Trade Show Calendar:

NATIA (Police/Government ONLY)
July 13-15
Austin, TX USA

ASE
July 20-22
Miami, FL USA

GovSec
July 28-29
Washington, DC USA

ASIS
September 27-30
Dallas, TX USA

SSEP
September 28
Vienna Austria

Security Essen
October 5-8
Essen Germany

ISC East
November 3-4
New York, NY USA

Questions, comments, suggestions, or to add someone to the REI Quarterly Newsletter mailing list, please e-mail:
newsletter@reiusa.net

OSCOR 5.0 **Enhancements**

The newly released version 5.0 of the OSCOR firmware has been designated as the OSCOR 5000 "E" (Enhanced) and brings significant updates including a high-speed USB port for PC connection, faster spectrum analyzer sweeping speed, a backlit display, and improved functionality.

Earlier versions of the OSCOR took 22 seconds to sweep the Whip Hi input (5MHz to 1.5GHz). The new OSCOR 5000E covers this range in less than 4 seconds. This sweep speed will not provide significant speed increase to the Automatic Mode signal logging algorithm; but it will greatly improve the detection efficiency of the unit when used in Manual Mode by capturing and displaying spectrum information 5 times faster. More importantly, this will increase detection speed and reliability when utilizing the Peak Trace Capture functionality, which is especially important for detecting sophisticated transmitters.

"Trace" information refers to the detailed graph data that is utilized by the OSCOR to generate the Spectrum Analyzer display. The OSCOR Peak Trace data memory buffer is continuously updated based on the peak energy received at each frequency step, regardless of the OSCOR function or mode of operation. Peak Trace data is stored in a Friendly envi-ronment outside of the sweep area and then again within the sweep area for comparison. Comparison of the Sweep Area Peak Trace to the Friendly Trace provides a very efficient and reliable method to identify threats.

In Figure 1 below, the bottom trace graph shows the stored Friendly and Peak traces in overlay. The inverted trace graphic on the top is the difference between the Friendly and Peak trace. Figure 2 shows a Difference Only of Peak minus Friendly. This example has 2 threats, a Frequency Hopper and a Burst Transmitter (in RED) in the spectrum and several new examples of intermittent signals (in BLUE) that appeared in the sweep environment. The "Difference Only" view in Figure 2 filters out continuous ambient signals so that evidence of the new intermittent signals is easily detected.

The OSCOR is continuing to address evolving threat technology. While this article focuses on the OSCOR 5000 E upgrades, the new OPC 5.0 software combined with the USB port provides the ability to store and compare multiple Peak Traces from previous sweeps, adjacent rooms, and real-time OSCOR data. This high-resolution data is easily manipulated for analysis. Future Newsletters will address the new OPC developments. *REI*
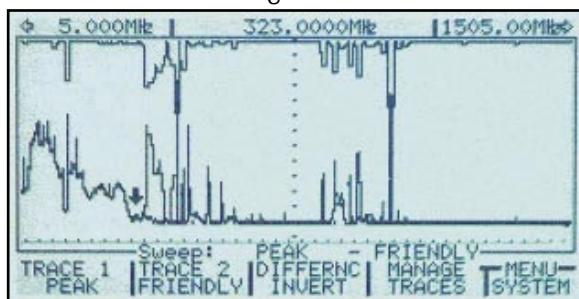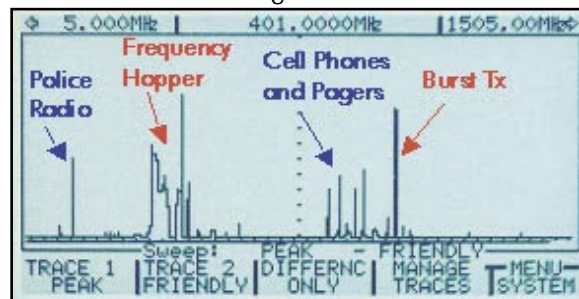
Figure 1

Figure 2

Figures 1 and 2 were generated in the OSCOR over a 5-minute time period with the OSCOR set on Whip Hi (5MHz to 1505MHz). The Burst Transmitter that was used in the example is advertised as being "undetectable by the OSCOR". Clearly, this transmitter is easily detected.

CPM-700 Packages

The CPM-700 Counter Surveillance Probe/Monitor is an extremely versatile kit providing a wide range of counter surveillance tools to detect and locate several types of electronic surveillance devices. To simplify the available test probes and accessories, REI has created the following CPM-700 Packages:

CPM-700 STANDARD

Basic tools for users with minimal RF testing; includes the following:

- CPM-700 Counter Surveillance Probe/Monitor
- Standard RF Probe (50kHz-3GHz)
- VLF Carrier Current Probe
- TVLF Patch Cord,
- Auxiliary Patch Cable
- Headphones
- Soft Carrying Case

The CPM-700 Standard is the most basic package and provides for RF analysis up to 3GHz.

