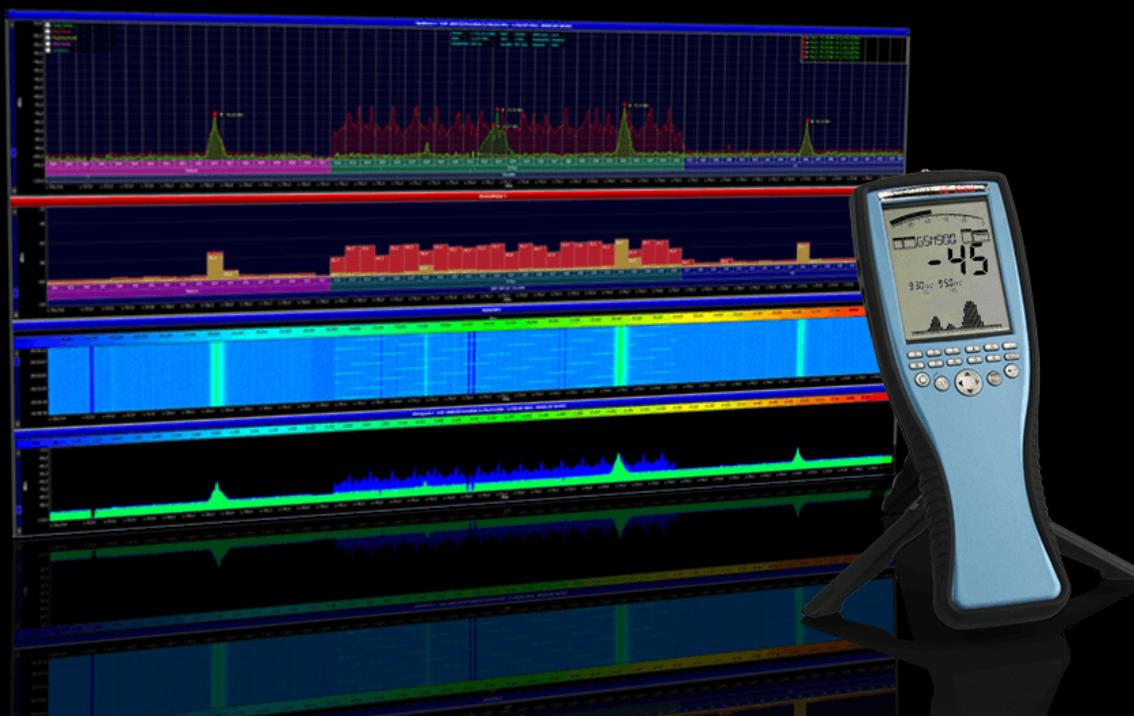# AARONIA

SPECTRAN V4 HANDHELD

1 MHz to 9,4 GHz

Portable Spectrum Analyser with world record in sensitivity (DANL)

References:
- EADS, Munich, Germany
- Mercedes Benz, Austria
- Deutsche Bahn, Berlin, Germany
- EnBW Kernkraft GmbH, Germany

AARONIA AG
WWW.AARONIA.DE ®

MADE IN GERMANY

Specifications

World record in sensitivity!

SPECTRAN® HF-60100 V4

- Up to 100x faster SampleTime as Rev.3
- Up to 80dB higher sensitivity as Rev.3
- 14Bit Dual-ADC
- DDC Hardware-Filter
- 150 MIPS DSP (CPU)
- Frequency range: 1MHz (9kHz with Option 900) to 9,4GHz
- Max measurement range: -155dBm (1Hz)
- Max measurement range w. PreAmps: -170dBm(1Hz)
- AbsMax Level: +20dBm
- AbsMax Level: +40dBm(Option)[3]
- Lowest possible SampleTime: 1mS
- Typ. accuracy: +/- 1dB**
- Dimensions (L/W/D): (260x86x23) mm
- Weight: 420gr

Application examples Spectran HF-60100 Spectrum Analyzer

Analysis and measurement of:

- WLan
- UMTS
- WiFi
- active Radar
- GSM
- Mobile phones
- Bluetooth
- Microwave ovens
- DECT phones
- TETRA
- radio stations
- TV stations
- various EMC limits

The Spectran® HF-60100 V4
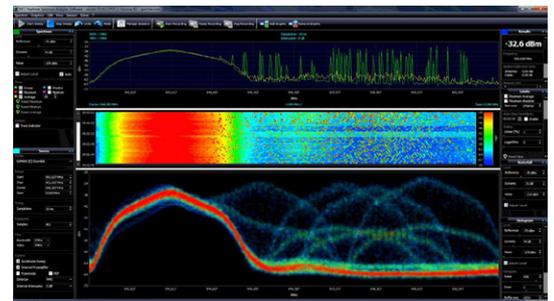
Compact, affordable and sensitive

