

# Kestrel TSCM<sup>®</sup> Professional Software

## Kestrel-net<sup>™</sup> | Enhancing National Security

June 2017

Technical Research and Standards Group (TRSG)

### Paul D Turner, TSS TSI

Professional Development TSCM Group Inc., is pleased to announce a powerful new technology under the Kestrel<sup>®</sup> TSCM umbrella.

**Kestrel-net<sup>™</sup>** | “Actionable RF Intelligence”, is now a reality, and is seamlessly integrated within the Kestrel TSCM<sup>®</sup> Professional Software.

Our Autonomous Measurement and Collection Sub-System (AMCS)<sup>™</sup> is a powerful, low cost field deployable, TCP/IP live streaming SIGINT application that supports a range of custom end-user applications.

AMCS<sup>™</sup> supports all existing Kestrel<sup>®</sup> features, such as our Dynamic Alert Annunciator (DAA) for detection and filtering, Automatic Export Control (AEC), designed to capture and filter data for automatic export, and other fully integrated features, such as IQ triggered recording.

As noted in the May 2017 newsletter.

*“Kestrel<sup>®</sup> offers unique tools for professional field deployment worldwide, with powerful SDR resources for a wide range of end-user defined applications and requirements, all developed under the vast umbrella of company principals, experienced in high-risk protective operations, counter-espionage, counter-terrorism, and Electronic Countermeasures (ECM) deployment. Our Software Development Group (SDG) does not simply develop software. Our company background and experience permits a deep understanding of the real-world deployment objectives of private sector and the government based national security apparatus, that must deploy Technical Surveillance Countermeasures (TSCM), and Remote Spectrum Surveillance and Monitoring (RSSM)<sup>™</sup> at the national security level”.*

The Kestrel<sup>®</sup> brand and focus, is designed around the concept of delivering a powerful, operator centric application, that places the technical operator back in control of the analytical process, which significantly increases the Probability of Intercept (POI) and Probability of Detection (POD), across the ambient RF spectrum environment.

Kestrel<sup>®</sup> is a professional level application that extends well beyond the typical desktop spectrum analyzer, and offers real-world mission critical tools that are centered on a modern, moving target threat model, as defined by the TSB 2000 (Technical) Standard.

The Kestrel TSCM<sup>®</sup> Professional Software provides absolute scalability across several key industry deployment applications, including, Technical Surveillance Countermeasures (TSCM), Remote Spectrum Surveillance and Monitoring (RSSM)<sup>™</sup>, and Signals intelligence (SIGINT), collection, and processing of mission critical RF spectra.

Significant technological advancement in North American manufactured SDR hardware, has provided the necessary foundation for powerful low cost solutions, for a cost effective budget friendly resource, without compromise. Modern SDR hardware, such as the Signal Hound BB60C (9 kHz to 6 GHz), and the new SM200A (9 kHz to 20 GHz) firmly on the horizon for September 2017, along with the recent release of the new ThinkRF R5500 (100 kHz to 27 GHz) receiver, provide up to 160 MHz of real-time IF bandwidth, advantaged by the Kestrel TSCM<sup>®</sup> Professional Software, Intermediate Frequency (IF), IF Broadband (IFB) capability.

The Kestrel TSCM<sup>®</sup> Professional Software now includes an IF Broadband (IFB) mode, to advantage current and future hardware capabilities across a number of industry significant hardware manufacturers worldwide.

### **Time Differential Signal Analysis (TDSA)<sup>™</sup>**

Tackling real-world technical operator challenges, particularly in a new realm, and necessity of Remote Spectrum Surveillance and Monitoring (RSSM)<sup>™</sup>, is a key strategic element in the success of the Kestrel TSCM<sup>®</sup> Professional Software.

The recent addition of our powerful TDSA<sup>™</sup> feature, and the soon to be released, advanced filtering capability, are clearly defined examples of innovative real-world deployment tools that exceed industry standards.

# Kestrel TSCM<sup>®</sup> Professional Software

## “Professional Software for Professional Applications”

Professional Development TSCM Group Inc.

Technical Security Branch (TSB)

### The Art of Kestrel Signal Analytics (KSA)<sup>™</sup>

There many aspects of applied signal level analytics that must be explored in the execution of TSCM and RSSM<sup>™</sup> deployment. Many of the so-called signal level parameters are totally irrelevant, in actually determining whether or not, the Signal of Interest (SOI) is of any real significance.

