ADVANCED MULTI - CHANNEL AUTOMATIC RESISTIVITY & IP SYSTEM

Complete
Instrumentation Solutions

850 W - 2000 V_{p-p}- 5 A Transmitter
with Parallel Power Booster Capability
for all Multi-Electrode and Manual Modes
10-channel Receiver
with up to 20 Adjustable IP Windows

2D/3D Resistivity & IP Tomography
VES, RP, SP Measurements
Continuous or Timed Survey
Remote Control Option

Active Multi-Electrode Cables
Passive Cables with Switch Box
Roll-Along Possibility

Easy Operation with Graphical Screen
Data Download via USB Port or Flash Disk
Supply from 12 V Battery or AC/DC Convertor
GPS Connectivity

Applications:
groundwater exploration, geotechnical investigation, monitoring of dams and dikes, environmental studies, geological survey, mineral prospecting, archaeology, detecting of cavities and buried objects, underwater, marine, borehole and cross-hole measurements.

Advanced resistivity & IP imaging system equipped with 10 channel receiver convenient for all kinds of geophysical survey. ARES II keeps compatibility with all ARES multi-electrode accessories. One ruggedizedweatherproofunitintegratestransmitterwithreceiverandcontrolunitcompletedwithrichsoftware support for many measuring methods.

Technical Specifications

Transmitter	
Power	up to 850 W
Current	up to 5 A (24 bit resolution)
Voltage	2000 V_{p-p} (actually applied voltage automatically optimizes level of measured potential) full electronic protection, energy efficiency up to 91%, passive cooling without ventilation holes
Receiver	
Number of channels	10
Input voltage range	20 V_{p-p} (24 bit resolution), different range optionally
Input impedance	20 M-ohm
Mains frequency filtering	50 or 60 Hz selectable notch filter (140 dB suppression)
Measuring methods	2D/3D/4D Multi-Electrode Resistivity and IP Tomography VES – Vertical Electrical Sounding (resistivity and IP) RP – Resistivity and IP Profiling SP – Self Potential cross-hole tomography moving applications with GPS
Supported arrays	Wenner Alpha / Beta / Gamma, Wenner-Schlumberger, Dipole-Dipole, Pole-Dipole, Reverse Pole-Dipole, Pole-Pole, Equatorial Dipole-Dipole, Cross-Hole, Borehole-Surface, user defined configurations
Measurement - features	checking of grounding automatic calibration automatic pulse cycling and checking of measured values easy interruption and continuation of measurement capability of profile prolongation by means of multi-electrode cable roll-along procedure
Total accuracy	better than 1% (typically)
IP - Induced Polarization (Chargeability) Pulse	up to 20 adjustable IP-windows, each max. 30 s, step 20 / 16.66 ms 0.2 s – 30 s, step 0.1 s
SP compensation	constant and linearly varying SP cancellation
Stacking	manual or automatic (with self-adaptive setting) adjustable optimum measured voltage and maximum acceptable measurement error
Stored values	position of the measured point, output current and voltage, input potential, SP, apparent resistivity, standard deviation, chargeability with standard deviation for up to 20 IP windows
Number of electrodes	max. 65000 in one array
Control unit	easy-control system with alphanumeric keyboard and graphic 4.7” high resolution LCD display easy real time horizontal and vertical data consistency checking and data remeasuring real time decay curve on display measuring system can be upgraded via internet safety switch
Memory	256 MB, 100 files, more than 5 mil. readings
PC Interface	USB
PC software	provides data download and export for processing programs (RES2DINV / RES3DINV, Surfer, IPI2WIN and others) as well as upload of measuring procedures
Power supply	12 V car battery or 12 V attachable battery pack, 12 V electronic power supply, AC/DC adapter
Connectors	for office current and potential sockets, data download (USB and flash disk), GPS, battery and a universal one for all measuring accessories
Dimensions	15 x 21 x 40 cm
Weight	5.9 kg
Ambient conditions	-10°C to +60°C, weatherproof

Standard Accessories:

- Transport case
- T-piece (for connection of multi-electrode cable sections and cables for current and potential electrodes)
- Cable for external 12 V battery (protective)
- VES & profiling adapter II
- AC/DC adapter (for all countries)
- USB cable
- PC software ARES (MS Windows based)
- User manual

Optional accessories:

- Multi-electrode cable II sections
- Switch box II (48-line adapter) for passive multi-electrode
- cables
- T-piece for single channel accessories
- 12 V attachable battery pack with fast 3-stage battery charger
- 12 V electronic power supply
- Cable reels
- Stainless steel electrodes, non-polarizable electrodes
- Processing software for 2D/3D inversion, mapping and VES interpretation RS232, Radio, GSM remote control sets

Accessories

ARES II Remote Control

VES & Profiling Adapter II

1-channel Multi-Electrode Cable II
(cable section, switch box)
MCS5/R

10-channel Switch Box II
for Passive Multi-Electrode Cable
(48 lines)

5-channel Multielectrode Cable II
(cable section, switch box)
ME II/5-5

10-channel Multi-Electrode Cable II
(cable section, switch box, reel)
ME II/10-5

Recommended measuring sets for resistivity & IP tomography

Theseconfigured sets are offered atdiscountedprices.

Advancedactive cable set with48 electrodes - RES4-AACTIVE

ARES II/1 + 6 pcs of MCS5/R active cables (each with 8 outlets at 5 m spacing, 2 plastic transport boxes, each with 3 cables)

6 pcs

2 pcs

Schematic configuration

Possible expansion

Advanced single channel lightweight system for 2D, 3D, 4D survey with optimized current and potential lines and easy roll-along possibility. ARES II/1 main unit offers comfortable enhanced operation with graphic screen as well as possibility of upgrade to 10-channel system.

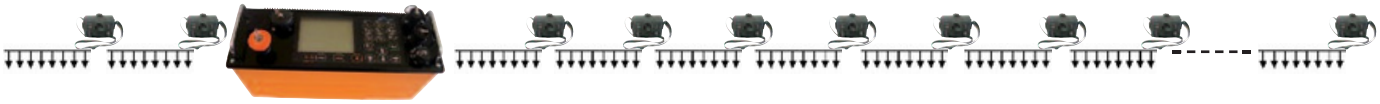
5-channel advanced active cable set with 72 electrodes - RES5-5CH

ARESII/10+9pcs ofME II/5-5 active cables(eachwith8outletsat5mspacingandsection switch box,
3 plastic transport boxes, each with 3 cables)

9 pcs

3 pcs

Schematic configuration



Possible expansion

5-channel lightweight system for 2D, 3D, 4D survey on longer profiles and for advanced IP measurement equipped with optimized current and potential lines and easy roll-along possibility.
This set can be completed with next cable sections up to several hundreds of outlets in one cable line.

10-channel advanced active cable set with 120 electrodes - RES6-10CH

ARESII/10+10pcsofMEII/10-5activecables(eachwith12outletsat5mspacingandsection switch box on the reel)

10 pcs

Schematic configuration

Possible expansion

Top performance 10-channel system for fast 2D, 3D, 4D survey on longer profiles and for advanced IP measurement equipped with optimized current and potential lines and easy roll-along possibility.
This set can be completed with next cable sections up to several hundreds of outlets in one cable line.

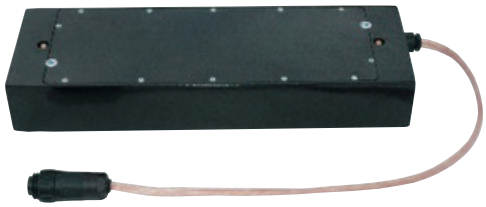
Water set - RES8-WATER

ARESII/10+SwitchboxII(10channels, 48 lines)

Example of special water cable on the reel (24 outlets at 2 m spacing, one end sealed, 10 m lead-in part, on the reel).

This set (completed with special water cables - not included in the set price) serves both for water level continuous measurement with GPS positioning and for borehole investigations (borehole-borehole, borehole-surface).