Based on a patented spectrum analyzer method Aaronia can offer a professional RF measurement at a spectacular price level. The SPECTRAN V4 Analyzer have an extremely compact design and an incredibly high sensitivity (HF-60100 V4 up to-170dBm (1Hz) with preamps). Detect sources of interference, find out more about their causes, determine the frequency and intensity of the signal sources, measure limits and boost the functionality by using our high-end PC software. All SPECTRANs are developed, individually produced and calibrated in Germany at the Aaronia factory. This guarantees highest quality standard.
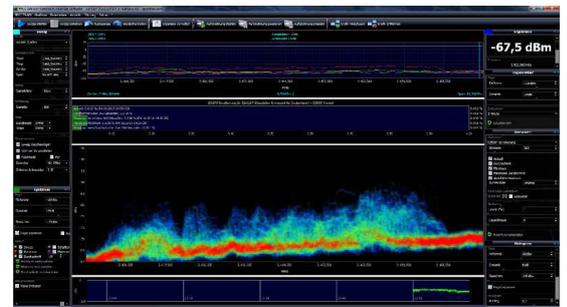

Free Software

The spectrum analyzer software "MCS" for PC, MAC or Linux shows the real potential of the SPECTRAN. The software can be used in addition to the Spectrum Analyzer. The connection works in real time, i.e. there is no time difference between signal analysis and representation on the screen.

- Multi-device capability, remote control of several SPECTRAN. These can be controlled on a single PC.
- Works on all major operating systems like Mac OS, Linux and Windows
- Real-time remote control function with all SPECTRAN spectrum analyzer via the integrated USB port
- Unlimited number of limit displays e.g. EN55011, EN55022, etc. including display of ICNIRP limit lines and limit-bar graphs
- Multi Window Support
- Powerful undo feature
- Channel and provider display
- Custom skins and color settings
- Reporting and recording function
- and much more...

GSM Signal

WLAN Signal

Scope of delivery

- RF spectrum analyzer SPECTRAN HF-60100 V4
- HyperLOG 60100 EMC/directional antenna
- 1300mAh power battery with charger
- Pistol grip with miniature tripod mode
- SMA tools et
- SMA adapter
- 1m SMA cable
- USB-cable
- Protection Rubber
- Sturdy aluminum-design carrycase (with custom padding!)
- Exhaustive manual

Options for Spectran® HF-60100 V4

Optional modifications to the Spectran V4 include:

Option 001: 1MB memory expansion

This internal memory expansion is a MUST-HAVE particularly when using the data logger, as the standard capacity can quickly become exhausted in this mode. The memory expansion provides space for more than 10,000 logs, while the standard memory will only acco-modate approximately 100 of them. Standard memory size is 64K.

Order/Art.-No.: 180

Option 020: Internal 15dB low-noise preamplifier

This option provides an internal, super low-noise 15dB preamplifier, enabling maximum performance particularly when measuring extremely weak signals. It is switched via a TRUE RF switch. There really is no excuse for not ordering this one, considering its very attractive price!
The maximum sensitivity of the V4 series without option 020 is lower by 15dB.

Order/Art.-No.: 177

Option 205: 10GHz peak power meter

A 10GHz peak power meter. This option augments your SPECTRAN® with a power meter with up to 10GHz of bandwidth. Further-more, it allows exact measurement of signal peaks with high crest factor like those occuring in WLAN technology, or extremely short signals, like RADAR bursts. What's more, measurement is performed in REAL TIME and BROADBAND, while at the same time being temperature-compensated. It is also an ideal solution for measurement of cable attenuation or receiver output. Depending on the actual frequency, the power meter provides a sensitivity of up to approx. -50dBm, while the maximum permissible level is +10dBm. By adding our 20dB attenuator (see price list), the maximum measurable signal level can be enhanced to +30dBm or +50dBm!

Order/Art.-No.: 182-5

Option 015: Audio Signal Tracker

The Option 015 provides an accoustic representation of the signal intensity, similar to a Geiger counter. This allows a fast and convenient localization of the signal source. Perfectly suitable for signal direction finding, finding hidden transmitters or aligning antennas, especially in combination with the Peak Power Meter (Option 20x). As a highlight, the dynamic can be adapted optimally by moving the reference level.

Order/Art.-No.: 178-1

Option 900: 9kHz frequency extension

Extends the start frequency to 9 kHz. The new, usable frequency range with Option 900 is 9kHz - 9.4 GHz. Perfect for the measure-ment of conducted emissions according to interference standards such as EN55015, EN61800-3 etc.

Order/Art.-No.: 189-2

Option 022: 40dB low-noise preamplifier 1MHz-10GHz

This option provides an external, super low-noise 40dB preamplifier, enabling maximum performance particularly when measuring extremely weak signals at a EN55011, EN55022 or EN50371 EMC-test. If you use our BicoLOG antenna or our PBS1 Probeset and EMC-Sniffer this amplifier is a MUST HAVE to get the best performance!
The 40dB preamplifier is already included in the EMC-Bundle1..

