



AN/ASQ-235 Airborne Mine Neutralization System (AMNS) for Optimum Warfighter Safety



AMNS neutralizes anti-shipping mines safely and efficiently by operating from sea- and land-based MH-60S helicopters.

Benefits

- Neutralizes moored and bottom mines (four per MH-60S sortie)
- Accelerates the neutralization process by moving quickly from detection to engagement
- Minimizes human involvement in hazardous minefields; divers and ships are not needed to detonate mines
- Integrates seamlessly with existing MH-60S AMCM equipment
- Positively identifies bottom mines through use of real-time video
- Operates from the air to optimize personnel safety
- Designed to rigorous military standards
- Small logistic footprint

The Navy Standard for Airborne Mine Neutralization

Seaborne mines continue to menace naval and maritime forces worldwide. Mines are used to attack ships approximately 200 times more than any other weapon. Raytheon's Airborne Mine Neutralization System (AMNS), the U.S. Navy's standard for organic airborne mine clearance, has been designed to counter this threat.

AMNS neutralizes moored and bottom mines while operating from sea- and land-based MH-60S helicopters. By using helicopters as a central platform, mine clearance has not only become safer, but nearly 10 times more efficient.

Mines are first identified by the AN/AQS-20A sonar system or other mine countermeasure assets. The AMNS then identifies the location of the mines and neutralizes the target.

AMNS consists of the following removable mission equipment:

- Launch and Handling System
- Common neutralizer vehicle
- Common console display
- Carriage, Stream, Tow and Recovery System

Launch and Handling System Easily Deployed From Aircraft

The mine neutralization begins with the deployment of the Launch and Handling System (LHS) from the MH-60S helicopter. Because it's compatible with MH-60S mechanical and electrical interfaces and supports easy on/off kit reconfiguration, the LHS is easily deployed from the aircraft.

The highly effective LHS integrates many diverse high-tech capabilities into a single system, including a stable platform from which to launch the neutralizer vehicle.

Common Neutralizer Vehicle Ensures Safe Handling

The neutralizer vehicle is released from the LHS under the control of the sensor operator on the aircraft. The operator guides the lightweight (15.5 kg) and highly maneuverable vehicle to the target location using on-board sonar. After the target is viewed and positively identified with an on-board video camera, the operator fires an armor-piercing warhead from the vehicle to neutralize the mine.

The neutralizer's state-of-the-art electronics and sensors also provide a robust, high-speed fiber optic data link, track responder and echo sounder. An inert unit with strobe light, acoustic beacon and recovery section is used for training.

The Archerfish™ has been selected by the U.S. Navy as the common neutralizer vehicle.

Common Console Is Human System Interface

The common console, which is aft of the helicopter's cockpit, interfaces with a number of important functions during the mine neutralization process, including sensor operator control, vehicle control, sonar, video and status.

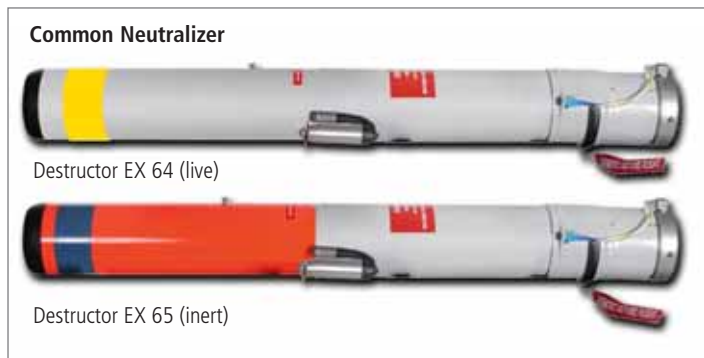
The console displays timely and accurate information about the positions of the target and the neutralizer vehicle. It also displays the bearing and range from the LHS to the neutralizer. This information allows the sensor operator to monitor and adjust the neutralizer's approach to the target.

