BGK1000

DIGITAL DATA ACQUISITION SYSTEM FOR BOREHOLE SEISMIC SURVEYS

- TRIGGER UNIT

- 3C-SONDE

- ACQUISITION SOFTWARE

The 3C-Sonde has an electro-mechanical clamping arm and three orthogonal mounted geophones.
Operates on standard 4-conductor logging cable up to 2,000 m depth and clamps in boreholes from 60 to 250 mm diameter.
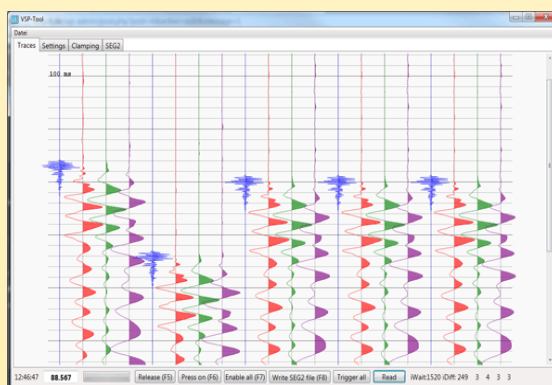
Trigger Unit

- Typically powered from a car battery (9 - 18 Volts DC 3 Amps max.), supplies the sonde with 72 Volts DC

- RS-485 communication with the sonde via logging cable, 2-wire bus, 256 kBaud, master slave command protocol, RS-485 trigger

- USB connection to Windows PC with acquisition software

- DSP Blackfin 548, trigger inputs: piezo, switch, TTL, rotary encoder input for depth counting

- Four channel 24-bit digitizer for simultaneous surface recording

- Cast aluminium housing 260 x 160 x 90 mm, weight 3 kg

3C-Sonde

- Stainless steel, length 80 cm, diameter 60 mm, weight 8 kg, pressure 200 bar, Gearhard-Owen four pin cable head

- Three geophones, omni, 15 Hz, 88 mV/mm/s, orthogonally mounted

- Electro-mechanical clamping arm, full range clamping in 35 seconds, force is software-selectable up to 300 N (4 x weight, standard arm) and 500 N (7 x weight, short arm)

- Standard arm for borehole diameters up to 150 mm, flexible arms of stainless spring steel, stiffer arms of phosphorus bronze, arm combinations for larger boreholes up to 250 mm, easy replacement of all clamping arm parts

- Four channel 24-bit digitizer, fixed gain preamplifiers, temperature rate 0 - 70 °C, 48 kS/s basic sampling rate

- DSP Blackfin 548, firmware with RS-485 communication, digital compass, motor control, downsampling to 16k, 8k, 4k, 2k, 1k, 500, 250 S/s

- Full description in BGK1000 User Manual available at www.hinz-mt.de

- Coming soon: vibroseis firmware with downhole stacking and correlation

Aquisition Software

- Command protocol to Trigger Unit via USB (virtual serial port)

- Set recording parameters

- Control and set clamping arm force

- Read geophone data, compass, depth counter

- Display seismic traces

- Store seismic data to SEG-2 Files

- Runs on Windows 7 and up

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