MPT-IRIS Inc.

www.mptech3d.com

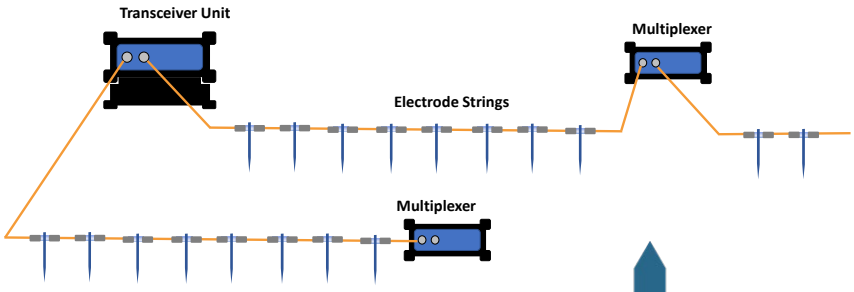
Electrical Resistivity Tomography (ERT) System

The latest and best MPT-IRIS System to date

Featuring our multi-source technology with 16 electrode cables, full waveform recording, radio communication, and flexible spectra IP.

MPT-IRIS Inc. presents the new **DAS-M System**, with a *self-configuration/diagnosing structure capable of determining electrode location, cable integrity, background noise levels and spectra*, creating optimal collection parameters, and array configurations. The **DASM System** is fully modular allowing the user to add multiple multiplexer units or even transceiver units for full *Multisource* capability. Using multiple-simultaneous transmitters allows for deeper exploration and improved resolution. This portable system allows the user to place the system easily in rough terrain and uses a long-range RF Module for unit-to-unit communication. In addition, the **DAS-M Transceiver** has Wi-Fi/Bluetooth capabilities for computer and mobile device communications with an easy web-based interface. All units contain a GPS module for timing and positioning and a long-range radio for inter-device communication and multi-source operation. The Transceiver has its own 375 Watt transmitter powered by an internal hot swappable 240 watt-hour replaceable battery.

The **DAS-M Multiplexer** has a GPS module for location and timing and a wireless module for communications. Each Multiplexer can use up to 16 electrodes with a routing capability to pass transmitting and receiving connections to additional Multiplexers. Every unit knows where it is located



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V1.0

and knows how it is connected to the other units. A major advantage is that the DAS-M Transceiver and Multiplexer groups can operate independently, allowing surveys to be collected across physical boundaries like busy roads, around buildings or rivers, etc.

Transceiver Specifications:

User Interface	Windows compatible computer with a USB port, or tablet based system (under development)
System Weight	Transceiver 13.5 lbs (6 kg) without battery, 23.5 lbs (11 kg) with 240 watt hour battery
Dimensions	10.25 x 16 x 4.5 inches (26 x 40.6 x 11.4 cm)
Timing	GPS: approximately 100 nanoseconds
Minimum Configuration	1 transceiver
Maximum Configuration	up to 255 transceivers + multiplexers
GPS	7 ft (2 m) (clear sky view)
Receiver Channels	4 Channels + current monitor each with its own 32-bit ADC
Input Voltage	+/- 10 volts maximum with auto gain ranges from 1 to 128 with manual override.
Signal Averaging	Real-time proprietary noise removal stacking routine with 2 to 255 stacks and full waveform recording at up to 1200 samples per second
Battery	Replaceable 240 watt hour (standard) NIMh or external 12V
Maximum Output Power	375 Watts
Maximum Output Current	2.0 Amps
Measurement Precision	0.01% typical
Measurement Accuracy	0.05% typical
Communications	900 MHz self-healing network 200m/1km line of site (standard) or 1800m/9km line of site
Internal Multiplexer	16 electrodes auto-routing
Transmitter	Constant current, 375 Watts, maximum current 2.0. Constant current: typical current control precision 0.1% or 100 microamps with auto calibrate
Resistivity/ TDIP Mode	.0156 to 300 Hz Time of Frequency Domain
Spectral/ FDIP	Auto schedule multiple back frequencies for spectral IP.
TDIP Measurements	Up to 32 user defined windows

Multiplexer Specifications

User Interface	Windows compatible computer with a USB port, or tablet based system (under development)
System Weight	9 lbs (4 kg) with internal battery
Dimensions	10.25 x 16 x 4.5 inches (26 x 40.6 x 11.4 cm)
Maximum Configuration	up to 255 multiplexers + transceivers
GPS	7 ft (2 m) (clear sky view)
Battery	Internal NiMh battery and charger or external 12 to 24V
Communications	900 MHz self-healing network 200m/1km line of site (standard) or 1800m/9km line of site
Internal Multiplexer	16 electrodes, auto-routing