G-858 MagMapper
High performance magnetometer

Specifications
- Very high sensitivity 0.01 nT and Sample speed up to 10 per second. Cover two acres (1ha) per hour for target search.
- Options include dual sensor gradiometer operation, nonmagnetic cart, integrated GPS and navigation light bar.
- Simple to use, powerful Analysis tools. System is supplied with MagMap2000 and MagPick for plotting, filtering and analyzing magnetic data.
G-858 MagMapper

The Geometrics high sensitivity Cesium Vapor Magnetometer model G-858MagMapper is the industry standard for mining, oil/gas exploration, unexploded ordnance detection, archaeological surveys and utility location.

The simple-to-use logging console provides real-time feedback to the operator with an XY position plot and up to 5 stacked profiles of recorded data. The system is fast, providing up to 2 acres per hour of tight line spacing coverage plus several options that can increase productivity even further. The G-858 system comprises a belt-mounted display/logging console connected to a cesium sensor mounted on a handheld counterbalanced staff. The console contains electronics to acquire magnetic field data position (GPS or XY) and display it on an LCD screen for review and edit. The console stores up to 8 hours of data inmemory for a single sensor system and uploads it to a processing computer for detailed analysis. The system is extremely versatile and can be used in horizontal or vertical gradiometer mode, with non-magnetic carts for target search and with a GPS backpack and steering lightbar for long range mineral or geologic surveys. Rugged, reliable, easy to use, this high productivity tool outperforms all competitive technologies such as Overhauser.

Our MagMap2000 data processing software uploads the data from the G−858 console, linearly interpolates the positions and provides each data point (or other recorded device) with its own XY or Lat/Lon UTM coordinate location. If recorded, the GPS positions are imported into MagMap2000 for display and editing. MagMap also provides diurnal correction, data plotting, high or low pass filtering, spike editing, and contourmap generation. Data can then be exported to Surfer, Geosoft or Geometrics free MagPick software package which can perform inversion to compute the position and depth of targets. The speed and efficiency of the G-858 result in low cost surveys. Even lower costs may be achieved by using the gradiometer mode and MagCart to widen the search radius. For example, a horizontal transverse gradiometer (dual sensor array held orthogonally to the survey line) provides twice the density of coverage on tightly spaced survey grids. Only half the number of profiles are required to obtain optimal coverage at a huge savings in field time. The primary applications for the integrated magnetometer and GPS system are environmental surveys, target search and mining or oil/gas exploration programs, removing the need for per survey line placement.

Technical specifications

Magnetometer

Operating Principle
Self oscillating split-beam Cesium Vapor (non-radioactive). Sensors never need calibration or alignment.

Operating Range
20,000 to 100,000 nT

Operating Zones
Worldwide operation, Automatic hemisphere switching.

Sensitivity - Speed
Better than 0.01 nT at up to 10 Hz

Heading Error
Better than ±0.5 nT (over entire 360o spin)

Output
RS-232 at 115K Baud

Software Support
MagMap2000 full GPS support with UTM Conversion, interpolation, filtering and profile and contour map generation
MagPick provides inversion for dipoles or pipes, upward continuation, filtering, reduction to the pole, etc.

Power
Two battery packs and charger supplied, 24 to 32 VDC.
Single sensor operation is 8 hours per pack.
Gradiometer with GPS is 3-4 hours operation per pack.

Standard
MagMap2000 Utility Software.
MagPick analysis software,
operation manual and ship case

Additional Options
- Expanded capacity Second sensor for Battery Packs,
- gradiometer
- operation, nonmagnetic cart,
- Geosoft Oasis
- program suite or Surfer for Windows.

Optional Non-Magnetic all aluminum backpack and Steering Lightbar
Total weight with GPS and batteries is less than 35 lbs.

GPS navigation and positioning systems for G-858
modified Novatel model SMART V1 GPS receiver with interface to G-858 magnetometer

This is a complete, integrated system that permits single operator surveying. This system allows systematic coverage of open areas worldwide without the need for layout or pre-marking of traverse lines. Provides simultaneous recording of magnetic and DGPS data with integrated cross track steering via light bar display. The GPS system can also be added to existing G-858 magnetometers: it is not necessary to return the G-858 systems for integration with a new GPS user. Connection to the Novatel Smart V1 VBS is quick and simple and can be easily interfaced by the user in the field. All items modified and tested to be nonmagnetic (<0.6 nT at 4 ft). Omnistar differential correction available.

- 12-channel GPS receiver Novatel V1
- L-Band satellite differential correction receiver
- 5-meter SBAS differential accuracy
- NMEA-0183 output/RTCM SC104 input
- Update 1 channel at up to 1 Hz rate
- Back pack and cabling
- Optional: Update 2 channels at up to 20 Hz rate
- Optional: Sub-meter Omnistar differential accuracy

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