OSCOR™ OSC-5000E

OMNI SPECTRAL CORRELATOR

U.S. PATENTS: 4,399,556; 5,020,137; 5,241,699; 6,397,154; 7,058,530

OSCOR™ OSC-5000E

OMNI SPECTRAL CORRELATOR

World's leading countersurveillance receiver, designed to detect and locate electronic eavesdropping devices.

High-Sensitivity Spectrum Analyzer

1. **PHASED LOCKED SUPER HETERODYNE SPECTRUM ANALYZER**
2. **FREQUENCY RANGE:** 10kHz to 3GHz (10kHz to 21GHz with optional Microwave Down Converter)
3. **AUTOMATICALLY SELECTED ANTENNA INPUTS.**
4. **SWEEPING IF BANDWIDTHS:** 250kHz, 15kHz, and 6kHz.
5. **FREQUENCY SPANS** can be programmed with single button control for rapid recall and automatic searching.

The OSCOR provides user-friendly controls and a high-quality digital graphic display.

The OSCOR is one of the few Spectrum Analyzers designed specifically for countersurveillance.

Built-in Suite of Demodulators

AUDIO DEMODULATORS

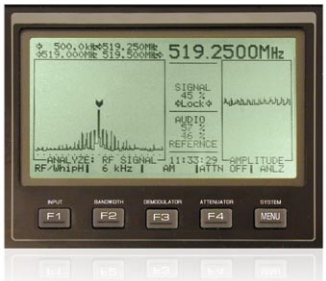
1. FM wideband
2. FM narrowband
3. AM wideband
4. AM narrowband
5. Sub-carrier
6. Single Sideband

VIDEO FORMATS

1. NTSC, PAL, SECAM
2. AM or FM demodulation
3. + or - synchronization pulse

IF BANDWIDTHS

1. Audio: 250kHz, 15kHz, and 6kHz
2. Video: 10MHz



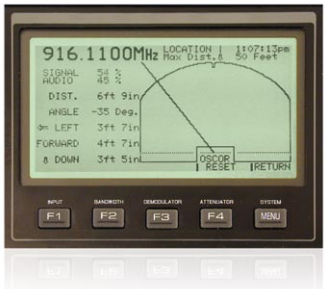
Built-in suite of demodulators and audio oscilloscope view of signals.

Monitor displays video signals for protection against covert video transmitters.

Patented Threat Locating System

The Patented Threat Locating System uses sonic ranging and triangulation to locate the transmitter microphone.

This patented system can only be used if an audio signal can be demodulated with the OSCOR.



To locate a digitally demodulated transmitter, the OSCOR RF locator probe is utilized.

Built-in Antenna Array

1. **ACTIVE WHIP ANTENNA:** 0.5-1505MHz frequency coverage.
2. **DISCONE ANTENNA:** 1500-3000MHz frequency coverage.
3. **LOOP ANTENNA:** 10-500kHz frequency coverage.
4. **INFRARED DETECTOR:** 360°; wavelengths of 850-1070nm and modulation from 10kHz-5MHz.
5. **STATUS INDICATORS:** Display the selected antenna.
6. **AC VLF:** (not shown in picture) The AC power cord serves as a probe for testing for carrier current type transmitters.
7. **BUILT-IN 20dB PRE-AMP:** Improves receiver sensitivity.

Patented fold-out antenna panel automatically selects the proper antenna. Pre-amp provides maximum sensitivity for the proper input. No unreliable cable connections or mismatched antenna inputs.

Automatic Searching, Signal Detection, Spectrum Trace Acquisition, and Storage

1. **"LOAD FRIENDLY"** mode stores outside ambient signals and traces prior to performing a sweep.
2. **TARGET SWEEP AREA SIGNALS** are easily differentiated from ambient environment "Friendly Signals" and "Friendly Trace."
3. **ALL SIGNALS** are dated, classified, and stored for later retrieval and automatic tuning.
4. **SIGNAL AND TRACE DATABASES** can be stored for later comparison and analysis to determine if any new signals have been introduced into the environment.

The OSCOR provides an automatic solution to rapidly logging and classifying the signals of your environment.

Quick Reference Guide provides a single chart that completely defines the programming process.

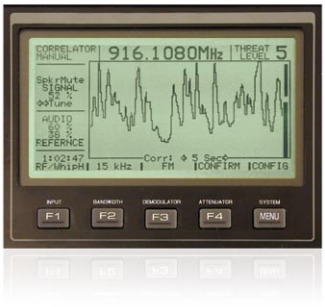
Trace Analysis for Rapid Detection of Sophisticated transmitters

1. **OPTIMIZED SWEEP TIME FOR FAST ANALYSIS:** less than 5 seconds to complete one 1.5GHz pass.
2. **FRIENDLY SPECTRUM TRACE** provides reference trace for comparisons against sweep location trace.
3. **PEAK TRACE MINUS FRIENDLY TRACE** quickly shows evidence of analog and digital transmitters including frequency hopping and burst/packet transmitters.
4. **TRACES CAN BE COMPARED** for RF mapping of transmission sources within a building.
5. **DETAILED TRACE DATA IS STORED** using 120,000 data points across the Whip High, Discone, and MDC antennas.

