AEROTEM IV

ADVANCED HELICOPTER-BORNE TIME DOMAIN ELECTROMAGNETICS

The AeroTEM IV system is a new generation of Aeroquest's concentric coil helicopter-borne time domain EM system.

AeroTEM IV offers an increase in signal of three times over AeroTEM III as the dipole moment has increased from 150,000 to 400,000 Am^2. Recent testing indicates the system can detect conductors at depths greater than 600 metres. The bird operates at a 30 or 90 Hz base frequency and features on-time measurements and multiple receiver coils – offering all of the same benefits of the AeroTEM II system but with added power.

Features

- Focused footprint
- Dual axis receiver coils
- Conductance discrimination using on-time and off-time recording
- Depth of exploration to 600 metres
- Improved coil design for noise reduction
- Measured vertical gradient magnetics

Advantages

- Highly focused EM footprint provides outstanding delineation and characterization of subsurface conductors, far superior to that provided by the much more expensive large-loop ground EM methods.
- This portable system can be dismantled and re-assembled for economic deployment to any geographic location.
- Rigid platform provides excellent results even in the most rugged terrain.
- Target responses are independent of bird heading, and show no herring-bone effect across flight lines.
- Ideal system configuration for flying in a *low and slow*, tight line spacing survey mode for detailing known conductive targets to determine orientation for direct drilling.
- Dual Magnetometers (one on the EM platform and one attached to the tow cable) allows for vertical gradient magnetics.

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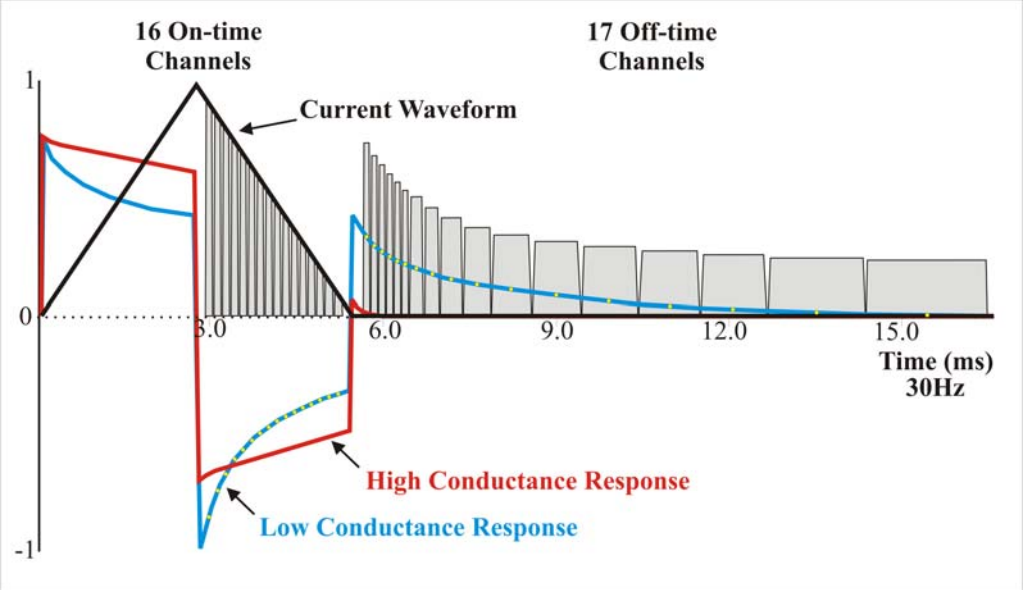
Specifications

Base operating frequency:	25/30 Hz and 75/90 Hz
Transmitter waveform:	Bipolar triangular pulse, 30 – 50% duty cycle
Transmitter coil:	Vertical dipole
Receiver coils (2-axis):	Vertical Z axis, along line X axis
Transmitter dipole moment:	up to 400,000 Am^2 peak @ 30 Hz typical
Outputs to disk:	16 on-time channels plus 17 off-time channels for both receivers plus full waveform streaming data
Output sampling rate:	10 per second for channel data 46,080 per second for streaming data @ 90 Hz
Tow cable:	60 m long, with Kevlar strain member and weak-link
Overall bird dimensions:	12 m diameter

Waveforms and Channel Positioning



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