

SPECTRO-X SIMULTANEOUSLY ANALYZES FOUR RF AND MICROWAVE SPECTRUM CAPTURE FILES

X-COM Systems LLC, a subsidiary of Bird Technologies Group, has introduced Version 4.0 of its Spectro-X RF and microwave signal-analysis software—a comprehensive toolkit designed to search for and analyze signals of interest within long-duration recordings of signal activity. The new version can simultaneously analyze up to four recorded RF and microwave spectrum files with precision file alignment to plus or minus one sample. It includes multidomain correlated markers and features that make the software more versatile and easier to use.

There are many applications for Spectro-X software, including development and analysis of ELINT, SIGINT, ECM, ESM, multichannel communications, and MIMO system performance. The software can also be used for testing radar systems. The software requires no programming skills and can reduce the time required to discover RF anomalies within a complex spectral environment or to evaluate signal characteristics over time.

Spectro-X operates on files of signal activity captured over the air using a COTS signal analyzer and X-COM's new IQC5000A Series Spectrum Capture and Playback System or on custom spectrum files created in The Mathworks' MATLAB or other software. It has four discrete search engines (carrier, wireless standard, arbitrary waveform, and pulse) that allow users to zoom in to specific sections of a file in frequency, time, or both, to find signals of interest. Results can be exported in a file format usable by vector signal analysis software for demodulation and detailed analysis. Pulsed waveforms can be characterized by their rise and fall times, pulse width, pulse repetition interval, peak and average power, and carrier frequency.

Multichannel Capabilities

Spectro-X 4.0 now allows up to four different files recorded at different times to be aligned in time in order to make comparisons between them. For example, in a typical "threat and response" scenario on a test range, an aircraft might make four passes through the measurement area, perform the same RF or microwave functions, and be subjected to the same jamming or radar pulses each time. The operator must interpret the data from each pass to determine how the aircraft's threat protection systems performed. In addition, Spectro-X makes it easier to identify different levels of interference that occurred during each pass.

The four files can also be offset in time and compared, placing marker measurements on all four plots. This is helpful when evaluating the performance of a radar system for example, to see if it performs exactly the same way during each scan.

Source: <http://electroiq.com/mysemicondaily/2013/05/02/spectro-x-simultaneously-analyzes-four-rf-and-microwave-spectrum-capture-files/>