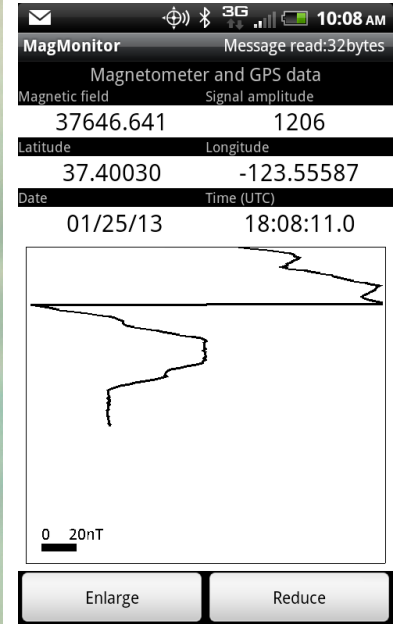


## G-862RBS CESIUM BASE-STATION

A Complete high-performance base station magnetometer system that includes:

- High sensitivity cesium vapor magnetometer with the CM-221 Mini-Counter providing 0.004 nT/ $\sqrt{\text{Hz}}$  RMS performance.
- Automatic measurement timed by integrated NovAtel V1 GPS antenna/ receiver. Each magnetometer reading is concatenated with GPS data.
- Magnetometer data and GPS time coordinates recorded as an ASCII data file on high capacity removal compact flash card.
- Low power consumption (30 W) and operable from 10-36 VDC or 110-240 VAC 50-60 Hz external power sources.
- System includes nonmagnetic, collapsible tripod sensor stand with attachment hardware for magnetometer sensor, sensor driver/counter module, GPS antenna/receiver, and data logger.
- System comprised entirely of weatherproof components and packed in a durable watertight shipping/storage case ready for immediate use.
- Bluetooth capability built in to data logger permits display on Android device. Download application from Geometrics.



The high performance of the G-862 and its multi-function capabilities are well suited for many mobile survey applications and also for applications that require stationary monitoring of the total magnetic field. In addition to providing magnetic field measurements, the electronic circuits included in the G-862 provide the ability to concatenate its measurement data with the output of other RS-232 serial devices. This feature permits the G-862 to be integrated with other digital devices and to merge this combined data into a single digital stream for efficient transmission and storage. The default data transmission format of the G-862 is also selectable by external software command and may be customized for specific needs. These features are utilized in the design of the G-862RBS, which combines Geometrics high performance G-862 magnetometer with a NovAtel V1 GPS receiver and an Acumen serial data logger to provide a high performance Recording Base Station (RBS) magnetometer system. The default configuration of the G-862RBS provides 0.02 nT P-P performance (0.004 nT/ $\sqrt{\text{Hz}}$  RMS) at 10 samples per second where each measurement is triggered by the

GPS data as it arrives from the NovAtel receiver. These time-stamped magnetic field measurements are presented as a serial data stream in RS-232 ASCII format and logged by the Acumen serial data logger included in the G-862RBS.

Because the G-862RBS's measurements are time stamped, and GPS synchronized, they are automatically synchronized with a similarly configured magnetometer system – whether it is stationary or mobile. The precise, synchronous records obtained from a mobile magnetic survey system and a stationary G-862RBS will permit the recognition and removal of both the diurnal variation of the Earth's field as well as higher frequency magnetic signal due to spherics. The magnetometer and GPS time value are synchronized to within 1ms and the Cesium-vapor technology used in the G-862RBS is stable, not requiring adjustment or periodic factory recalibration. After years of operation, full conformity with original stringent specifications can be expected. A full one-year warranty is offered with every system.

# MODEL G-862RBS RECORDING BASESTATION MAGNETOMETER SPECIFICATIONS

<b>MAGNETOMETER:</b>	Self-oscillating split-beam Cesium Vapor (non-radioactive)
<b>MAGNETOMETER OPERATING RANGE:</b>	20,000 to 100,000 nT
<b>OPERATING ZONES:</b>	The earth's field vector should be at an angle greater than 10° from the sensor's equator and greater than 10° from the sensor's long axis. Automatic hemisphere switching.
<b>SENSITIVITY:</b>	<0.004 nT/√Hz rms. Typically 0.02 nT P-P at a 0.1 second sample rate (90% of all readings falling within the P-P envelope)
<b>ABSOLUTE ACCURACY:</b>	<3 nT throughout range
<b>GPS RECEIVER</b>	Time accuracy; 20ns, RMS, max. data rate; 20hz
<b>DATA LOGGER</b>	Serial logger, removable compact flash data storage card.
<b>DATA FORMAT</b>	ASCII, MS Windows PC compatible, FAT16 file format.
<b>CAPACITY</b>	44 days using 2Gbyte Flash card while recording at 10hz rate with GPS receiver output set to provide GPZDA data sentence (UTC). Logger will accept 64Gbyte Flash card with FAT32 file format.
<b>MECHANICAL / ENVIRONMENTAL</b>	Shipping weight: 12.7kg (28Lbs.)
<b>OPERATING TEMPERATURE:</b>	-30° F to +122° F (-35° C to +50° C)
<b>STORAGE TEMPERATURE:</b>	-48° F to +158° F (-45° C to +70° C)
<b>ALTITUDE:</b>	Up to 30,000 ft (9,000 m)
<b>WEATHERPROOF:</b>	O-Ring sealed for operation in the rain and/or 100% humidity
<b>POWER:</b>	10 to 36 VDC, 30 Watt. or 110-220VAC (50-60hz)
<b>STANDARD ACCESSORIES:</b>	110-220 VAC (50-60hz) power supply, Flash card reader, shipping/storage case, Geometrics MagMap2000 data processing and display software.

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

02/12



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**GEOMETRICS EUROPE**

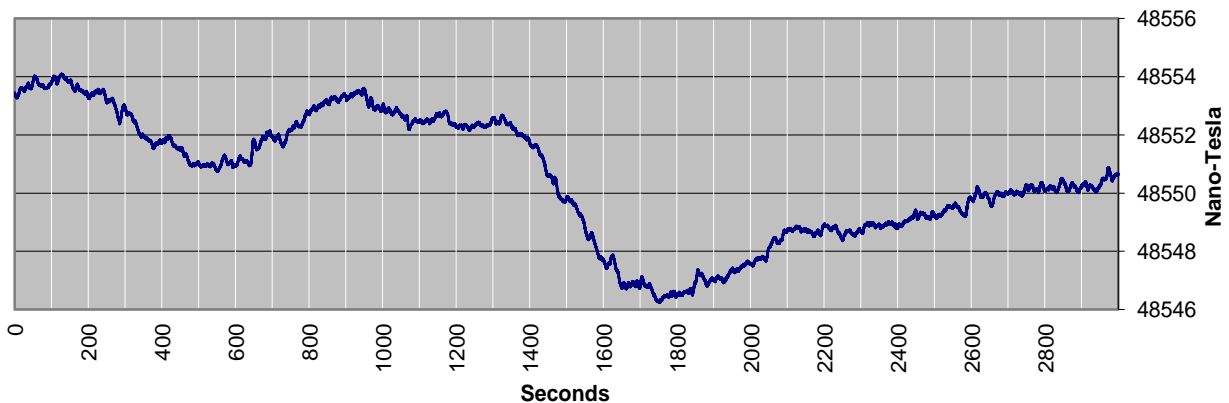
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*Record of magnetic field variation measured with G-862RBS at 10 Hz rate.*