

# SIGNAL STACKING RESISTIVITY METER

## Model SSR – MP – AT

The IGIS signal stacking based Signal Enhancement Resistivity Meter Model SSR–MP–AT is a state of art microprocessor based data acquisition system. The instrument design incorporates several innovative features and advanced techniques of digital circuitry to make it a reliable geophysical tool providing high quality data useful for mineral and groundwater exploration and any other geophysical applications.



The SSR-MP-AT sends the entire current into the ground without wasting power for constant current generation thus increasing the signal strength to probe deeper layers.

The advanced design of SSR-MP-AT Resistivity Meter achieves excellent depth penetration with relatively low power inputs. It utilizes the signal stacking upto 16 successive readings to achieve good signal enhancement. In the presence of random (non-coherent) earth noises, the signal to noise ratio of the SSR-MP-AT measurement will be enhanced by  $\sqrt{N}$  where N is the number of stacks. Hence SSR-MP-AT Resistivity Meter can be used for depths of upto 600m under favorable geological field.

### APPLICATIONS

- ◆ Ground Water Exploration
- ◆ Sand and Gravel Deposit Identification
- ◆ Bed Rock Investigations
- ◆ Mineral Investigations
- ◆ Delineation of Geological Structures
- ◆ Geophysical Field Training

Specifications are likely to change with R&D.

IGIS also makes custom-build resistivity meters to individual specifications.

IGIS Instruments carry one-year guarantee against manufacturing defects.



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## SPECIFICATIONS

Input power source	: 24V rechargeable batteries
Power output	: 100 watts (Current upto 2 Amp) 350V(700V peak to peak) automatic voltage selection
Frequency	: 0.8Hz (Approx.)
Noise rejection	: 95 db
Potential measuring range	: Microprocessor based unit with measurement resolution of 10 micro volts
Range selection	: Automatic
Resistance range	: $10^{-5}$ to $10^4$ ohms
Self potential cancellation	: Automatic
Dynamic range	: 15 bits
Data averaging	: Upto 16 cycles
Input impedance	: 1 Mega Ohm
Accuracy	: $\pm 1\%$
Interaction with the system	: User friendly menu operation with 4x3 feather touch key pad and 16x2 Alphanumeric Liquid Crystal Display
Measurement display	: Stack No./Stacks selected, next line current and running average of average of resistance
Output	: Survey code, Date, Time, Display of Electrode spacings, Resistance, Apparent Resistivity and Longitudinal Conductance through 16x2 Alphanumeric Liquid Crystal Display
Data transfer	: The data can be transferred directly to any windows based PC through RS 232 port for analysis and interpretation
Depth penetration	: upto 600 m under favorable geological / field conditions
Protection	: Protected against circuit overloads
Error Signals for	: Poor Current and Potential electrode grounding and discontinuity



## SSR-MP-AT SERIES

<b>1</b>	<b>SSR-MP-AT-S</b>	: A resistivity meter first of its kind in the world. Directly measures the true (strip) resistivity of the formation occurring between two successive current electrode spacings. In addition to all the features of SSR-MP-AT.
<b>2</b>	<b>SSR-MP-AT-DS</b>	: Have all the above features of SSR-MP-AT-S. In addition it has a 2.5 KVA Generator, compatible current control unit to conduct very deep resistivity soundings of 1 to 1.5 km depth.
<b>3</b>	<b>SSR-MP-AT-ME</b>	: Multi electrode resistivity meter to scan the subsurface formations using 'Resistivity Scanning Technique. Have all the features of SSR-MP-AT-S.
	<b>Optional features for the above models</b>	: Features like built in GPS and remote data transmission can also be incorporated.

**Note: Specifications are subject to change without notice**