Enhanced Trace Analysis provides ability to compare target sweep area traces to friendly traces, to quickly identify evidence of transmitters in the target sweep area (including frequency hopping and burst/packet transmitters). Trace and signal data can be further analyzed or stored on a computer via USB interface, for future comparisons or RF mapping.

Automatic Threat Classification

1. **AUTOMATICALLY ANALYZES SIGNALS** using a patented sound pattern correlator.
2. **CORRELATOR PROCESS** is integrated over time to ensure accurate correlation.
3. **SIGNAL THREAT LEVEL ESTABLISHED ON A SCALE FROM 1 TO 5** based on the integrated correlation value.
4. **DIGITAL SIGNALS,** or signals that cannot be demodulated or correlated are flagged based on RSSI increase from Friendly reference.



For signals that are readily demodulated, the OSCOR easily classifies threatening signals. Signals that are not readily demodulated are flagged for manual inspection.

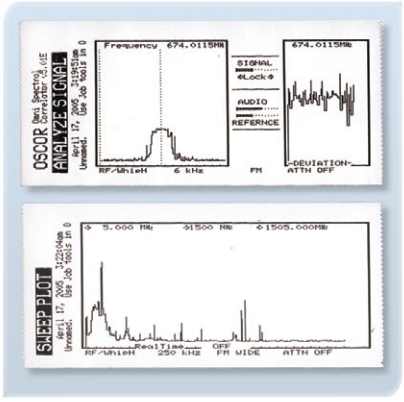
The patented OSCOR correlator provides signal classification by correlating the demodulated audio of a received signal to the ambient environment.

Built-in Printer for Rapid Hardcopies

Printouts can be generated of:

1. Frequency Spectrum
2. Oscilloscope View
3. Correlation Results
4. Signal Database Listings
5. Frequency Span Listings
6. Threat Location Information
7. System Configuration

The OSCOR's built-in thermal printer provides a user-friendly "What You See is What You Get" method of generating print-outs of important sweep data.



The built in printer allows you to make quick printouts of suspicious signals, or complete spectrum traces.

PC Interface and Remote Control of the OSCOR

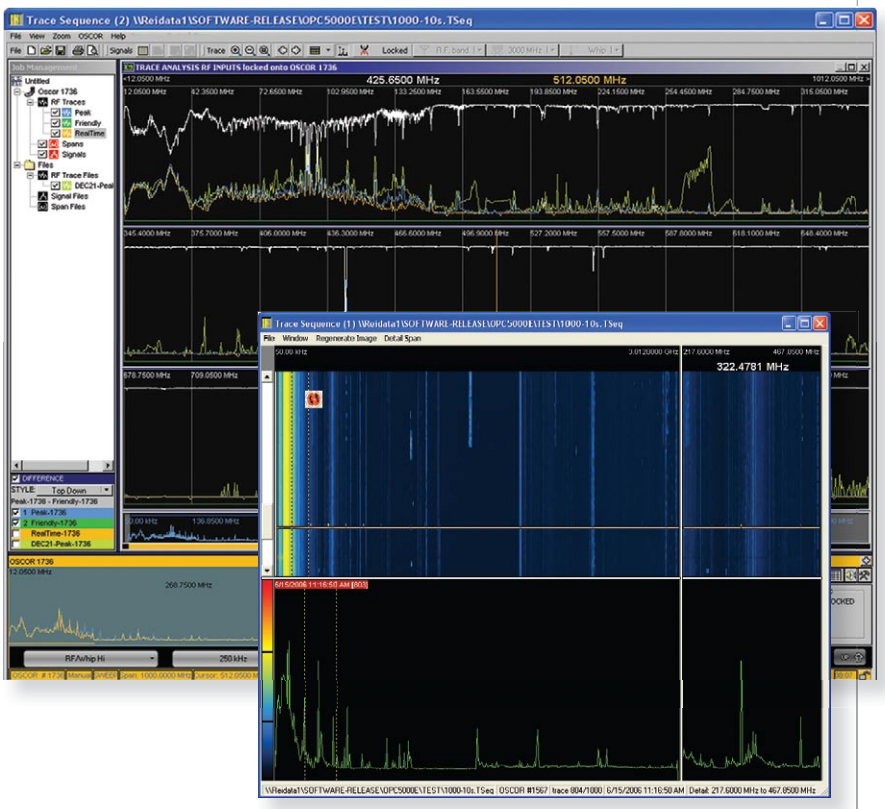
The OSCOR OPC software provides enhanced analysis capabilities as well as the ability to create permanent *signal* databases and *trace* profiles of sweep environments for RF mapping and future comparisons. A Trace Sequence Recorder is also included for monitoring traces over time in a waterfall display. The software also provides professional report and graph capabilities.

