

Complex protection against eavesdropping

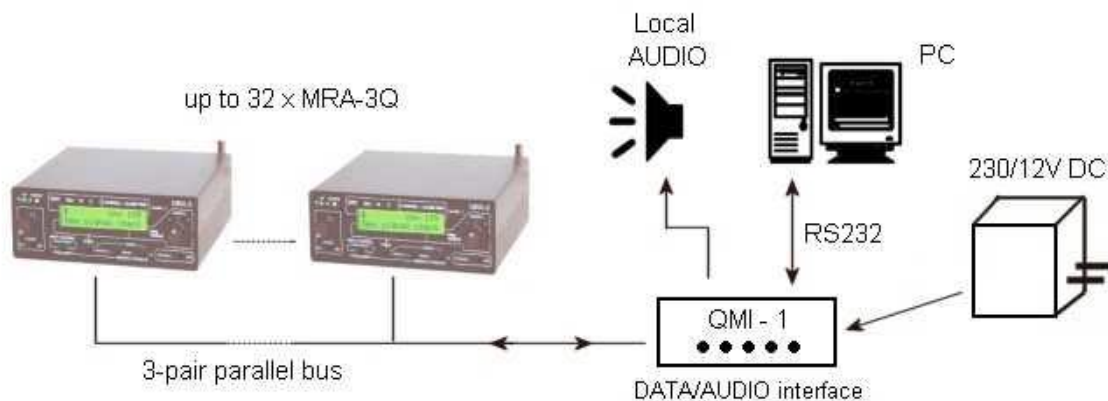
QM-4000

Object network system for MRA-3Q analyzers

QM-4000 is an advanced network system for complex protection of an object against eavesdropping. The system allows parallel connection of up to 32 MRA-3Q radio analyzers using a dedicated object network. QM-4000 allows full remote control of each device, and supports 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. All these features are easily accessible from the QMaster software - a user friendly control application with ergonomical graphical user interface. 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. QM-4000 allows to detect and record even such dangerous systems like spread spectrum, or modified WiFi, DECT, and GSM.

The MRA-3Q is an advanced automatic radio scanner suited for instant detection of various types of radio bugs in the frequency range 36 – 3600 MHz. The basis of the system is the radio spectrum memory combined with an ultrafast 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 and time & frequency information are stored in the new signal memory. Although the MRA-3Q alone is a very effective protection tool against RF eavesdropping when connected to the QM-4000 object network controlled by the QMaster software its efficiency and functionality is greatly extended.

● QM-4000 system configuration



- System allowing comprehensive protection of an object using just 3-pair parallel bus
- One master PC controls and automatically analyses data from up to 32 MRA-3Q scanners
- Full remote control of any device including audio monitoring
- Graphical display of alarm history for selected devices or entire system
- Tabular and graphical processing of received signals and their statistics
- Radio background management, easy and effective background optimization
- Adjustable parameters of audio sampling
- Each audio record contains time, length of the sample, frequency, and signal strength information
- GSM and DECT special processing and warning
- Selective DECT, GSM900 and GSM1800 graphical output
- Detailed spectrum analysis 36 – 3600 MHz, graph printing and saving, simultaneous display of reference spectrum for comparisons
- Complete mouse control, comprehensive help function for all instructions and outputs
- QMaster software is Windows 98, 2000, XP compatible

Technical Specification of QM-4000

- Bus 3-pair, parallel power, audio, RS485 max. 1200 meters
 - QMI-1 system interface voltage stabiliser for MRA, audio filter, RS232/RS485 converter
 - Local audio active PC loudspeaker or 2 x 24 ohm earphone
 - PC interface RS232 (COM1–8), microphone audio input
 - PC SW/HW specification Windows 98, 2000, XP, min. 500 MHz, fulfilling EN EMC standards
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Technical Specification of MRA-3Q, Version 1.2

- Frequency range 36-3600MHz
- Sensitivity for S/N=10dB 36-1200MHz 20 – 40uV, 1200–3600MHz 40–1000uV
- Demodulation WBFM, NBFM, AM
- Bandwidth 36-240MHz 270KHz, 240–3600MHz 400 kHz
- LCD display 2x16 character alphanumeric
- S-meter dynamic range 73dB
- 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 inc. battery
- Device attested: EN 50131-1, EN 50130-4, EN 55022, EN 50130-5