www.geomatrix.co.uk
sales@geomatrix.co.uk
Tel: 01525 383438

Stratagem EH-5 Data Sheet

The Stratagem EH-5 is a robust, battery powered and portable AMT system which has been designed to collect electrical sounding records at each measurement location across a survey area. The system has three magnetic and two electric channels to capture the horizontal measurements and the vertical tipper measurement.

The system is comprised of electrode stakes, ground stake and ground cable, BE-27 electrodes with 27m telluric cables, EH-5 receiver module, G100K magnetic field coils, C3/10 mag coil/ receiver interconnecting cables as shown in Fig.1.

Fig. 1. Shows the Stratagem EH-5 components which includes the Stratagem console, Android tablet, stakes, cables and mag coils. The image on the left is a 2D inverted dataset from a mineral exploration study using the EH-5 showing a 65°-75° striking fault, close correlation to the geological map of the area (Image Courteously provided by Geometrics Inc)

As with most MT techniques, the EH-5 records a series of naturally occurring electrical and magnetic currents to measure the electrical impedance at the earths surface over a designated time period. During this time the EH-5 data is Fourier Transformed and stored as a power spectra. The surface impedance is calculated from the data as a function of frequency. A vertical resistivity sounding estimate is produced beneath the AMT receiver site and provides the best estimate of geoelectrical layering (1km prospection depth).

With fast data acquisition and immediate surface impedance results, the system enables a flexibility when it comes to survey design. In addition to the 1D data display the user is able to group the soundings together and view them as one section whilst on site. The operator can use this information to modify their survey design if needed. An optional HSAMT (low power) transmitter can also be used to supplement the natural AMT signal and fill the AMT dead-zone (weak signal band).

If more power is required an external transmitter (i.e. HSAMT) can supplement the AMT device by adding a low power transmission into the ground to fill in the weak signal band (AMT dead zone).

Geomatrix Earth Science Limited, Unit 20 Eden Way, Pages Industrial Park, Leighton Buzzard, Bedfordshire, LU7 4TZ

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Applications:

- **Deep Geological Investigation (Structural)**
- **Geothermal Exploration**
- **Mineral Exploration**
- **Civil Engineering**

Key Features:

- **New Compact design and easy to use system**
- **Simple field set up and fast data acquisition**
- **Enhanced Signal availability** - Natural field MT & remote reference provide high quality data even at the AMT dead zone
- **Real-time field display and data acquisition** - enabling the user to view and edit sounding data whilst in the field
- **High resolution resistivity mapping ideal for deep subsurface projects (10 - 1000m data record)**
- **Enhanced Signal availability** - Natural field MT & remote reference provide high quality data even at the AMT dead zone
- **Optional remote reference station** - > data quality through the frequency band and second sounding expansion module to increase productivity

Product Dimensions

Physical	Dimensions (L x W x H)	Weight
(instrument only)	36 cm x 36 cm x 32 cm	5.8 kg

Technical Specifications

Channels and Configuration:	5ch (Ex, Ey, Hx, Hy, Hz)
Frequency Range & Sample Rate:	10Hz to 96KHz; 192kHz, 6kHz
Magnetic & Electric Sensors:	G100K Induction coils with a bandwidth of 10Hz to 100KHz; Stainless Steel Stakes
ADC, Power, Storage capacity & Temp /Dynamic Range:	32-bit High Speed; 8 Watts; 32GB -20°C to +60°C; 127dB instantaneous
Noise Floor & GPS accuracy:	

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