RESEARCH ELECTRONICS INTERNATIONAL

NEWSLETTER
Q3 2005

INSIDE THIS ISSUE:

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Extracting RF Output from the OSCOR for Further Technical Analysis using Additional Electronic Test Equipment

The OSCOR 5000E is a spectrum analyzer designed specifically for TSCM applications, however there are occasions when further RF analysis may be desired using other electronic test equipment in combination with the OSCOR. In general, to take advantage of these analysis techniques, the user will need to be familiar with signal analysis techniques beyond the methods described in the OSCOR manual. Below is a brief description of some possibilities:

- Using the OSCOR as a down converter to feed a digital signal into another low frequency Spectrum Analyzer that may have built-in standard digital demodulation schemes.
- Using the OSCOR as a down converter to feed wide bandwidth signals into a High Speed Oscilloscope to perform FFT analysis to look for buried signals within a wide bandwidth signal. For example, an audio signal is commonly buried as a sub-carrier within a video signal. Using the appropriate Oscilloscope these signals can be easily separated in frequency components for further analysis.

To use the OSCOR to analyze signals as described above, the OSCOR has several lower frequency RF output options. The OSCOR includes an output on the video monitor that can be used to extract Base Band data. The bandwidth of the video output is usable to 6MHz but due to the fact that the video monitor can only be activated in the Whip-Hi, Discone, and MDC antennas, the output is limited to these antennas and not available for all signals.

More on page 3

OSCOR OPC 5.02 Software Release

REI is pleased to announce the release of OSCOR version 5.02 program Key and Software. The new features of the software include:

- Support of multiple open files, organized in Job Tree by type
- New collapsible Job Navigation window maximizes space for Trace Analysis
- Includes complete support for MDC Functions & Trace Analysis
- Updated Toolbars and improved Menus with contextual Help links
- Improved Signal List Editing functions, supports batch edit of multiple selections

If you have an OSCOR version 5.0 and would like to receive a new program key, and download the software, please use the link below:
http://www.reiusa.net/quick/OSCOR_V5_Updates

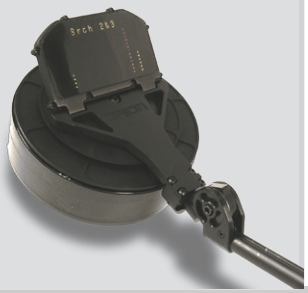
NEW High Gain ORION

REI is pleased to announce a new High Gain (HG) ORION (restricted Government Purchase Only). Designed for specialized applications where increased detection range is required, the HG ORION incorporates a High Gain antenna head that provides increased transmit power efficiency and receiver sensitivity providing superior detection sensitivity. This increased radiated power and receiver sensitivity is excellent for inspecting thick and/or dense materials such as concrete, etc.

The HG ORION includes PC software that allows the user to adjust and limit the HG ORION user operational settings. With the optional Remote Cable (60 feet), the user can mount the HG ORION on a tripod and operate the unit remotely from a safe distance in hazardous applications.

For more information on the new HG ORION, contact REI.

** The HG ORION Does not meet FCC/CE requirements and therefore is available only to Federal Agencies not restricted by commercial communication regulations.*



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TSCM TIPS

Using Rechargeable Batteries in the CPM-700...

The CPM-700 Deluxe and CPM-700 Advance Packages include rechargeable NiCad batteries. However if you did not purchase one of these packages, there is no reason that rechargeable batteries cannot be used in your CPM. However, you must makes sure that the internal Battery Selector Switch inside the battery compartment is properly set. For more information see page 13 of the current CPM-700 manual: www.reiusa.net/quick/CPM_Manual

CAUTION: When using non rechargeable batteries, DO NOT use the AC Adaptor unless the internal Battery Selector Switch set to "ALKALINE". Attempting to charge Alkaline batteries will likely cause damage to the unit.

For more information on TSCM and REI equipment, consider REI's Center for Technical Security training courses. Course descriptions and training dates can be found on REI's web site (www.reiusa.net/training) or e-mail sales@reiusa.net.

If you have TSCM sweep tips that you would like to share, please send them to support@reiusa.net.

TSE 101 & TSCM 201 Training Package

REI is pleased to announce that it now offering a package price of $2,290 for the TSE 101 & TSCM 201 training classes. The TSE 101 Technical Security Equipment and the TSCM 201 Technical Security Countermeasures are REI's most popular classes. Upon completion of these two classes, a student will have a clear understanding of how to use TSCM equipment as well as a strong knowledge of sweep procedures and techniques. To receive the package price for the training classes, students must sign up for the TSE 101 and TSCM 201 consecutively. For more information contact sales@reiusa.net.

NEWS HEADLINES: Eavesdropping, Corporate Espionage, & Information Theft...

