

SKYTEM 306 HP

(HIGH POWER)



Next generation SkyTEM systems at a glance

The new generation of SkyTEM systems leverages:

- The new high power 250A transmitter featuring a patented technology for faster current turn-on and turn-off. The square waveform provides optimal excitation of buried conductors. A reduction in the number of transmitter loop turns reduces system weight, maximizing helicopter production rates.
- A fully digital 3 channel receiver for continuous sampled and streamed data with advanced and real-time signal gating and measured B-field. Enhanced features include extremely high accuracy due to a 5 MHz sample rate with 36-bit resolution in 3 channels and superior rejection of high-frequency noise.
- The redeveloped suspended receiver coil system offers a five-fold or more reduction in late time noise levels. Motion-induced noise is negligible even at survey speeds approaching 150 km/h as employed by the SkyTEM^{FAST} systems.
- A revolutionary rigid and lightweight carbon fiber carrier frame permits take-off with a full fuel tank – ideal for maximizing production rates in hot climates or operations in high elevations.

SkyTEM306 HP for detailed near-surface exploration

Over the years, SkyTEM has succeeded to continuously bring new technological advancements to the airborne EM industry. Four years ago we set an ambitious goal – to develop state-of-the-art helicopter transient electromagnetic (TEM) systems that offer a combination of superior survey economics with exceptional exploration capabilities.

One of the results is a truly innovative technology – SkyTEM306 HP (High Power). This system is engineered to collect dual-moment, high resolution near-surface data concurrently with a greatly improved depth of investigation. The system is aerodynamically superior to any TEM system on the market, and is available in a *FAST* configuration reducing acquisition costs by flying at speeds of up to 150 km/h. From mineral exploration to challenging groundwater projects SkyTEM306 HP provides unprecedented details at a lower cost.

Specifications of SkyTEM306 HP

	LM MODE	HM MODE
No. of transmitter turns	1	6
Transmitter area per turn	342 m ²	342 m ²
Transmitter current	~9 Amp	220 - 250 Amp
Peak moment	~3,000 NIA	Up to 500,000 NIA
On time	800 μs	5 ms
Off time	1018 μs	15 ms
Repetition frequency	275 Hz	25 Hz



SkyTEM306 HP benefits

Exploring deeper

The receiver coil system has enhanced the late-time signal-to-noise ratio by a factor of more than five. The re-engineered receiver coil system means you can explore deeper targets than ever before. SkyTEM has already demonstrated it has a depth of investigation equal to or better than any system on the market by mapping the Caber North deposit.

Improved characterization of geology and conductors

The digital 3 channel receiver provides measured B-field data delivering improved characterization of strong conductors. Furthermore, the high sample rate of the new fully digital receiver and increased suppression of high-frequency noise sources such as radio transmitters enhances detection of near-surface targets missed by most conventional systems.

Make survey decisions in real-time during survey operations

One of SkyTEM's hallmarks is the unique ability to deliver preliminary data within 48 hours after collection, allowing near real-time review of survey progress and results. Quick review of the data gives you the power to reconfigure system parameters and maximize results in various geological settings. Customization is achieved within a couple of hours.

For example, the survey can start in *FAST* configuration for economics and later be reconfigured to conventional set-up for highly detailed spatial resolution over selected areas.

Map at higher elevations

The new transmitter puts even the highest power SkyTEM system on a small 342 m² platform, making exploration in high elevation terrain with helicopter TEM more feasible than ever before and delivers cost-efficiencies unlike any other system on the market. The lightweight carbon fiber frame combined with the new transmitter reduces system weight by 180 kg in comparison with previous generation SkyTEM systems.

More economical

The SkyTEM^{FAST} technology introduced in 2014 is arguably the most significant breakthrough in helicopter TEM technology in the last decade as it cuts acquisition time by up to half. SkyTEM^{FAST} has acquired over 1,000 line kilometers of high resolution data in a single day. This is unprecedented in helicopter TEM history and delivers cost-efficiencies unlike any system on the market. The lightweight carbon fiber frame and high power transmitter bring about further cost-efficiency benefits because even the highest powered system (500,000 NIA and 1,000,000 NIA) can take-off with a full fuel tank.