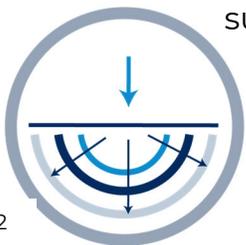
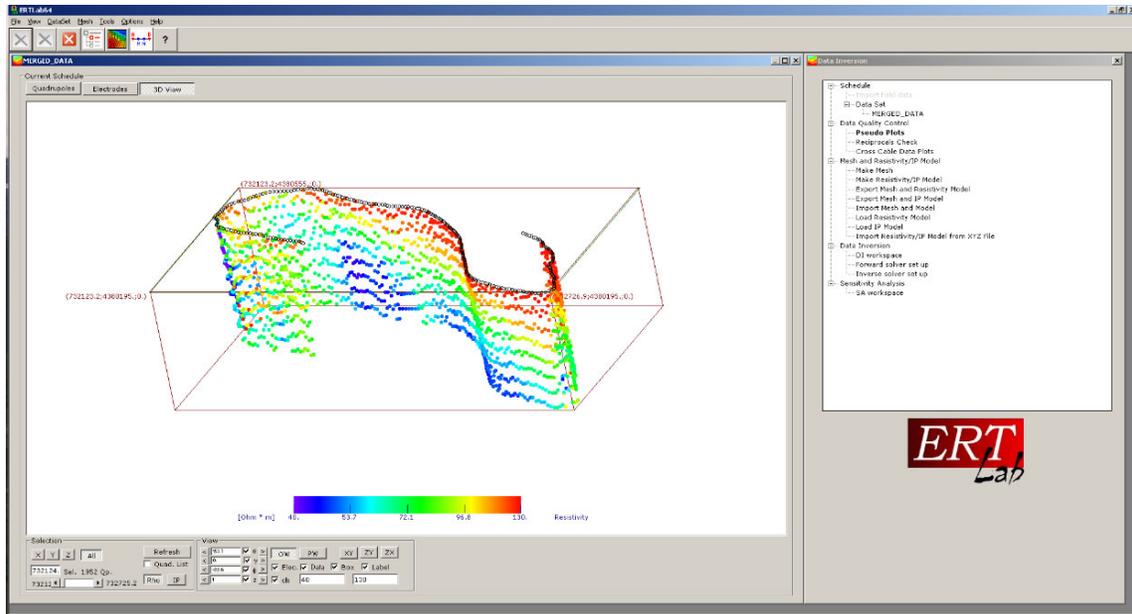




In a marine survey, electrodes are placed along a streamer array that is towed behind a boat and with that resistivity and induced polarization data are collected continuously. Compared to land surveys, a large area can be surveyed and a great amount of data can be collected in a typical field day. One of the challenges of marine surveys is to recover an accurate position for the data particularly if the boat is not able to follow a straight line. The MPT-IRIS marine system consists of a standard DAS-1 Electrical Resistivity Tomography (ERT) system and an external, high power, GPS synchronized, constant current transmitter. The DAS-1 Marine provides higher power (up to 700 watts, up to 10 amperes) than the internal transmitter in the DAS-1 unit. The transmitter has its own GPS module. The module can provide navigation information with approximately 2 m horizontal resolution, but its primary purpose is to provide timing of the transmitter and DAS-1 receivers linked to the unit. By having a precise timing, data can be linked to other, more accurate GPS receivers and other types of data resampled and analyzed in ERTlab™. The transmitter is directly coupled to a custom cable system to provide continuous data acquisition and is wired to the DAS-1 through the multiplexer port. It can be powered from a single 12 V battery but because of the power requirements we recommend a pair of 12 V, deep discharge batteries. These are connected in parallel using the supplied cables.





Marine System Specifications:

User Interface	Windows compatible computer with a USB port (through the DAS-1)
System Weight	Approximately 19 lbs (standard) 22 lbs (high current)
Dimensions	14 x 14 x 11 inches (35.6 x 35.6 x 27.9 cm)
Timing	GPS: approximately 100 nanoseconds
Configuration	Requires DAS-1 ERT Unit and External Transmitter
GPS	7 ft (2 m) (clear sky view)
Receiver Channels	8 Channels each with its own 24-bit ADC and microprocessor
Input Voltage	Auto gain range with manual override with four ranges: +/- 10.0, 2.0, 0.40 and 0.08 volts
Signal Averaging	Proprietary noise removal stacking routine with 2 to 255 stacks
Battery	Can run from a single external 12V deep cycle battery although two batteries are recommended for high current option
Maximum Output Power	350 Watts or 700 Watts (high current option)
Maximum Output Current	5 amps (standard) or 10 amps (high current option)
Measurement Precision	0.10%
Measurement Accuracy	0.20%
Communications	Hardwire Interface to DAS-1 Multiplexer Port
Transmitter	Constant current: typical current control precision 0.1% or 1 milliamps with auto calibrate
Resistivity/ TDIP Mode	13.5 (resistivity only), 7.5, 5, 4, 3, 2, 1.5, 1.0, 0.5, 0.25, 0.125, 0.0625, 0.03125 and 0.01562 Hz. Six pre-assigned window sequences plus one custom user window sequence with a maximum of 16 windows
FDIP Measurements	Amplitude and Phase, 5, 4, 3, 2, 1.5, 1.0, 0.5, 0.25, 0.125, 0.0625, 0.03125 and 0.01562 Hz

