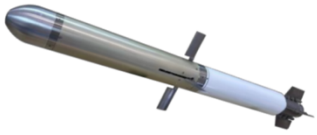
AA-7 Portable Defense Missile System MANPAD

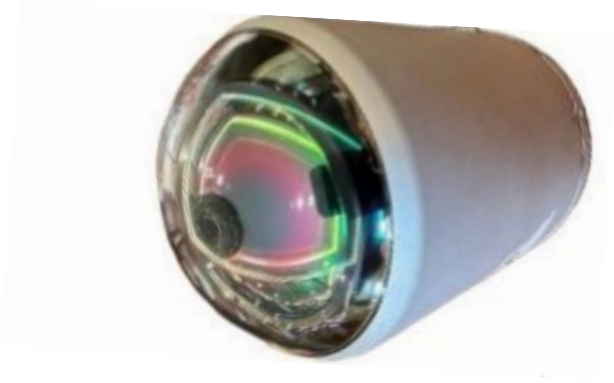
Introduction

AA-7 portable defense Missile system MANPAD
Portable lightweight air defense missile system capable of multiple missions is developed for engaging shooting day and night
Anti UAV, anti-terrorist, helicopters, aircraft, light armored vehicles and boats Fire and forget capabilities engage target Lock on Launch and hit



Layout

The AA-7 has a conventional design. It is an infrared guided missile with the seeker in the nose. This is followed by the warhead section and the rocket engine. A booster launches the missile from the grip-stock launcher and provides initial velocity. The missile has four small wings at the front for steering and larger folding wings near the nozzle for stability. The gripstock launcher consists of a launch tube, sight unit, battery unit and trigger group.



Firepower

The AA-7 IR infrared seeker uncooled sensor that proved rather easy to mislead with flares. The warhead is also rather small 1.1kg 70mm Diameter. Only receding fighter jets can be engaged.
Penetration 50 mm + fragmentation AT +HE

Mobility

The AA-7 is a very mobile system as the missile and its grip stock launcher are man portable, even over longer ranges. The system is operated by a single person. Missile Weight 10.5 kg
Weight including launcher 15 kg with length of 1550mm (1.55 meter) and Operating Temperature -20° to 45° Celsius

The AA7 is a flexible and versatile man-portable launcher dedicated to the deployment of the combat-proven AA07 fire-and-forget missile on ground, on vehicles or on a naval vessel. The AA7 MANPADS launcher is extremely simple to operate as the missile is fire-and-forget. The gunner only needs to detect the target through the thermal sight, activate the AA7 missile, and fire once the AA7 seeker is locked on the target. AA7 MANPADS effectiveness, relying on terminal accuracy and high lethality, is independent from operators' skills and training level, while beam-riding systems request accurate constant aiming of the target. Seated position of gunner provides stability and precision for easy target designation, whatever target characteristics, high crossing speed, high elevation or maneuvers. Moreover, as AA7 is fire-and-forget, once the missile leaves the launcher, the firing team is ready to move on another position or reload to engage a new target.

Technical Data AA-7

-Maximum effective distance range: 6,500 metres
-Maximum effective altitude range: 3,600 metres (12,000ft)
-Minimum effective altitude range: 200 metres
-Maximum target speed:1.3 400m/s
-Maximum missile flight speed: 570 metres per second 1.9 Mach
-Field of sight of the homing system: 13º
-Total weight of the whole set: 15 kg
-Missile weight: 10 kg
-Warhead weight: 1.1 kg
-Missile length: 1.55 metres
-Diameter of the missile body: 70 mm
-Stabilisation wings' span: 130 mm
-Length of the launching set: 1.57meters
-Diameter of the launching set: 75 mm
-Set-up time for fire: max. 0 seconds
-Response time: max. 0 seconds
-Self-destruction time: 10 seconds
-Fuse type: proximity fuse impact armor piercing + blast fragmentation
-Penetration: 50 mm + fragmentation AT + HE
-Seeker: 2 Chanel Seeker passive IR uncooled sensor
Dual Daylight color sensor 1920x1080 & IR uncooled FPA 640x512
recognition distance 6000 m
-Guidance: strap down IR infra-red
-Propulsion: Single-stage solid propellant rocket motor, plus ejection motor
-Shooting Day and Night
-Temperature scale: -20 up to +45ºC
-Crew: 1