

System Description

A SATCOM-Acoustic Communications System Providing Worldwide Coverage

Raytheon's Deep Siren system employs acoustic, expendable buoys that can be contacted through the Global Information Grid to enable long-range communications from a buoy to a submarine throughout its area of operations, depending upon environmental conditions. Buoys can be launched from multiple platforms, providing increased flexibility.

Submarines routinely initiate communications or adhere to previously established communication schedules to make contact with commanders. This process introduces operational time delays and limits a submarine's ability to participate in the full spectrum of today's naval missions.

Deep Siren is critical technology for the Navy's first generation of Undersea FORCENet communications equipment. It is integral to the Communications at Speed and Depth effort to provide real-time communications with submarines regardless of their operational profile.

In 2007 the U.S. Navy awarded Raytheon Company a \$5.2 million contract to deliver this innovative tactical paging solution for a series of Navy-conducted system tests, culminating in a Military Utility Assessment in 2008. As a result, the U.S. Navy moved closer to its goal of initial fleet operational capability in fiscal year 2009.

The award followed successful engineering tests conducted at the Canadian Forces Maritime Experimental Test Range on Vancouver Island, an at-sea demonstration at the U.S. Navy's Pacific Missile Range Facility in Kauai, Hawaii, and participation in RIMPAC 2006.

Raytheon leads a multinational Deep Siren Tactical Paging industry team. RRK Technologies, Ltd. (U.K.) supplies the Deep Siren long-range acoustic transmit and receive algorithms; Ultra Electronics Maritime Systems (Canada) builds the expendable buoy and launch vehicle; and Raytheon provides Mission Systems Integration.

Features and Specifications

Features

- Reliable one-way paging to a submarine regardless of operational profile
- Long range
- Expendable buoys
- Portable system enables paging from SUBOPSAUTH and Special Operations Forces on land or sea



*Buoy and Submarine
Launch Vehicle*

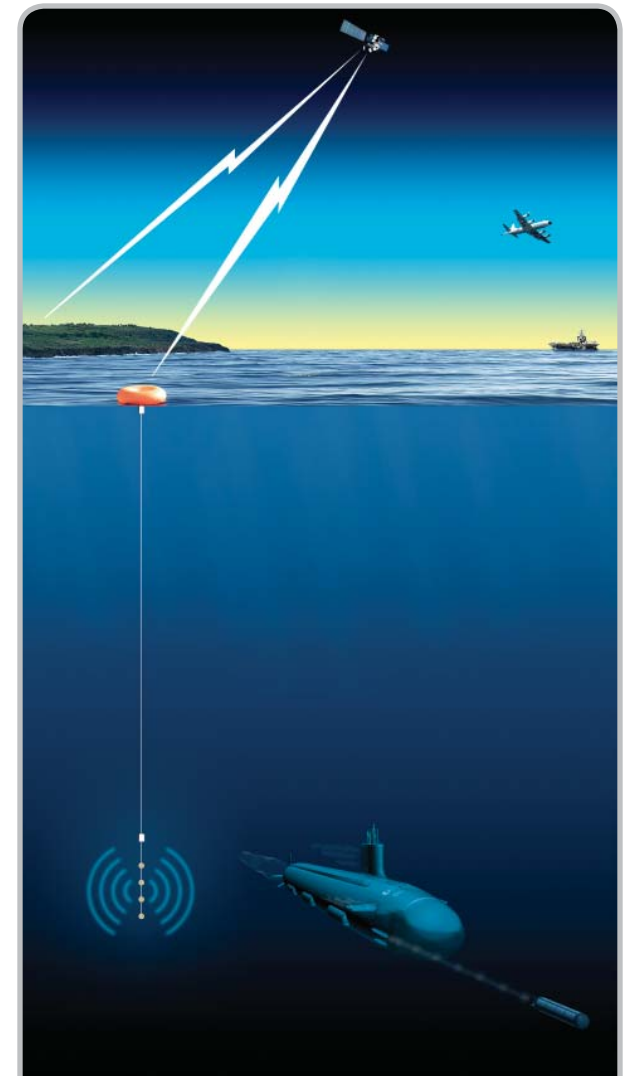
Specifications

- SATCOM link: Iridium constellation
- Acoustic communications range: >50 nautical miles
- Buoy characteristics: 3 days on-station; 60-minute cumulative acoustic transmission time; GPS configured; submarine, surface ship or aircraft launched
- Receive Station: Uses installed ship's sonar systems; laptop configured for carry-on
- Transmit Station: Laptop configured for portability and ease of locating with any Iridium-capable site ashore, afloat or on tactical units

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Deep Siren Tactical Communication System

Communicating With Submarines
at Speed and Depth

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Deep Siren Deployment Overview

