Software Defined Radio (SDR) | Understanding the Hardware | Receiver and Analyzer Options

September 2015 **Technical Research and Standards Group (TRSG)**

Paul D Turner, TSS TSI

The search for cost effective TSCM specific equipment resources has become a reality during the past number of years, given the limited options that have traditionally dominated the global marketplace, being replaced with disruptive technology, driven by strong innovation.

As noted in the August 2015 newsletter.

"The TSCM game has changed, and calling the play, is the innovative, Kestrel TSCM ™ Professional Software, assisted by the technological advancement we have seen during the past number of years, with the introduction of powerful, budget friendly SDR hardware."

The Technical Surveillance Countermeasures (TSCM) industry has changed dramatically, and after a period of denial, many of the industry players are beginning to realize that Software Defined Radio (SDR) technology is here to stay, and will continue to enjoy an increasing market share, worldwide.

Professional Development TSCM Group Inc., released the first generation of the Kestrel TSCM ™ Professional Software in early 2010, changing the industry landscape with the first in its class, low cost, all inclusive, TSCM specific SDR application.

Determining the best TSCM equipment resources, and the ultimate decision to purchase suitable equipment resources can be a complex process given the somewhat limited operational life span and high cost of traditional single box solutions.

The Kestrel TSCM ™ Professional Software, Signal Intelligence Support System, simplifies the process with a budget friendly, technologically powerful, agile, and fully scalable system, multiple receiver hand-off, ready to deploy, mission specific hardware and software option.

Kestrel TSCM ™ Professional Software is backed by strong technical support and industry leading end-user documentation, including technical operator certification training delivered in a classroom environment.

Modular SDR systems are easily deployed in multiple roles, and can be field upgraded as new hardware, software, or computing technology, become available.

SDR systems are not simply, one system, and are in-fact, several mission specific modular equipment resources, adapted to meet the client's challenging deployment requirements in multiple roles.

Kestrel TSCM ™ Professional Software provides full product support for industry relevant hardware products that are typically available worldwide.

The following SDR products are fully supported by a Kestrel Support Profile (KSP), offering the end-user with hardware options consistent with a wide range of mission specific operational responsibilities.

Signal Hound (United States of America) — Is the true pioneer in bringing to market the first wave of sophisticated, industry disruptive technology that others have followed to imitate without a lot of success.

Professional Development TSCM Group Inc., embraced the initial announcement of this new technology just days after the release of the Signal Hound SA series, digital SDR receiver and quickly made the historic decision to develop an agile, TSCM specific and operator centric, Software Defined Radio (SDR) application.

Signal Hound offers the SA series, including the SA44B (1 Hz to 4.4 GHz), and SA124B (100 kHz to 12.4 GHz) digital SDR Spectrum Analyzer and Measuring Receiver (SAMR), based on USB 2.0 connectivity.

Following the outstanding success of the SA series, Signal Hound released the very powerful second generation BB series receiver, including the BB60A (9 kHz to 6 GHz), and BB60C (9 kHz to 6 GHz) digital SDR Spectrum Analyzers and RF Recorder technology, based on USB 3.0 connectivity.

The new Signal Hound "Spike" software, is universally supports all of the SA series and BB series hardware, and is totally free with the receiver purchase.

Kestrel TSCM ™ Professional Software | Advancing the Art and Science of Technical Security

Professional Development TSCM Group Inc.

Anritsu (Japan) — Support for the Spectrum Master "C" series analyzers provides an extended frequency search range of (9 kHz to 43 GHz).

This Kestrel TSCM ™ Professional Software milestone, is another industry first with multiple spectrum band, and dual receiver hand-off, with a huge (9 kHz to 43 GHz) search bandwidth.

Support for the Anritsu Spectrum Master "T" Series is expected to be released in before the end of the year adding yet another 9 kHz to 43 GHz) option.

Rohde & Schwarz (Germany) — The EM100 and PR100 (9 kHz to 7.5 GHz) compact receivers are an excellent example of a well engineered receiver for professional applications with excellent spectral purity.

These exceptional receivers are well respected in government and military circles, for a wide range of mission sensitive deployment applications.

Shearwater TSCM (United Kingdom) — The Merlin MK3 offers a (30 GHz) search bandwidth, and is delivered with the award winning Kestrel TSCM ™ Professional Software, fully integrated as an on-board option, and includes a number of Merlin MK3 specific hardware display and control features.

CRFS (United Kingdom) — The RFeye Node (10 MHz to 6 GHz) with a 20 MHz IFBW, and Block Down Converter (BDC) option, to seamlessly extend the operational search range to (18 GHz), are excellent candidates for a wide range of wireless communication applications, and remote monitoring assignments.

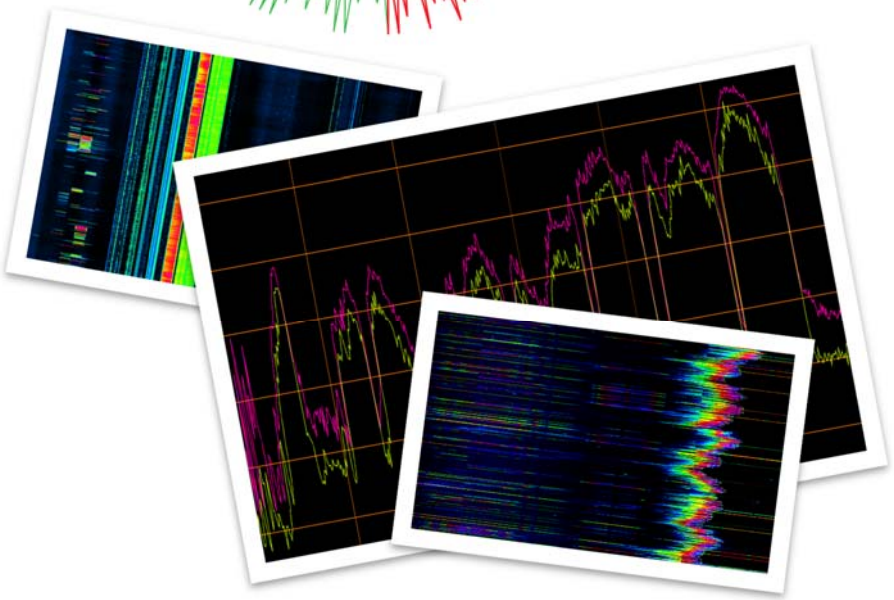
The CRFS Nexus is a high performance superheterodyne receiver with (6 GHz) and (18 GHz) versions, and has a wide 100 MHz IFBW.

Tektronix (United States of America) — The RSA306-USB (9 kHz to 6.2 GHz) with 40 MHz IFBW, is a compact SDR receiver based on USB 3.0 connectivity.

Tektronix provides the SignalVu-PC software, a well established free software package, along with a number of software options available for purchase.

The RSA306-USB includes the Tektronix DPX technology with a real time spectrum display and 100% Probability of Intercept (POI) of 100 uSec signal events, with up to 40 MHz of span.

Innovation is Simply the Beginning



Kestrel TSCM ™ Professional Software is innovative industry leading, disruptive technology, now sold in 20 countries worldwide.