

Portable Gradiometer

Model G-856AG

Option for the Model G-856A Magnetometer



Features

- Better resolution of total field anomalies for:
 - shallow mapping and object search
 - hazardous waste site surveys
 - pipeline and wellhead location
 - archaeological site investigations
- High resolution-accurate to within 0.1 gamma or .02 gamma per foot
- Free software package-provides automatic diurnal correction, averaging, filtering, profiling, contouring modeling of total field or gradient data
- Large memory-stores and accesses up to 2850 pairs of gradiometer readings

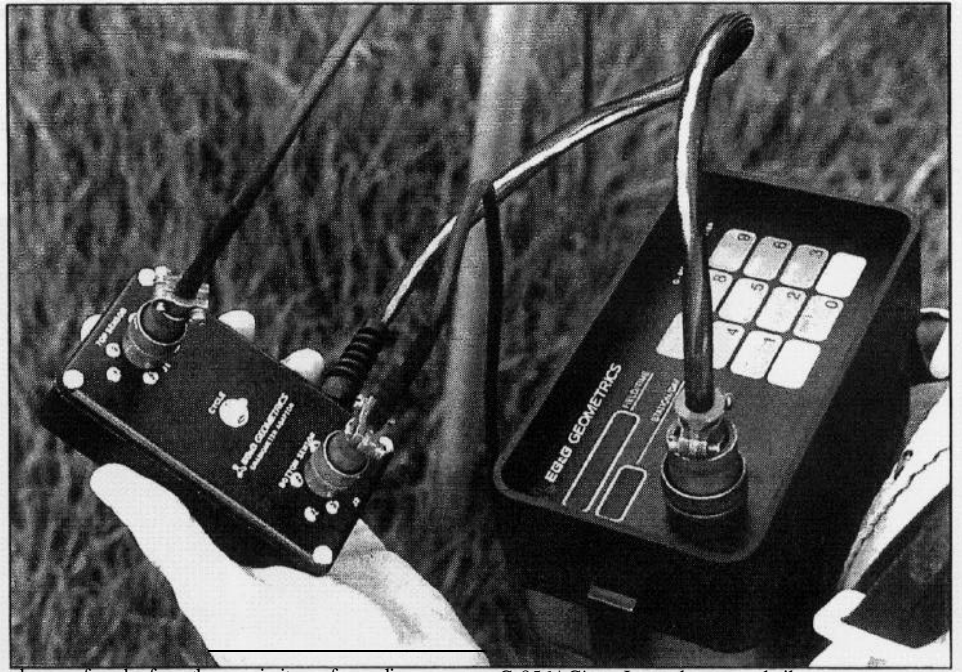
GEOMETRICS

The G-856AG Portable Gradiometer uses two sensors, samples and stores readings from each in quick succession, and uses the difference between readings (i.e. the gradient) to more precisely locate shallow objects. Gradient information is particularly useful for shallow search and survey applications because it can quickly define the depth and location of objects without the need for a base station.

Precise definition of shallow objects is possible because in extracting the gradient, regional magnetic effects are removed. (The difference in readings between two closely-spaced sensors produced from distant sources is negligible compared to the difference between their readings if produced from nearby sources.) Gradiometer data helps to resolve composite or complex anomalies into their individual constituents. Moreover, magnetic time variations do not distort the gradient because their effect is essentially identical in both sensors.

The MAG-PAC software package that comes with the G-856AG Gradiometer includes routines for automatic diurnal correction of total field data as well as filtering, contouring, and other data processing options. The MAG-PAC contour maps shown here demonstrate the value of the gradiometer for shallow object search applications.

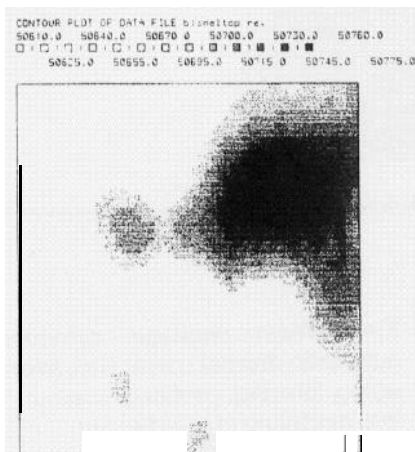
The G-856AG Gradiometer can be configured in a number of ways depending on survey requirements. Generally, a sequential vertical gradiometer configuration will



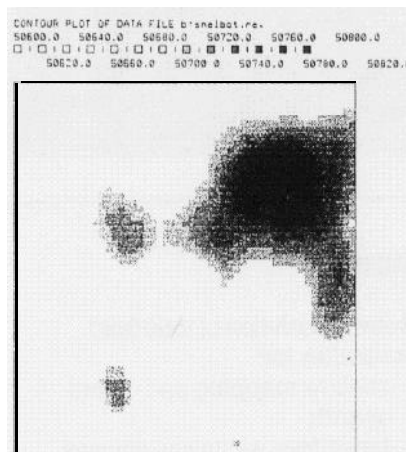
be preferred for the majority of applications. In this configuration, the G-856AG consists of the magnetometer console, gradiometer adaptor switch, two proton precession sensors, cables, chest harness, batteries, and special sensor staff. The adaptor switch is used to control the rapid sequential readings of the two sensors (2 seconds apart, or 1.5 seconds apart at reduced resolution). Each reading is displayed and then automatically stored in memory. The

G-856AG's Internal, nonvolatile memory holds 2850 pairs of gradiometer readings in portable mode. The instrument functions as a regular magnetometer when the adaptor switch is not used. Sensitivity of the G-856AG Gradiometer when a 3 ft. (90 cm) spacing between sensors is used is 0.03 gamma/foot (30 cm).

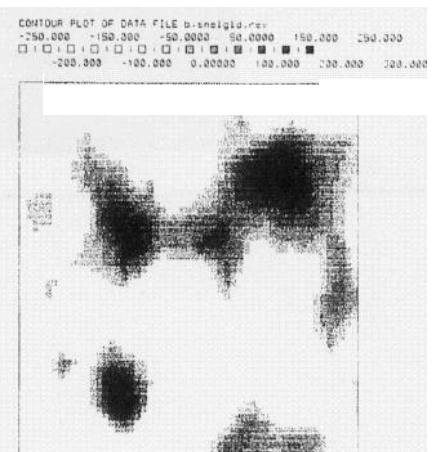
For specifications and information on the operation of the G-856AG, refer to the Geometrics Model G-856A data sheet.



Top Sensor



Bottom Sensor



Gradient

With free MagMap2000 for the PC Computer data can be contourplotted to easily see anomalies of interest. These examples illustrate the clarity of presentation and the value of gradient data for mapping near surface objects.

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