FOR IMMEDIATE RELEASE

OSCOR FIRMWARE UPDATE OFFERS DYNAMIC NEW FEATURES

Algood, Tennessee, USA – January 6, 2016 - Research Electronics International (REI) recently released firmware updates to the OSCOR Spectrum Analyzers that introduce special new features.

### OSCOR Green Long Term Waterfall Data

Prior to the new firmware release, the OSCOR Green saved collected waterfall data in a Live Raster Waterfall. This Live Raster Waterfall captures a relatively short period of traces and displays them in a waterfall format. The waterfall is saved as bitmap (.png) image file and is useful for viewing a small window of signal activity in a summary waterfall view. Both the OSCOR Green and OSCOR Blue have a Live Raster function, which will remain in the updated firmware.

A new function called *Spectrogram* collects signal data and saves it in a Spectrogram waterfall file that the OSCOR Green can recall and review on-screen. Spectrogram is different from the Live Raster Waterfall because is it captures and saves traces collected over a long period of time (meaning hours or days) and displays them in a waterfall format. The user can zoom in on frequency spans and traces for detailed analysis.

This Spectrogram screen shot illustrates a 6 GHz trace capture (zoomed to a 4.8 GHz span) over a 24 hour period.

Spectrogram builds an intermediate peak trace over a user defined frequency span and time interval; and repeatedly stores these intermediate peak traces for waterfall analysis. The intermediate peak trace is "zeroed" between each time interval.

Traces are stored in a proprietary binary format at a minimum of 10 second intervals and at a spectrum resolution of 24.4 kHz. These parameters provide adequate time and frequency resolution for detecting threats without creating a burdensome file size. Adjusting the frequency range, interval, or duration parameters will affect the file size. Before saving a Spectrogram file, the software will display the projected file size and available USB storage capacity (thumb drive, external hard drive, Compact Flash) to determine if there is adequate storage space.

The Data Viewer PC analysis software for viewing OSCOR files on a computer will also be updated in the near future for off-line analysis of Spectrogram files.
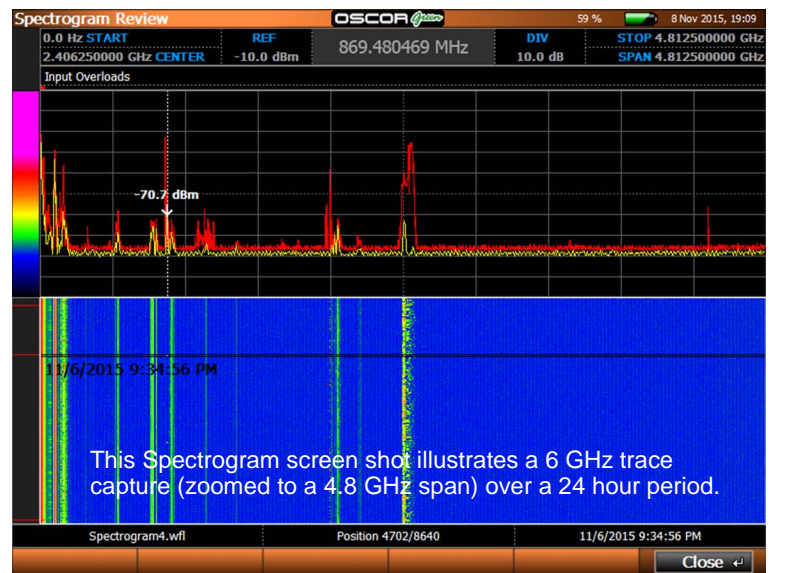
Signal Persistence

Another new feature available in both the OSCOR Green and OSCOR Blue is the *Persistence* function. Persistence enhances the ability to recognize signals that may be hiding or masked by existing ambient environment signals. The Persistence display provides a trace graphic with a decaying color brightness based on the persistence (transmit duty cycle) of respective signals. Signals with higher transmit cycles result in brighter colors compared to signals with lower transmission rates having darker colors. Therefore, signals occupying the same frequency bands are visibly identified because of color variations associated with transmit duty cycles.
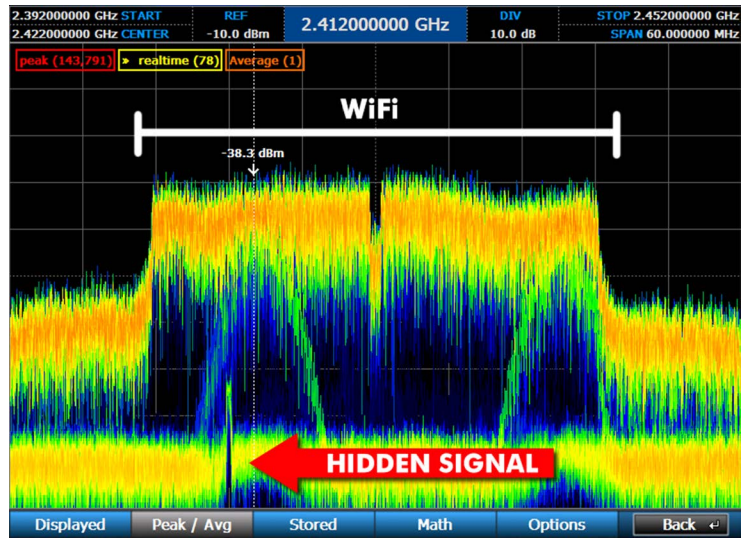
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Figure C shows a signal "hiding" underneath WiFi traffic. Since WiFi transmit packets have a different transmit duty cycle, the lower power signal is easily identified in the persistence display; where as it would not be visible using normal peak trace analysis or a raster waterfall type analysis.

Masking Function

Another feature released in a previous firmware update is a *Mask* function, allowing the user to create a "mask" from a peak trace. New signals appearing above the mask threshold can be automatically added to a signal list. This feature helps automatically generate signal lists by masking signals beneath selected amplitude, and automatically adding signals above the threshold to a signal list.

The new OSCOR Green firmware update is now available to download and install on any OSCOR Green (8 GHz and 24 GHz), free-of-charge from the REI website. The OSCOR Blue update can be requested through the OSCOR Blue update request form on the REI website.

About Research Electronics International

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