CPM-700 ADVANCED

Advanced tools to perform additional TSCM tests; includes the following:

- ALL items in the CPM STANDARD package, as well as
- Infrared Probe,
- Acoustic Leakage Probe,
- Magnetic Leakage Probe,
- Modular Phone Adapter,
- Tape Recorder Patch Cords,
- Cigarette Lighter Adaptor,
- Rechargeable Batteries

This package includes several accessories and probes for additional TSCM analysis up to 3GHz.

CPM-700 DELUXE

Complete package, extends the range to 12GHz; includes the following:

- ALL items in the CPM ADVANCED package, as well as,
- Broadband Microwave Probe (2GHz-12GHz),
- RF Sniffer Probe (10MHz-3GHz),
- Deluxe Hard-shell Case

This package includes all current available probes & accessories for the CPM (RF to 12GHz, Infrared, Carrier Current, Acoustic Leakage, etc.) providing a wide range of TSCM functionality in an easy to use, portable kit.

Most Probes and Accessories are available separately for replacement; contact REI for replacement probes.

Finally, to extend the frequency range of an existing CPM to 12GHz, REI offers the Broadband Microwave Probe (BMP-1200) Upgrade Package, which is backwards compatible with all existing CPMs and includes:
- Broadband Microwave Probe (2GHz-12GHz)
- RF Sniffer Probe (10MHz-3GHz)
- Acoustic Leakage Probe
- Deluxe Hard-shell Case

The CPM-700 provides a wide range of tools in a single easy-to-use portable kit for TSCM tests up to 12GHz. REI

* Picture shows CPM-700 DELUXE package.

Shipping Equipment to REI:
NEW Return Authorization Procedure

We are extremely excited about the OSCOR version 5.0 improvements and expect many customers to upgrade previous-version OSCORs to the 5.0 Enhanced functionality. However, we also want to minimize the time that our customers may be without their equipment when returning it to REI for upgrades.

In an effort to better serve our customers and minimize the time our customers may be without their equipment, REI is implementing a new Return Authorization Procedure. Our intent is to streamline the process of returning equipment to REI for Upgrade and/or Repair Return. Please note the following procedure:

• Contact REI to obtain a Return Authorization Number BEFORE shipping any equipment to REI.
• Clearly write the Return Authorization Number on the outside of the returned package.
• Include with the returned equipment a letter with the following:
1. The name and contact information of the person returning the equipment,
2. The Return Authorization Number,
3. How you would like to be contacted for approval of any non-warranty repairs or upgrades,
4. Shipping instructions and where the upgraded/repaired equipment should be returned,
5. Payment details for any upgrades, repairs, and shipping payment,
6. A commercial invoice stating the following:

> **"This enclosed equipment is U.S. Goods being returned for repair,"**

This is crucial for international shipments to avoid unnecessary tariffs, fees, or customs delays.

We hope that this new process will better serve our customers. Please contact REI if you have any questions. **REI**

Keeping Up with Microwave Threats

In the fall of 2003, REI introduced the BMP-1200 Broadband Microwave Probe (2GHz-12GHz) for the CPM-700 to address the continuing advancement of technology associated with microwave threats. The BMP-1200 probe not only provides an excellent directional probe for finding common 2.4GHz transmitters, it is exceeding expectations in providing a low cost tool for identifying evolving microwave technologies.

Microwave technology is advancing at an alarming rate as evidenced by the new UNII 5-5.7GHz and ISM 5.8GHz bands. Examples of commercial products include WiFi (802.11a, 802.11b, 802.11g), cordless phones, and video chip camera transmitters. In August of 2003, the first 5.8GHz cordless phone was released and in a few short months many other versions were on the mar-
ket. Metropolitan Area Networks (MAN's), utilizing 802.16 technologies, have been approved for operations at 3.5GHz and are being approved for operations from 2-10GHz. The demand for these products, more bandwidth and higher frequencies will continue to rise and inversely the cost of the transceiver chips used in these products will continue to fall. These microwave technologies support the growing existence of very sophisticated threats.

To address these technologies, the new BMP extends the frequency of the CPM to 12GHz and introduces new methodology for detecting microwave energy. With the High Gain BMP directional antenna, a technician can identify commercial WiFi energy sources from across the street, from an adjacent parking lot, or from within the building
environment. The CPM/BMP provides audio signatures that are very useful in identifying the types of transmitted signals. With a little practice, it is relatively easy to distinguish between 802.11, video signals, and cordless phone type signatures.

By providing the technician with audible and visual indications, as well as a high gain directional probe, the BMP provides a high probability of detection and better operational security against evolving microwave threats. **REI**