Software ADVANTAGES:

1. **STORE, UPLOAD, AND DOWNLOAD** signal and trace info.
2. **PROGRAM THE OSCOR** for automatic operation.
3. **IMPROVED CONFIGURABLE USER INTERFACE.**
4. **SIGNAL CLASSIFICATION** using international frequency allocations.
5. **CUSTOMIZABLE REPORTS** and frequency spectrum graphs.
6. **COMPARE AND ANALYZE** historical signal and trace data to easily identify new signals detected in the sweep environment.
7. **HIGH RESOLUTION FULL-COLOR GRAPHICAL DISPLAY.**

Software BENEFITS:

1. **REMOTE CONTROL OF OSCOR** from PC computer.
2. **TRACE SEQUENCE RECORDER** provides waterfall trace display; allows user to "playback" recorded trace history files.
3. **RAPID THREAT INDICATION** using detailed comparison of stored RF spectrum *traces*.
4. **QUICKLY IDENTIFY SOPHISTICATED TRANSMITTERS** (frequency hopping & burst/packet) using peak difference trace analysis.



* OSCOR PC Software is included with the OSCOR; computer not included.

Optional Microwave Downconverters (MDC-900/MDC-2100)

The MDC-900 (3-9GHz) and MDC-2100 (3-21GHz) provide increased frequency range for the OSCOR.

1. **COMPLETE SPECTRUM VIEW** from 3-21GHz (MDC-2100) using the OSCOR display or OPC software.
2. **DIRECT FREQUENCY CONTROL** and band selection from OSCOR.
3. **INTEGRATED HIGH GAIN LOG PERIODIC ANTENNAS** (MDC-2100 contains 3 unique integrated antennas).
4. **TRIPOD** provides stability for MDC antennas.

TECHNICAL SPECS

MDC-2100 3-21GHz

OPERATION BANDS & FREQUENCY RANGES
Conversion Output Frequency: 5-3005MHz
Frequency Range: 3-21GHz
Band 1: 3-9GHz
Band 2: 9-15GHz
Band 3: 15-21GHz

ANTENNA GAIN (3 ANTENNAS)
3-9GHz: 6.1dB
9-15GHz: 5.3dB
15-21GHz: 8.4dB

MDS (MINIMUM DETECTABLE SIGNAL)
Includes receiver sensitivity, antenna gain, & filtering losses -122dBm

POWER
Input Power: 200 milliamps at 12 volts supplied by OSCOR

MECHANICAL
Weight: 1.1 lbs (0.5 kg)
Dimensions: 11.4 in x 3.1 in x 1.4 in (29 cm x 8 cm x 3.5 cm)

MDC-900 3-9GHz

OPERATION BANDS & FREQUENCY RANGES
Conversion Output Frequency: 5-3005MHz
Frequency Range: 3-9GHz

ANTENNA GAIN
3-9GHz: 6.1dB

MDS (MINIMUM DETECTABLE SIGNAL)
Includes receiver sensitivity, antenna gain, & filtering losses -122dBm

POWER
Input Power: 200 milliamps at 12 volts supplied by OSCOR

MECHANICAL
Weight: 1.1 lbs (0.5 kg)
Dimensions: 11.4 in x 3.1 in x 1.4 in (29 cm x 8 cm x 3.5 cm)

OSCOR™

The most comprehensive suite of technical capabilities available in one fully-integrated countersurveillance package.

PATENTED AUTOMATICALLY SWITCHED ANTENNA ARRAY: RF (10KHZ-3GHZ) & INFRARED

ANTENNA PRE-AMPS FOR IMPROVED SENSITIVITY

MULTI-FORMAT VIDEO DISPLAY

CARRIER CURRENT PROBE UTILIZING AC POWERLINE

AUTOMATIC SPECTRUM TRACE CAPTURE, SIGNAL LOGGING AND CLASSIFICATION

PROGRAM KEY FOR FIRMWARE UPGRADES

BUILT-IN DEMODULATORS AND SELECTABLE IF BANDWIDTHS

INTERNAL RECHARGEABLE BATTERY

RF LOCATOR PROBE FOR LOCATING TRANSMITTERS

PATENTED SONAR THREAT LOCATING SYSTEM

USB PC INTERFACE, PC SOFTWARE INCLUDED

BUILT-IN PRINTER

INTERNAL HIGH-SENSITIVITY SPECTRUM ANALYZER

CORRELATOR REFERENCE MICROPHONE FOR AUTOMATIC THREAT CLASSIFICATION

USER-FRIENDLY CONTROLS

COMPACT CARRYING CASE

ONE-YEAR WARRANTY

The OSCOR is the only available security product that provides all of the above features in a single portable package.