Order/Art.-No.: 321

Recommmended accessories

Heavy Plastic Carrycase PRO

Shock resistant, heavy version with padding. Offers spaces for 2 SPECTRAN units with all accessories and a HyperLOG 70xx or 60xx antenna. A MUST for the professional user or outdoor usage!

Order/Art.-No.: 243

Pistol Grip / miniature tripod

Detachable handle with super-practical miniature tripod mode: this handle is attachable to the backside of the unit and allows optimal handling and even fixed installation of the unit. STRONGLY recommended for PC use!

Order/Art.-No.: 280

Aluminium tripod

Height adjustable, high stability. STRONGLY recommended for PC use! Max. height: 105cm.

Order/Art.-No.: 281

Calibration Certificate

Available for all SPECTRAN® units. With detailed calibration sheet.

Order/Art.-No.: 784

USB Cable (Special Version)

Included in delivery!

Order/Art.-No.: 774

1m / 5m / 10m SMA-Cable

High quality special SMA cable for connecting any HyperLOG®-Antenna or BicoLOG®-Antenna with our RF Spectrum-Analyzer. All versions: SMA plug (male) / SMA plug (male).

3000mAh LiPo Power-Battery

Included in delivery!

Order/Art.-No.: 254

Car power adapter

With power-LED. For charging batteries or operating our units in your car, including special plug.

Order/Art.-No.: 260

Protection rubber

Included in delivery!

Order/Art.-No.: 290

DC-Blocker (SMA)

It prevents the RF-input of the SPECTRAN to be destroyed by the DC-voltages of f.e DSL/ISDN lines.

Order/Art.-No.: 778

Calibration Resistor (DC-18GHz)

This calibration resistor is necessary for the best possible calibration of the noisefloor of the Spectran V4-Analyzer.

Order/Art.-No.: 779

20dB SMA high-end Attenuator

Expands the measurement range to +40dBm.

Order/Art.-No.: 775

REFERENCES

Selected Aaronia Clients

AARONIA AG
WWW.AARONIA.DE

Government, Military, Aeronautic, Astronautic

- **NATO,** Belgium
- **Department of Defense (DoD),** USA
- **Department of Defence,** Australia
- **Airbus,** Germany
- **Boeing,** USA
- **German Armed Forces,** Germany
- **NASA,** USA
- **Lockheed Martin,** USA
- **Lufthansa,** Germany
- **German Aerospace Center (DLR),** Germany
- **Eurocontrol,** Belgium
- **EADS,** Germany
- **Drug Enforcement Administration (DEA),** USA
- **Federal Bureau of Investigation (FBI),** USA
- **Federal Criminal Police Office (BKA),** Germany
- **Federal Police,** Germany
- **Ministry of Defence,** Netherlands

Research/Development, Science and Universities

- **MIT - Physics Department,** USA
- **California State University,** USA
- **Indonesian Institute of Sience (LIPI),** Indonesia
- **Los Alamos National Laboratory (LANL),** USA
- **University of Bahrain,** Bahrain
- **University of Florida,** USA
- **University of Victoria,** Canada
- **University of Newcastle,** United Kingdom
- **University of Durham,** United Kingdom
- **University Strasbourg,** France
- **University of Sydney,** Australia
- **University of Athen,** Greece
- **University of Munich,** Germany
- **Technical University of Hamburg,** Germany
- **Max-Planck Inst. for Radio Astronomy,** Germany
- **Max-Planck Inst. for Nuclear Physics,** Germany
- **Research Centre Karlsruhe,** Germany

Industry

- **IBM,** Switzerland
- **Intel,** Germany
- **Shell Oil Company,** USA
- **ATI,** USA
- **Microsoft,** USA
- **Motorola,** Brazil
- **Audi,** Germany
- **BMW,** Germany
- **Daimler,** Germany
- **Volkswagen,** Germany
- **BASF,** Germany
- **Siemens AG,** Germany
- **Rohde & Schwarz,** Germany
- **Infineon,** Austria
- **Philips,** Germany
- **ThyssenKrupp,** Germany
- **EnBW (Energie Baden-Württemberg),** Germany
- **CNN,** USA
- **Duracell,** USA
- **German Telekom,** Germany
- **Bank of Canada,** Canada
- **NBC News,** USA
- **Sony,** Germany
- **Anritsu,** Germany
- **Hewlett-Packard,** Germany
- **Bosch,** Germany
- **Mercedes-Benz,** Austria
- **Osram,** Germany
- **DEKRA,** Germany
- **AMD,** Germany
- **Keysight,** China
- **Infineon Technologies,** Germany
- **Philips Semiconductors,** Germany
- **Hyundai Europe,** Germany
- **VIAVI,** Korea
- **Wilkinson Sword,** Germany
- **IBM Deutschland,** Germany
- **Nokia-Siemens Networks,** Germany

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