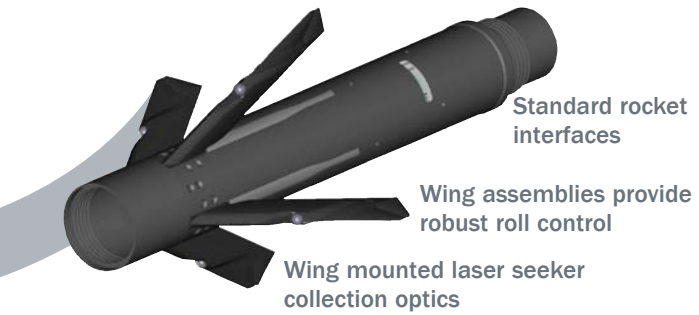
Maximum flexibility

- Simple field or factory installation
- Minimal training required
- Envisioned to be no impact to warhead/fuze effectiveness, for current MK66 rocket motor, or M151 warhead
- No impact to rocket motor
- No impact to current inventories
- No maintenance required
- Supports transformation

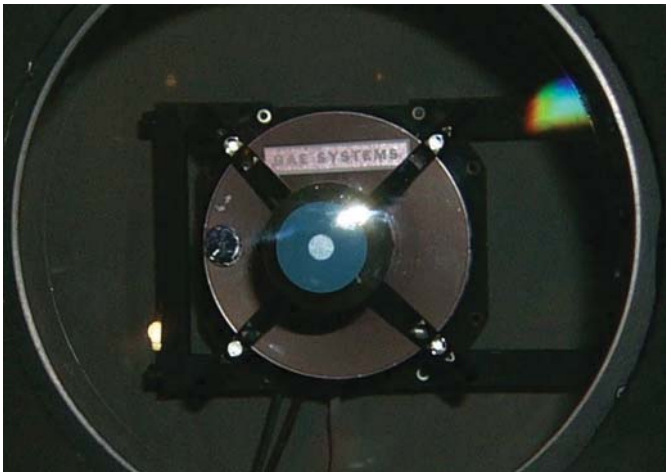
Affordable technology

- Unique low cost laser seeker in wing leading edge
- Seeker envisioned to be protected from operational environments (dust, sand, debris . . .) in launch tube
- Advanced digital signal processing
- MEMS inertial measurement unit
- Low cost complementary weapon system for soft and lightly armored targets

APKWS Guidance Section



Tested in Aviation and Missile Research, Development and Engineering Center (AMRDEC) Automated Laser Seeker Evaluation System Laboratory



The APKWS Guidance Section is assembled at the BAE Systems factory, Nashua, N.H.



BAE Systems
P. O. Box 868, NHQ1-404
Nashua, NH 03061-0868
Telephone 603-885-9635
Fax 603-885-0520

www.eis.na.baesystems.com

ISO 9001 Registered

Cleared for Open Publication by AMCOM PAO 04/07