

RIM-116 RAM Rolling Airframe Missile




国别：美国
类型：舰对空导弹
型号：RIM-116


 [图1](#)


 [图2](#)


 [图3](#)

 [图4](#)

 [声音](#)

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简介：RIM-116 RAM Rolling Airframe Missile

The RAM program is designed to provide surface ships with an effective, low-cost, lightweight, self-defense system which will provide an improved capability to engage and defeat incoming antiship cruise missiles (ASCMs). The RAM Block 0 has a five-inch diameter airframe that rolls in flight and dual mode, passive radio frequency/infrared (RF/IR) guidance. Initial homing for RAM Block 0 is in RF, using an ASCM's RF seeker emissions. If the ASCM's IR radiation is acquired, RAM transitions to IR guidance. Effective against a wide spectrum of existing threats, the RAM Block 1 IR upgrade incorporates a new IR "all-the-way-homing" guidance mode to improve AW performance against evolving passive and active ASCMs. The Block 1 missile retains all capabilities of the Block 0 missile while adding two guidance modes, IR only and IR Dual Mode Enable (IRDM). The IR only mode guides on the IR signature of the ASCM. The IRDM will guide on the IR signature of the ASCM while retaining the capability of utilizing RF guidance if the ASCM RF signature becomes adequate to guide on. RAM Block I can be launched in an IR all-the-way mode, as well as the dual mode (passive RF, followed by passive IR) used by Block 0. The launching system and missiles comprise the weapon system. RAM weapon systems are integrated with the AN/SWY-2 combat system on certain ships and as part of the Ship Self Defense System (SSDS) on other ships (LSD-41 class ships at this time). The AN/SWY-2 is comprised of the weapon system and the combat direction system. The combat direction system employs the existing Mk 23 target acquisition system (TAS) radar and the AN/SLQ-32(V) electronic warfare support sensor together with threat evaluation and weapons assignment software resident in the Mk 23 TAS to accomplish threat detection, correlation, evaluation, and engagement. With SSDS, RAM is part of the engagement suite. For example, on LSD 41-class ships, a typical SSDS engagement suite includes RAM, the PHALANX Close-In Weapon System Block 1A, and the decoy launch system. SSDS further integrates the AN/SPS-49(V)1 radar with the medium PRF upgrade, the AN/SPS-67 surface search radar, the AN/SLQ-32(V) sensor, and the CIWS search radar. RAM is installed in all five Tarawa (LHA-1)-class amphibious assault ships; LHD 1, 3, 5, and 6; DD-987, and LSD-48. Block 0 missiles and launchers are in production and on schedule, and the missile had successful intercepts in 62 of 64 production-proofing and ship qualification tests. The first fleet firing of the RAM occurred in October 1995 from the USS Peleliu (LHA-5). A successful preliminary design review of the Block 1 IR upgrade was conducted in September 1995. Flight tests of the missile are being conducted during Engineering and Manufacturing Development, prior to authorizing Low-Rate Initial Production (LRIP). Milestone III was achieved in FY 1998, to be followed by IOC in FY 1999.

Specifications

Primary Function	Surface-to-air missile
Contractor	Hughes Missile Systems Co. Tucson, AZ
Power Plant	
Thrust	
Speed	
Range	
Length	
Diameter	
Finspan	
Warhead	
Launch Weight	
Guidance System	
Status	Full-rate production (Block 0) FY94 Full-rate production (Block I) FY99
Costs	Total program cost (TY\$) \$1,709.4M Average unit cost Block 0 \$0.273M Average unit cost Block 1 \$0.444M 1,310 Block 0 missiles 620 Block I missiles 154 Launchers
Inventory Objective	The Navy has stated a requirement for 1,600 RAMS and 115 launchers to equip 74 ships. Congress approved funds for 230 RAMS in FY 1996; the Navy requested 125 RAMS in FY 1997, 100 in FY 1998, and 200 missiles in FY 1999.