ULISSES 19G - HIGHSPEED
Countermeasure and Privacy Protection System / 9 kHz - 19 GHz
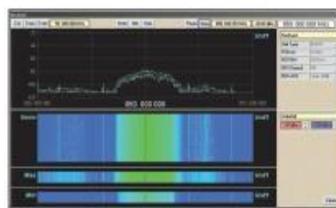**Universal Solution for Detection and Protection against any unauthorized Electromagnetic Emission**

- Bug finder 9 kHz - 19 GHz
- User interface easy to use
- High sensitivity
- High speed scanning rate
- 5,0GHz @ 1 seconds

Application
ULISSES 19G High-Speed is an automated mobile radio monitoring system designed to carry out radio monitoring of the surrounding area and will solve the following tasks:
- Radio monitoring
- Radio reconnaissance
- Detection information leakage channels
- Control of radio communications
- Bug detection

Direct Sequenz Spread Spectrum transmitter
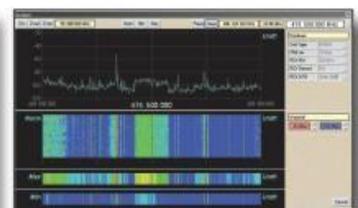
COFDM transmitter

It detects even hard-to-detect types of radio signals, such as distributed spectrum, frequency hopping, or burst signals. ULISSES 19G High-Speed will build a complex mathematical model and thus provides opportunities of detecting signals which are difficult or impossible to track by traditional methods.

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Fig. 1: ULISSES 19G High-Speed

Features

- High sensitivity
- High-speed scanning receiver specially designed for rapid search and detection
- Easy to use and to analyse, using the waterfall diagram
- Stand alone portable system or as distributed monitoring system
- Auto switching antenna system
- High interception scanning speed (≥5 GHz per second @ 10kHz)

- Extremely fast: Scans of 5,0 GHz in 1,0 seconds
- Ensuring spectrum activity is captured 800,000 data points per second
- Bug finder for Direct Sequence, Spread Spectrum transmitter; UWB, COFDM transmitters; Burst transmitters
- Capable to detect super-short-time radio-signals and signals with frequency hopping (FH)

Specials

- Universal search for non-authorized radio emissions
- Reliable detection of hard-to-detect signals such as spread spectrum, frequency hopping and burst transmissions
- Detection of compromising transmissions from computers and other IT devices
- Control of radio communications discipline inside the protected buildings, areas and regions
- Fully automated mode to work even in operator's absence
- Multi-functional panoramic display for visual presentation and analysis of the detected signal's spectra
- Possibility to create a reference model of the given frequency ranges, in order to detect deviations from this spectral model
- Automatic or manual correction of the model's parameters

- Logging of all detected events of deviation from the reference model
- Spectrum analyzer windows allow the user to view the whole spectrum and zoom into individual frequencies areas
- Waterfall display gives an intuitive display of signals over time
- Designed to detect ultra wide band (UWB) signals; impossible to find with conventional receiver
- Displays spectrum as a list or graphically
- The system can be used in remote operation by LAN / TCP-IP or as distributed monitoring system
- All remote units will be remote controlled via LAN (Ethernet, Fast Ethernet or Gigabit Ethernet)
- Intelligent database for to compare lists or graphs sampled in different locations (including differences) for quick analysis

ULISSES 19G-HS System

Automated mobile radio monitoring system, 9kHz-19GHz, scanning speed (=8 GHz per second @ 10kHz), consist of base unit, laptop computer and ULISSES 19G software, antenna set, power cable, USB cable, transportation case.

Fig. 1: ULISSES 19G High-Speed

Operation Modes

1. Automatic Bug Sweeping

ULISSES 19G-HS automatically searches for unauthorized radio emissions in the given frequency ranges and assesses the detected signals. Simultaneously all the parameters of the detected emissions are logged. ULISSES 19G-HS will build a complex mathematical model and thus provides opportunities of detecting signals which are difficult or impossible to track by traditional methods. The latter include spread spectrum, hopping frequency and burst transmissions.

2. Preliminary Scanning

To gather HF data for the reference model, preliminary scanning can be carried out in the system's full frequency range or in limited range designated by the operator.

3. Reference Model

A frequency range reference model will be created to serve as the base upon which differences are computed and analysis is carried out in order to detect unauthorized emissions. During further operation, the model's parameters can be updated with current data.

Reference models from different HF environments can be stored and reused later.

4. Analysis

When continuously scanning the chosen frequency range, deviations from the reference model are detected and logged.These logged events can be separately displayed and analyzed.

5. Panoramic display

The detected signals can be shown in graphic form on the panoramic display, which allows the operator to accurately detect non-authorized radio emissions.

6. Logging

All information on the changes in the model parameters is logged by the operator. The operator's log, arranged by time or frequency, can be viewed in a table or in graphic form.

Specification

RF System	
Frequency Range	9 kHz - 19 GHz
Tuning Resolution	1 Hz
Sampling Bandwidth	20 MHz
Sensitivity	-110 dBm
DANL	100 dBm
System Phase Noise	-90 dBc at 10 kHz
Attenuation 0 dB	at -31.5 dB in 0.5 dB steps
Dynamic Range	90 dB
SFDR	80 dB
Scan Time	5 GHz / sec (10 kHz sampling resolution)
Audio System	
Demodulation Types	AM, NFM, FM
Filter Sites	220 kHz, 15 kHz, 6 kHz

Inputs / Outputs

Aux RF In	9 kHz to 30 kHz
	30 Hz to 3 GHz
	3 GHz to 19 GHz

USB Port 1(B type)

Dimensions & Weights

Dimensions	26.8 cm X 32.4 cm X 5.5 cm
Weight	3.5 kg
Environmental	
Operating Temperature	0°C to +50°C

Power Supply Universal Power Unit included 100
VAC - 240 VAC, 50 - 60 Hz

System Controller Hardware Requirement
CPU: min. Pentium 4 @ 2.5 GHz
RAM: 3 GB min.
HardDrive: 500 GB or more
 Interface USB 2.0, LAN, Audio I/O
Windows® XP Pro or Windows® 7 (32 Bit)