



IDS Business Support,  
Communications and  
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## Combat Survivor Evader Locator (CSEL)

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### Network & Space Systems

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### Description & Purpose:

CSEL is the first military search and rescue system providing multi-satellite, over-the-horizon communications and the latest generation military Global Positioning System (GPS) module in a small, rugged, lightweight handheld radio. Historically, combat search and rescue missions have experienced low success rates due to limited situational awareness and precise positioning information. CSEL minimizes the search aspect of a rescue mission by providing recovery forces with precise geopositioning information and secure, over-the-horizon, two-way data communications capability that enables joint search and rescue centers and recovery forces to locate, authenticate and communicate with isolated personnel in near real-time, anywhere in the world.

### Customer:

The CSEL system has been developed by The Boeing Company, Anaheim, Calif., under contract to the U.S. Air Force Electronic Systems Center, Hanscom AFB, MA.

### Background:

The CSEL system is based on a flexible, modular communication architecture providing multiple satellite links for dependable, secure (LPI/LPD) Over-the-Horizon (OTH) communications, LOS voice communications, global geo-position, navigation, and beacon functions. The CSEL architecture meets near-term requirements, while assuring flexibility for future growth, and enhancements.

### General Characteristics:

The Combat Survivor Evader Locator (CSEL) system is more than just a hand-held radio. CSEL provides a complete Combat Search and Rescue system. This fully qualified, next-generation survival radio system is comprised of over the horizon (OTH) relays, ground, and user equipment segments for the joint services. Today, CSEL is providing global coverage for U.S. DoD services worldwide.

## **AN/PRQ-7 CSEL CSAR Handheld Radio (HHR)**

An integral component of the CSEL System, the AN/PRQ-7 is a multifunction handheld radio that provides the warfighter the ability to securely communicate position and text messages through the CSEL UHFSATCOM network. This system enables the user to transmit and receive position and text messages using a SECURE UHFSATCOM data link to the CSEL UHFSATCOM Base Station and National Asset System.

Providing a complete system solution, the CSEL communication system is comprised of a user equipment segment, ground segment, and OTH relay segment.

### **Ground Segment**

The Ground segment is designed to operate simultaneously with other government systems. It uses existing infrastructure providing a highly reliable and timely global connection between all CSEL ground elements:

- hosted on existing government networks and workstations
- user friendly interface
- extensive mapping capability

### **Over The Horizon Segment**

The OTH Relay segment uses multiple, and in most cases, redundant DoD communication channels to assure transmission and reception of CSEL message traffic, resulting in rapid CSAR response times. It provides:

- near real-time two-way secure messaging and geolocation
- multiple satellite links
- extensive use of COTS/GOTS hardware for base station

### **Recent Accomplishments:**

- Radios delivered as of October, 2006: More than 10,000
- 10,000th CSEL HHR delivered on October 16, 2006
- Full-Rate Production Order #2 received August 2006
- Authorized by CENTCOM for use theatre, December 2005
- Full-Rate-Production Order #1 received in March 2005
- Full-Rate Production expected to exceed 40,000 units

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