OSCOR™ OSC-5000E

OMNI SPECTRAL CORRELATOR

TECHNICAL SPECS

OSCOR ADVANTAGES

DIGITAL SPECTRUM ANALYZER
DESIGNED SPECIFICALLY FOR COUNTERSURVEILLANCE

AUTOMATICALLY SWITCHED ANTENNA ARRAY
WITH BUILT-IN PRE-AMPS

AUTOMATIC PROGRAMMABILITY
CONTINUOUSLY SCANS, STORES SIGNALS AND TRACES, AND DETECTS THREAT SIGNALS

ENHANCED TRACE ANALYSIS
DETECTS SOPHISTICATED DEVICES SUCH AS FREQUENCY HOPPING AND BURST/PACKET TRANSMITTERS

SIGNAL DATABASE
PROVIDES STORAGE AND RECALL OF DETECTED SIGNALS AND SPECTRUM TRACES

OPC SOFTWARE
REMOTE CONTROL CAPABILITY AND ABILITY TO STORE SIGNAL AND TRACE PROFILES FOR FUTURE COMPARISON AND RF MAPPING

AUDIO ANALYSIS MODE
PROVIDES SUITE OF DEMODULATORS

VIDEO DEMODULATOR AND MONITOR
PROVIDES VIEWING OF COVERT VIDEO TRANSMITTERS

ACOUSTIC CORRELATOR
CLASSIFIES THREATENING SIGNALS

BUILT-IN PRINTER
PROVIDES HARDCOPY OF SIGNAL ANALYSIS INFORMATION

MULTIPLE THREAT LOCATING SYSTEMS:
PATENTED SONAR THREAT LOCATING SYSTEM AND RF LOCATOR PROBE

COMPLETE PACKAGE OF SWEEP EQUIPMENT
FOLDS INTO A DURABLE ATTACHE-STYLE CASE

RESEARCH ELECTRONICS INTL.
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ALGOOD TN 38506 USA
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RF SYSTEM

Receiver: Quad Conversion Super Heterodyne phase locked Spectrum Analyzer
Frequency Coverage: 10kHz - 3GHz
Tuning Resolution: 50Hz
Sensitivity: 0.8μ V typical with 15kHz bandwidth (+15dBm Max)
Demodulators: AM, FM Wide, FM Narrow, FM SC, SSB/CW
IF Bandwidths: 250kHz, 15kHz, 6kHz
Attenuators: 0, -20dB at Active Whip, Discone, and VLF-MF input
Dynamic Range: 90dB
Subcarrier Tuning Range: 15-250kHz
Antenna Types:
- **Balanced Loop:** 10-500kHz
- **Active Whip:** 500kHz-1500MHz
- **Discone:** 1500-3000MHz
- **Infrared Detector:** 10kHz-5MHz, 850-1070nm
- **AC Carrier Current:** 10kHz-5MHz (balanced across power line)

AUDIO SYSTEM

Frequency Response: 50Hz-15kHz
Voiceband Filter: 300-3000Hz; 18dB/octave roll off
AGC Dynamic Range: 60dB
Output Power: 3W at 4Ω
Headphone Output: 0-2V rms
Remote Contact: Normally open (200mA/32V max)
Balanced Auxiliary Input: 0.5V rms nominal @ 600Ω
Reference Audio Input: 1mV-1V rms @ 3.9kΩ
Sonic Correlator: 50Hz-15kHz (frequency independent)
Audio Alarm: 3-level programmable 2-tone ringer
Squelch: Automatic digital or manual control over full display range
Headphones: Low acoustic leakage, 16Ω output limited to 105dBA

VIDEO SYSTEM

IF Bandwidth: 10MHz
Independent Control of Formats
- **Protocols:** NTSC, PAL, SECAM
- **Demodulators:** AM or FM
- **Synchronization Pulse:** + or -

SYSTEM INTERFACE

Backlit Display: 128 x 256 Segment Graphics Supertwist LCD
Built-in Printer: 192 dot graphics on 2-inch-wide thermal paper
Rotary Tuning Dial: 128 Pulse/Rev with variable count ratio
USB Interface to PC
Removable Program Key for firmware updates

POWER SYSTEM

AC Input: 105-130VAC/210-260VAC, 50-60Hz, 24W
External DC Input: 12-18VDC, 1A max
Internal Battery: 12V, 2.9Ah 3-hour operation per charge typical

MECHANICAL

Size (HxWxD): 6.25 in x 18.5 in x 14.5 in (15.9 cm x 47 cm x 36.8 cm)
Weight: 29 lbs (13.2 kg)

* PC Software is included with the OSCOR; computer is not included. MDC-900 and MDC-1200 sold seperately.