

Bird Dog™ System

Tracking Everywhere



Global Tracking System

Global Tracking via Iridium®

Fixed and Mobile Tracking Station Options

Supports Brevity Codes and Distress Mode

The Bird Dog™ system enables tracking of remote assets via the Iridium® satellite system. It employs hardware and software enhancements to the Iridium handset and user-installed tracking station software on a COTS PC.

The Bird Dog system consists of tracking devices and a Windows® PC based Tracking Station. The devices are based on the Iridium 9505 or 9505A handset with modified software and a custom module containing a GPS receiver. The Tracking Station is a Windows PC based custom software application which can be hosted on a variety of hardware platforms.

Although the primary purpose of Bird Dog is the tracking of mobile assets, the system also supports limited bi-directional communications in the form of brevity codes and free text messages between tracking stations and the mobile assets. Messages can be sent to a group of mobile assets or directed to a single mobile asset.

Bird Dog Mode is entered via a menu selection on the Iridium handset. Once selected, all the features of the Bird Dog system are available. To enable the Bird Dog capability, the user selects "Bird Dog" in the menu on the Iridium handset. However, if the user releases Bird Dog Mode by selecting "Exit" in the menu, all calling features of the Iridium handset are available, enabling Iridium global voice communication if desired.

GENERAL DYNAMICS
C4 Systems

Features:

Bird Dog™ Device

The Bird Dog device is based on a modified Iridium® Subscriber Unit (ISU) handset. Hardware modification consists of a GPS module attached to a 9505 or 9505A handset providing it with built-in GPS capability. Software modifications include the addition of the Bird Dog software and the addition of the Bird Dog menus. The tracking device is capable of operating off rechargeable batteries or may be connected to an external AC or DC power source.

Each device has a unique identification that will be sent with every transmission. This ensures that each location report, brevity code, short message, or distress signal can be uniquely traced to the appropriate device. The device will also accept a unique key for encrypting the user data with an AES 256 encryption algorithm.

Modes of Operation

Either as a transmitting beacon or as a receiver, the Bird Dog device supports the following operational modes:

- Beacon Mode - Remote GPS
 - Select transmit interval
 - Turn reporting on or off
- Beacon Mode - Free Text
 - Compose and read text messages
- Tracking Station Mode
 - Select receive (polling) interval
 - Turn receive (polling) on or off
- Distress Mode
 - Can be entered from any Beacon Mode
 - Activates fixed reporting interval
 - The device is "Locked" until Distress Mode is turned off

Bird Dog Tracking Software

The tracking station handles device messaging and provides interfaces to mapping applications. The tracking station functionality is a mix of custom/COTS software running on COTS hardware. The minimum hardware and software requirements are available upon request.

The tracking station supports display and dissemination of tracking for assets in the field. It has been specifically designed to take advantage of features in both FalconView (version 4.0.0) and ArcView (version 9.0). In addition, limited capabilities exist for third-party mapping applications that support an NMEA RMC message format using a serial port interface.

There are three primary configurations of tracking station:

- Central Tracking Station
- Fixed Tracking Station
- Mobile Tracking Station

Physical/Environmental Characteristics:

ISU Physical Characteristics:

- Dimensions: 6 (H)" x 2.4 (W)" x .85"
- Weight: 2.31 lbs

ISU Environmental Characteristics

Operating Conditions

- Temperature, normal conditions +15 to +35 °C
- Temperature, extreme conditions -10 to +55 °C
- Relative Humidity 25 to 75 %
- Air Pressure 86 to 106 kPa

Storage Conditions

- Storage Temperature Range -40 to +85 °C
- Humidity 40 °C, 93% RH for 4 days
- Thermal Shock (IEC60068-2-14), full functionality upon completion of test and allowing device to return to room temperature; -25 °C to +70 °C, 5 cycles of 1 hour each

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8201 E. McDowell Road, MD H2099 • Scottsdale, AZ 85257 • Tel 480-726-1048 • Toll Free 877-449-0600

Website: www.gdc4s.com • Email: info@gdc4s.com