General Accessories



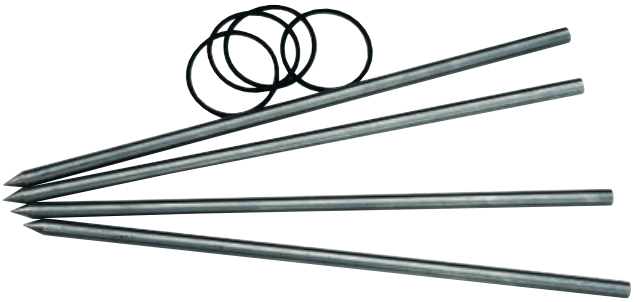
Battery Pack

Current Cable Reel

Potential Cable Reel

12 V Electronic Power Supply

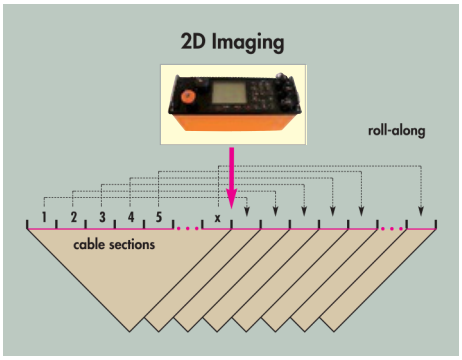
Non-Polarizable Electrode

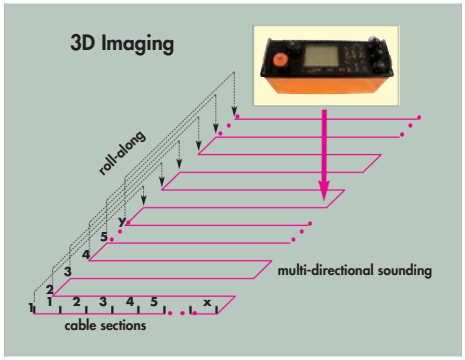


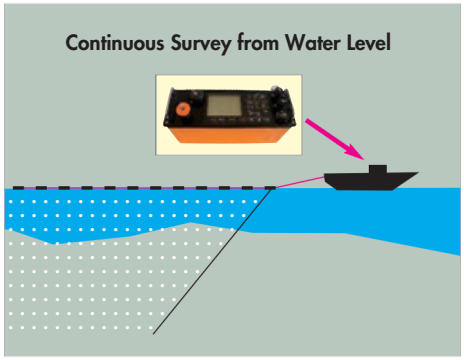
Stainless Steel Electrodes

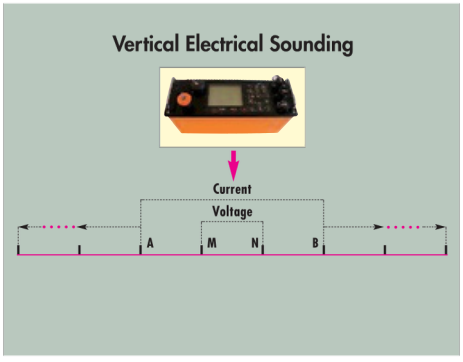
Set in Transport Case

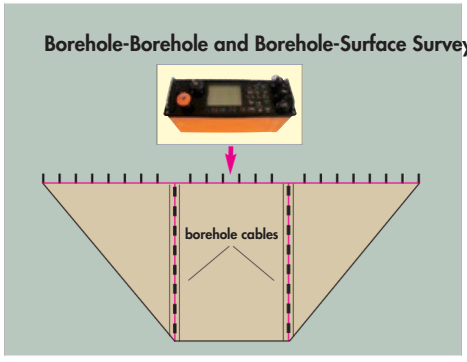
Supported Ways of Measurement

