G-858
MagMapper

GEOMETRICS
Simplify your search

Shown: G-858AP

The G-858 MagMapper is a high-sensitivity, fast-sampling 'walking' magnetometer. Its console includes a graphical interface that makes survey design and data review simple and efficient. The G-858 provides various modes of operation to allow the user to custom design a survey grid for their particular needs. The operator also has the ability to view their position on the grid and the current data profile during the survey. Display resolution, audible alerts, sample rate and many other functions are user-selectable.

G-858 data acquisition offers either continuous or discrete station recording. The high sampling rate of the instrument in continuous mode allows the operator to survey an area at a fast walking pace. A wider search zone can be achieved by adding a second sensor. Adding a second sensor also provides the ability to measure the magnetic field gradient.

Data is collected in up to 5 separate survey files and transferred via high-speed serial data link to a computer for further analysis and map generation. The full-featured graphical data editing program, MagMap, is provided to allow repositioning, realignment, GPS smoothing, data filtering and interpolation of the data. After editing, the data is formatted in either Surfer for Windows or Geosoft formats for further plotting and analysis.

The G-858's internal firmware has been streamlined to include those features important for UXO, archaeological, environmental, utility, and mineral exploration.

FEATURES & BENEFITS

- **Single or Dual Sensor Modes** – Easily go from a single sensor survey to either a vertical or horizontal gradiometer survey.
- **Low Noise/High Sensitivity** - Pick up the smallest changes in magnetic field.
- **Fast Sampling** - Save money and time on large-scale surveys; eliminate gaps.
- **Low AC Field Interference** - Survey next to power lines when necessary.
- **Easy-to-use Interface** – Useable by inexperienced personnel.
- **Rugged and Reliable** – Weatherproof, survives three-foot drop onto hard surface.
- **Ultra-stable** - No need to calibrate sensors.
- **Long Battery Life** – Each battery pack allows for 6 hours of surveying with single sensor and 4 hours with gradiometer.
- **Optional Ergonomic Backpack & GPS** - Upgrade to a complete survey system at any time. Provides more comfort during and after survey.

MAGNETOMETER / ELECTRONICS

Operating Principle: Self-oscillating split-beam Cesium vapor (non-radio-active Cs-133) with automatic hemisphere switching.

Operating Range: 20,000 nT to 100,000 nT.

Operating Zones: For highest signal-to-noise ratio, the sensor long axis should be oriented at 45°, ±30° to the earth's field but operation will continue through 45°, ±35°. Sensor is automatic hemisphere switching.

Noise: < 0.008 nT/$\sqrt{\text{Hz}}_{\text{rms}}$ (SX (export) version: 0.02 nT/$\sqrt{\text{Hz}}_{\text{rms}}$).

Heading Error: < 1.5 nT including backpack and GPS.

Gradient Tolerance: > 500 nT/in (>20,000 nT/m).

Temperature Drift: < 0.05 nT/°C.

Max Sample Rate: 10 Hz.

Data Storage: Non-volatile RAM with capacity for 8 to 12 hrs of magnetometer, time, event marks, field notes and XYZ or GPS locations.

Audio Output:

1. Audio tone of field variation; pitch and volume adjustable. (Search mode).
2. Audio pulse each 1 second (pace metronome).
3. Alarm for loss of signal, low battery or quality control setting exceeded.

Data Output: Three-wire RS-232 standard serial port, optional continuous real-time transmittal of data via RS-232 to PC. Total memory output transfer time less than 5 min at 115,200 baud.

Visual Output: 320 x 200 graphic liquid-crystal display, daylight-visible with selectable outputs for:

Display of up to 5 stacked profiles, real time or review mode. Survey grid showing boundaries and position.

All system set-up functions, e.g., memory status, data transfer, sample time.

All survey set-up functions, e.g., survey profile number and direction, station number or GPS data transfer protocol, line number.

Survey monitoring functions, e.g. total field, noise level, profile number or x-y coordinates.

Internal Clock: Resolution of 0.1 sec, drift: < 1 sec/day.

Power: 24 VDC rechargeable gel cell, 5 hrs for Mag w/GPS. Magnetic effect less than 1.5 nT at 4 ft. Internal backup battery for clock and non-volatile RAM.

Operating Software:

1. Survey Modes: Search survey - Simple survey - Mapped survey, station or continuous - Base station

2. Data acquisition/display: Acquire and store data and survey functions. Display profiles, total field to 0.1 nT resolution, survey / map parameters and diagnostics.

Post-acquisition Software: MagMap software for installation on customer's computer.

1. Data transfer and corrections:
   a. Transfer of data from field Magnetometer, GPS, or Base station to PC.
   b. Diurnal correction using base station data.
   c. Processing the corrected data into ASCII values of X-Y-Z.
2. Data processing functions include spike editing, spline filtering, repositioning of X, Y, Z or GPS Lat/Long, conversion to UTM coordinates, profile and contour map plotting.

MECHANICAL

Sensor: DIA: 6 cm; L: 15 cm; Weight: 340 grams (2.4x6.7 in; 12 oz).

Backpack: 4.3 kg (9.5 lb).

Console: L: 28 cm; W: 15 cm; H: 8 cm; Weight: 1.6 kg (11x6x3 in; 3.5 lb). Magnetic effect less than 1 nT at 4 ft.

ENVIRONMENTAL

Operating Temperature: -25°C to +50°C (-13°F to + 122°F).

Storage Temperature: -35°C to + 60°C (-30°F to + 140°F).

Water Tight: Weatherproof in driving rain.

Shock: Survives a 3 ft drop onto a hard surface.

Warranty: 1 year on G-858 and sensor, 1 year on accessories.

OTHER MODELS

G-858AP: Includes ergonomic backpack and Tallysman GPS.

G-858GAP: Includes ergonomic backpack, GPS, and a second cesium sensor.

TALLYSMAN TW5341™ SPECS:

- Code and carrier phase tacking with 1Hz Position, velocity, time output.
- SBAS capable and designed for harsh environments.
- RS-232 compatible interface.

Size and Weight: DIA: 66.5mm; H: 21mm; Weight: 60 g (2.6x0.8 in; 2.1 oz).

Input Voltage: +9 to +16 VDC.

Power Consumption: 1.2W (typical).

Com Ports: 1 RS-232 (optional 2 RS-232) at up to 19,200 baud.

Operating Temperature: -40°C to +85° C (-40°F to +185°F).

Position Accuracy: Single point L1 <2 m CEP; WAAS L1 <1 m CEP.

Data Rates: Measurements 1 Hz; Position 1 Hz.

Time to First Fix: Cold start 39 sec; warm start 34 sec; hot start 2.5 sec.

Signal Reacquisition: <1 sec typical.

GEOMETRICS
Simplify your search

GEOMETRICS INC. 2190 Fortune Drive, San Jose, California 95131, USA
Tel: 408-954-0522 • Fax: 408-954-0902 • Email: sales@geometrics.com

GEOMETRICS EUROPE 20 Eden Way, Pages Industrial Park, Leighton Buzzard LU7 4TZ, UK
Tel: 44-1525-383438 • Fax: 44-1525-382200 • Email: chris@georentals.co.uk

GEOMETRICS CHINA Greenview Geophysical Instruments Ltd
Tel: +86-10-85850099 • Fax: +86-10-85850991 • Email: greenviewgeo@greenviewgeo.com.cn