PAC-MAG System

The PAC-MAG is a man-portable Unexploded Ordnance (UXO) detection system consisting of an array of four total field magnetometers which create geo-referenced maps of large metal signatures below the ground. The system is designed to be used in any terrain that can be traversed on foot. The PAC-MAG is operated by a single individual who carries the array of magnetometers and a GPS antenna to map large areas of ground suspected of containing UXO. An encoder measures sensor location in forested or other areas unable to receive GPS coverage. In the absence of GPS coverage, the PAC-MAG operator reacquires targets using a ground-laid grid system.

Magnetometers have been used extensively for UXO remediation due to their ability to efficiently detect and discriminate UXO from small metal fragments. The PAC-MAG system provides users with a simple method for collecting data over large areas, autonomously processing that data, characterizing each anomaly and outputting a GPS-referenced dig sheet for follow-on investigation by manual clearance teams. The system is designed to be operable by minimally-trained personnel and can be used in almost any terrain.

Distribution Statement A: Approved for public release.
FEATURES

- Array of 4 magnetometers with an effective 2-m wide coverage width
- RTK-DGPS for mapping and target marking in open areas
- Optical encoder for operations in GPS denied areas
- Simple four-step post-processing software with automatic target recognition algorithms
- Man-portable for off-road terrain
- Ruggedized tablet PC for data logging via Wi-Fi and for monitoring system status during operations

Applications

Detection, marking and mapping of buried UXO in areas difficult to reach with vehicular based systems

Ideal for use against large, deep-buried UXO in non-mineralized soil

SYSTEM SPECIFICATIONS

Geometrics Cesium Vapor Total Field Magnetometers

Differential GPS provides mapping capability and centimeter accuracy of sensor path and targets

Real time monitoring via Wi-Fi ensures system functionality and complete ground coverage

ATR-based processing produces prioritized “dig sheets” based on shape and size of targets

Easy setup and transport

Simple user interface, easy to operate

Data Logging Software on Tablet PC

Status Indicators for Magnetometer / GPS

Line plot of individual magnetometer data

Mapped image of magnetometer data

Wi-Fi Tablet PC