Reliable Recovery Is Ensured

Each MH-60S helicopter is outfitted with a removable Carriage, Stream, Tow and Recovery System (CSTRS), which is used to deploy the Launch and Handling System (LHS) from the aircraft and recover it from the water. The CSTRS, which is also used on the AN/AQS-20A, consists of a winch, AQS-20A tow cable and guillotine.

Designed to Rigorous Safety Standards

Numerous safety precautions were built into the design of the AMNS. The system's key components are designed and tested to strict military standards for explosive system devices. The U.S. Navy has also successfully conducted extensive training and simulation exercises to validate the system's capability and reliability.



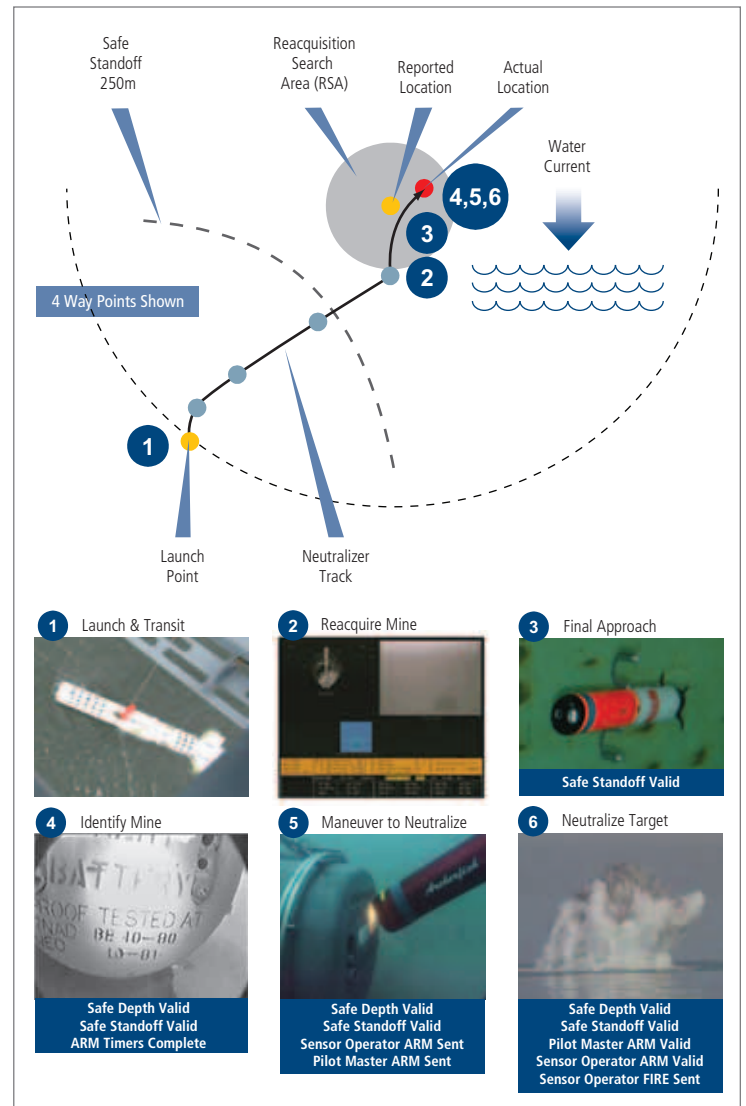
Launch Handling Subsystem Specifications

Length	11.3 ft
Width	15.5 in. diameter
Weight	753 lb (air) with 4 neutralizers, 606 lb empty 223.5 lb (water) with 4 neutralizers, 217 lb empty
Power	0.6 kW

Destructor Specifications

Weight	36.5 lb (in air)/0.9 lbs (in water)
Length	41.3 in. (after launch)
Diameter	5.3 in. (hull)
Speed	-0.5 to ≥ 6 knots
Fiber Optic Cable	2,000 m (Ntr Spool)/1,500 m (LHS Spool)
Battery	16.8 V, 20 Ah Lithium-ion

Typical Mine Neutralization Scenario



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