Complex protection against eavesdropping

MRA-3Q

Advanced Memory Radio Analyzer

The new MRA-3Q is an advanced automatic radio scanner suited for instant detection of various types of radio bugs in the frequency range 36–3600MHz. The basis of the system is the radio spectrum memory combined with an ultra fast scanning. The whole frequency range is scanned every eight seconds and the currently received signals are compared with the initially stored „clean“ background spectrum. The presence of a new signal activates a three level alarm output. All new signals with frequency, time and a statistic information are stored in an independent alarm memory.

MRA-3Q allows to automatically acquire audio records of new signals which have been causing alarms. Recorded audio samples together with the stored statistic information are reliably indicating if the object was attacked by RF eavesdropping.

MRA-3Q can be used as a part of the QM-4000 bus system. QM-4000 allows parallel connection of up to 32 MRA-3Q devices within an object network. The bus system allows full remote control of each device, and additionally it contains numerous additional features like spectrum analysis in the range of 36–3600MHz, background statistic, new signal statistic, automatic audio sampling, frequency and spectrum records, selective statistic, system statistic etc. QM-4000 is not only a comprehensive solution for object permanent protection, but also a very effective tool for electronic countermeasures specialists since it gives a clear graphical picture of the current RF signals. By using QM-4000 we can detect and record even such dangerous systems like spread spectrum, or modified WiFi, DECT, and GSM.

● MRA-3Q basic configuration

- Fast and detailed radio spectrum analysis
- Detection and localization of RF listening devices
- Selective analysis of radio signals
- Permanent protection based on ultra fast comparison of „clean“ spectrum with actual signals
- Optical and acoustic indication of dangerous signals
- Memory of 100 alarm signals with time and statistic information
- Easy optimisation of background spectrum based on a long time analysis
- User friendly controls, protected against unauthorised manipulation
- Designed both for specialists and for direct VIP usage

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● Permanent protection & audio recording

- Automatic audio recording of alarm signals, enhanced permanent protection
- Adjustable length of audio samples
- Easy separation of false alarms and real bug signals
- Analysis of alarm records at any time after an event or VIP meeting
- Enhanced optimization of the background spectrum based on long time spectrum monitoring

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Technical Specification of MRA-3Q, Version 1.2

- Frequency range 36-3600 MHz
- Sensitivity for S/N=10dB 36-1200 MHz 20 – 40uV, 1200 – 3600 MHz 40 – 1000 uV
- Demodulation WBFM, NBFM, AM
- Bandwidth 36-240 MHz 270KHz, 240 – 3600 MHz 400 kHz
- LCD display 2 x 16 character alphanumeric
- S-meter dynamic range 73 dB
- Signal strength measurement 40 level LCD linebars
- Distance measurement for 1 mW source 1–50 meters
- Battery backup of background spectrum and new signal memory
- Background memory 512 multi-frequency channels
- New (alarm) signal memory 100 re-writable channels
- ID codes against unauthorised use 65536
- Fine tuning +/- 1 multi-frequency channel
- Automatic scan cycle duration 8 sec / cycle
- Frequency measurement 36–4000MHz, resolution 0.1MHz
- Optical and acoustic alarm output
- Pre-alarm period one scan cycle 8 sec.
- Alarm delay adjustable 1 – 60 minutes of new signal activity
- Common alarm time information max. 100 hours
- Time information about specific signals: sum, first appearance, last appearance, max. 45 days
- Remote & system audio output 1.4Vpp for SCAN-R or QM-4000
- External audio recorder, period of automatic alarm signal audio sampling 1–60 sec
- System bus RS485, max. 32 devices, bus up to 1200 m
- Adjustable audio output, internal loudspeaker, external earphone
- Power 9V, internal NiCd accumulator or 6F22 battery
- Current consumption SCAN 34mA, OFF below 2uA
- Low battery indicator below 7V, automatic switch off below 6.5 V
- External power & charging 12 – 25V DC, automatic re-start after power drop out
- Built-in telescopic antenna
- Size 136 x 49 x 137 mm
- Weight 620 g incl. battery
- Device attested: EN 50131-1, EN 50130-4, EN 55022, EN 50130-5