

# RMT TRANSMITTER

- Magnetic Source for Radiomagnetotelluric investigations

Radiomagnetotellurics (RMT)

Geophysics



## TRANSMITTER

### Technical Specifications:

- Frequency range: 1 kHz - 128 kHz
- Max. Output: 2500 A\*m<sup>2</sup>
- Excitation: 2 directions
- Frequencies: 8 / direction
- PC Interface: USB or WLAN
- Supply: 24 V (Battery/Generator)
- Weight: 45 kg
- Casing: 70 x 65 x 80 cm<sup>3</sup>



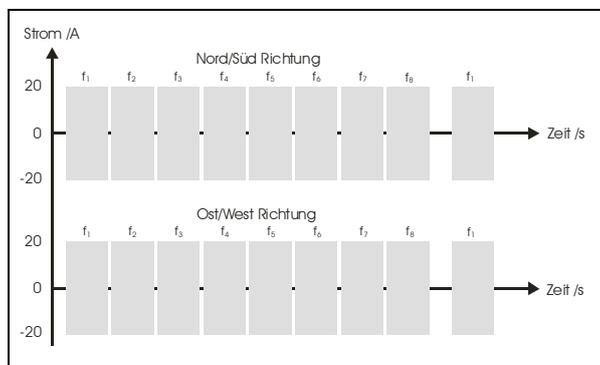
## MAG. ANTENNA

(Build by GFZ-Potsdam)

### Technical Specifications:

- Directions: 2
- Loop Size: 5 m \* 5 m
- Windings: 1 - 5 (PC controlled)
- Weight: 50 kg

The Radiomagnetotelluric (RMT) method measures the electric and magnetic fields of radio stations and radio services in the VLF, LW and partly MW range and calculates the electric conductivity distribution of the near-surface subsurface. If such services are not available in sufficient strength or number, our RMT transmitter provides the missing EM fields. For this purpose two signal generators feed strong alternating currents of different frequencies (1 kHz - 128 kHz) into a large bidirectional coil antenna. In this way, two mutually orthogonal, horizontal and uncorrelated magnetic dipole fields are generated. Optionally, it is possible to record the two antenna currents as a time series (GPS synchronous) and store them on an SD card.



The diagram on the left shows, in simplified form, the broadcasting scheme. One after the other, 8 frequencies are "transmitted" synchronously in two directions. The frequency, duration and amplitude can be set individually. After passing through one sequence, a further sequence is always "transmitted". If different frequencies are selected for the two directions, the transmitted fields are uncorrelated and allow a tensorial RMT measurement.

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