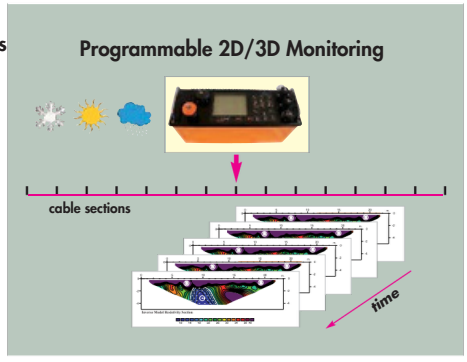






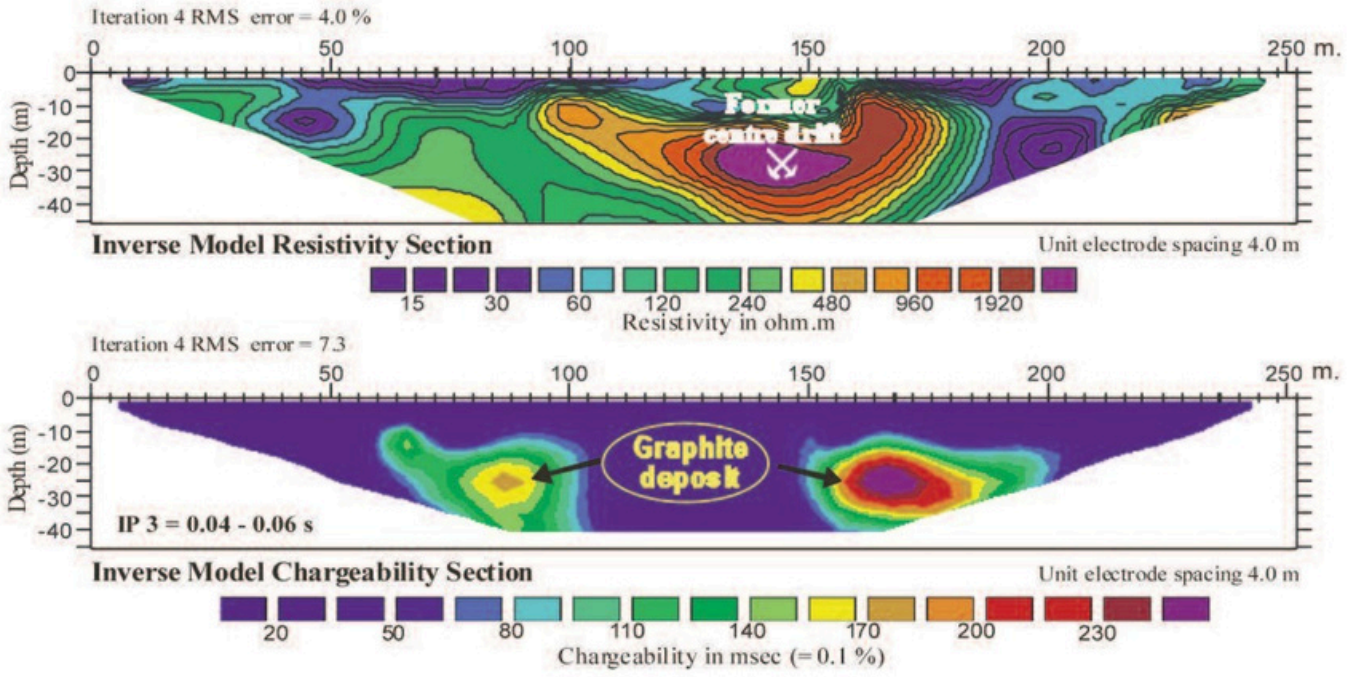


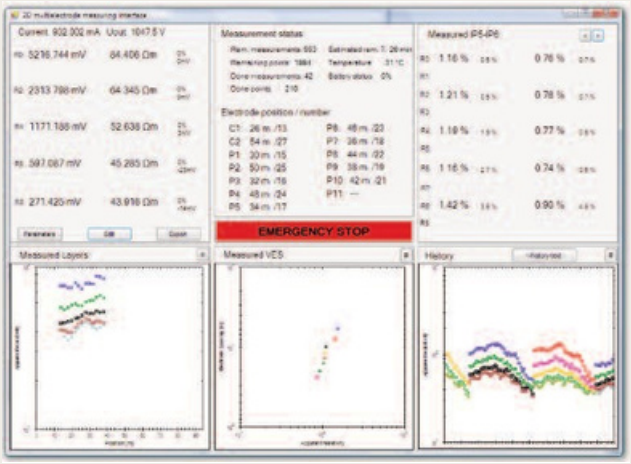


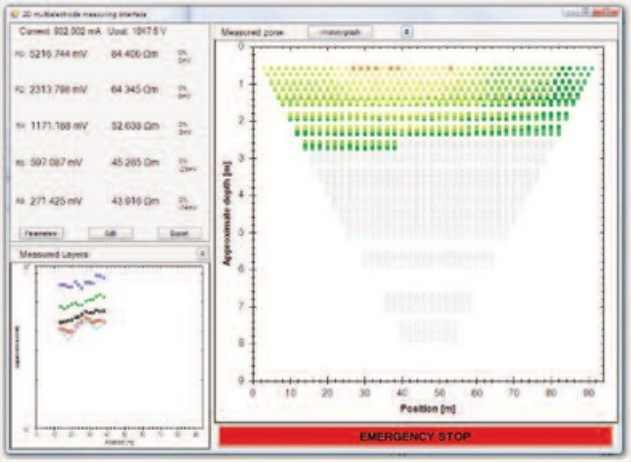


Natural Graphite Deposit

IP Section performed above former drift of graphite mine shows position of deposit. Position of the drift as well as rather complicated geological structure are seen from accompanying resistivity section.







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