The primary concern is not the intelligence that the signal may, or may not contain, but rather it is the outward signal level characteristics that provides the initial analytical data that defines the SOI as a potential threat.

It matters not the signal type, location within the spectrum, and certainly not the inward characteristics contained within the signal itself. The fact remains that many modern signal types utilize complex digital modulation schemes, and are often highly encrypted.

Any RF emission can be identified and located, without ever knowing the signal type—Simply follow the signal!

Aside from basic protocol information such as a MAC address, or manufacturers name (both of which can be spoofed), the remainder of the signals inward parameters have little to offer the technical operator during field deployment from an analytical perspective. There is little to be gained viewing complex engineering parameters of a Signal of Interest (SOI), at this early stage.

Valuable time and effort is often lost trying to analyze complex signal level characteristics, rather than simply placing priority on, first, determining if the signal, is a Signal of Interest (SOI), and second, if it is decidedly a SOI, determining if the signal is emanating from within the target area, or is an outside influence.

If the signal is determined to be a Signal of Interest (SOI), capturing the outward signal parameters, and an IQ recording, is really all that is required. The technical operator must determine whether the Signal of Interest (SOI) is emanating from within the target area.

Locating the signal source, will provide the technical operator with nearly everything else, he or she, needs to know, at this stage.

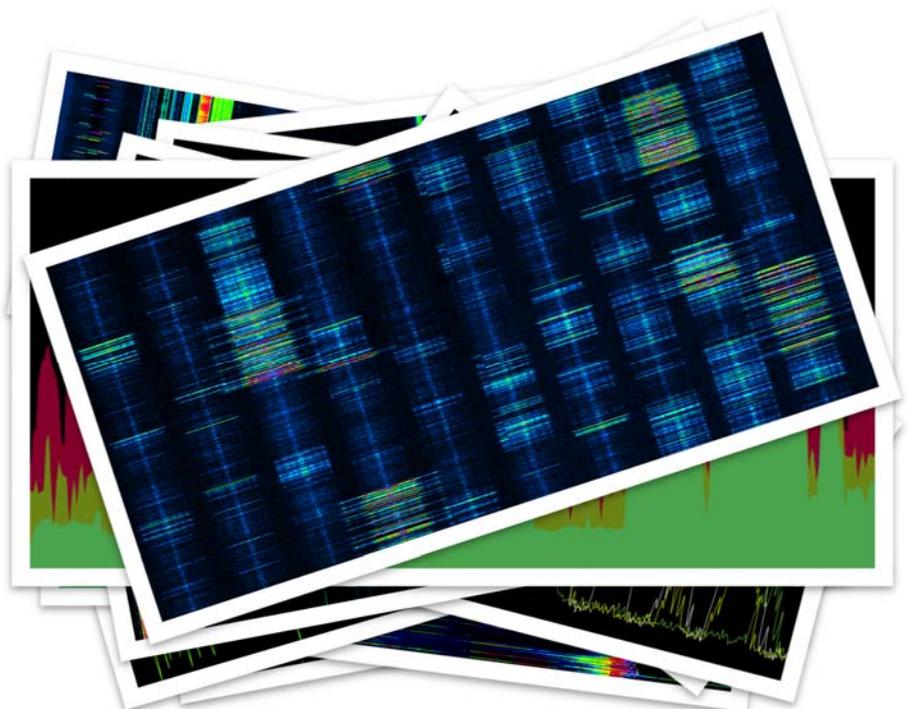
Terminating the threat is a key consideration in mitigating the compromise, and this should always be the priority.

Once the source is located and the compromise mitigated, there will be plenty of opportunity to analyze the Technical Surveillance Device (TSD), and perhaps conduct a forensic analysis of the devices signal level characterization, as well as the In-Phase and Quadrature (IQ) data, captured by the technical operator.

The spirit of the phrase, “Actionable RF Intelligence” suggests the need to detect, identify, declare, locate, and neutralize a threat as quickly as possible, to minimize the impact of a devastating technical compromise.

To learn more about developing an effective Technical Security (TSEC) program, or seek information about training and certification opportunities, please contact [Paul D Turner](#), TSS TSI at Professional Development TSCM Group Inc.

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**Kestrel TSCM<sup>®</sup> Professional Software is innovative industry leading, disruptive technology, now sold in 29 countries worldwide.**