"Court: Husband's wiretap invaded wife's privacy"
Northwest Indiana Times, June 21, 2005.
Husband installed a listening device to record wife's phone conversations…
Source: www.nwitimes.com
Article: http://tinyurl.com/bzg7x

"Everybody is doing it at work"
UK TimesONLINE, June 15, 2005
This brief article brings to light the vulnerabilities associated with USB "thumb drives" as it relates to "sensitive information… and industrial espionage."
Source: www.timesonline.co.uk
Article: http://tinyurl.com/79k7r

"Paparazzi Eavesdrop on Michael Douglas with Baby Monitors"
Zap2it.com, June 23, 2005
Source: www.zap2it.com
Article: http://tinyurl.com/9mr66

"Security experts warn of Chinese cyber attacks for industrial secrets"
Forbes.com, July 24, 2005
Source: www.forbes.com
Article: http://tinyurl.com/764h4

"Regulators probe sale of secrets by doctors"
The Seattle Times, August 10, 2005
"…doctors selling secrets about new drug research to Wall Street firms…"
Source: www.seattletimes.com
Article: http://tinyurl.com/74s56

"Wal-Mart accused of stealing"
Billings Gazette, June 15, 2005
Lawsuit accuses Wal-Mart of sending workers to steal price information by illegally scanning bar codes on goods on Super H store shelves. Manager called Wal-Mart's behavior "corporate espionage…"
Source: www.billingsgazette.com
Article: http://tinyurl.com/bqdz2

"PETA Payoff Follows Circus of Lawyer Sanctions, Alleged Spies"
Law.com, AP, September 2, 2005
Lawsuit alleges "extensive corporate espionage campaign" run by former CIA operative…
Source: www.law.com
Article: http://tinyurl.com/e2e7y

U.S. Charges 4 Brokers in Eavesdropping Probe, SEC Sues Trader"
Bloomberg, August 15, 2005
Charges allege brokers allowed a day trader to eavesdrop on conversations with institutional clients…
Source: www.bloomberg.com
Article: http://tinyurl.com/b9q5j

"Sweeps for bugs on the rise"
Korean JoongAng Daily, July 28, 2005
"More Companies to worry about corporate espionage…"
Source: http://joongangdaily.joins.com/
Article: http://tinyurl.com/c9c4y

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REI TRAINING CALENDAR

September 19-23
Technical Surveillance Countermeasures (TSCM 201)

September 26-30
Advanced TSCM Concepts (ATC 301)

October 11-13
Technical Security Equipment (TSE 101)

October 17-21
Technical Surveillance Countermeasures (TSCM 201)

October 24-28
Equipment Certification Course (ECC 240)

November 8-10
Technical Security Equipment (TSE 101)

November 14-18
Technical Surveillance Countermeasures (TSCM 201)

December 6-8
Technical Security Equipment (TSE 101)

December 12-16
Technical Surveillance Countermeasures (TSCM 201)

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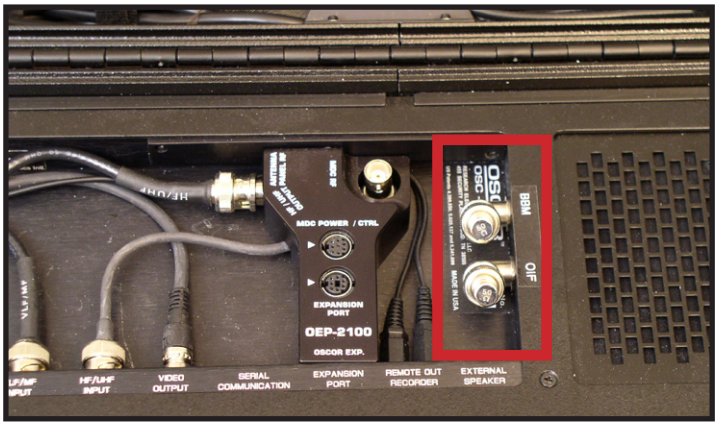
Continued from Page 1: Extracting OSCOR RF Output for Additional Analysis

In addition to the video output, an IF Interface (OIF) and Base Band output (OBB) are offered together as an option for the OSCOR.

- The OSCOR IF interface (OIF) provides an RF output which is fed with the 10.7Mhz Intermediate Frequency. Using the OIF port, a signal can be fed from the OSCOR into other types of test equipment to further analyze signals (i.e. a spectrum analyzer that may have digital demodulation capabilities or an oscilloscope for further time-domain analysis, etc.).



- The OSCOR Base Band output (OBB) provides a demodulated output taking the signal directly out of the demodulation circuit, with a maximum 250KHz bandwidth and can be used to feed a signal into an oscilloscope to perform FFT analysis to look for sub-carrier type signals (the OSCOR provides sub-carrier analysis capabilities, but the OBB provides an output for connection to more function specific equipment).

All of the methods described above provide quick and convenient options for extracting RF output for further equipment specific analysis. For more information using these outputs, consider REI's Advanced TSCM Concepts (ATC 301) course covering in depth RF analysis including carrier current, sub carrier, and base band analysis. For more information on this course visit REI's web site www.reiusa.net.

RF Mapping White Paper

REI recently published a white paper on Advanced Trace Analysis for RF Mapping using the new capabilities of the OSCOR 5000E and the new 5.0 OSCOR PC Software. This technique takes advantage of RF propagation loss (Law of Inverse Squares), and provides a very quick and useful procedure for identifying and locating potentially threatening signals.

The procedure is based using the OSCOR OPC difference mode to quickly identify potential threats, and then comparing spectrum trace information from different locations to identify location and/or direction of the transmission. The white paper provides case examples demonstrating RF mapping.

For more information, this white paper is available in pdf format via the link below:
http://www.reiusa.net/quick/Trace_Analysis

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