Low cost Spectrum Analyzer
SPECTRAN® HF-2025E

RF measurement device for the novice at an unbeatable price

HF-4040 Rev.3

HF-4040 Rev.3

"Unbeatable price.."
"Particularly Aaronia's very powerful (especially considering their price) SPECTRAN handheld spectrum analysers caused much excitement."
(Markt&Technik 20/2005)

References / examples of proof:

◆ West Virginia University, USA
◆ University Strasbourg, France
◆ Athen University, Greece
◆ Universität München, Germany
◆ Wilkinson Sword, Solingen, Germany
◆ WDR, Köln, Germany

AARONIA AG
WWW.AARONIA.DE

Made in Germany

Specifications

SPECTRAN® HF-2025E Rev.3

- ◆ Frequency range: 700MHz to 2,5GHz*
- ◆ Typ. level range: -80dBm to 0dBm*
- ◆ Lowest possible SampleTime: 100mS
- ◆ Typ. accuracy: +/- 4dB*
- ◆ Filter bandwith (RBW) Min: 1MHz
- ◆ Filter bandwith (RBW) Max: 50MHz
- ◆ High performance DSP (Digital Signal Processor)
- ◆ USB 2.0 interface
- ◆ 50 Ohm SMA RF input (F)
- ◆ Direct RF spectrum display
- ◆ Frequency and signal strength display
- ◆ High resolution multifunction display
- ◆ Exposure limit calculation according to DIN/VDE 0848
- ◆ AM demodulation
- ◆ DECT & TimeSlot Analyser
- ◆ REALTIME PEAK power detector (option)
- ◆ Advanced HOLD function
- ◆ Switchable PULS mode
- ◆ Main display in dBm, V/m, A/m or dBìV (switchable)
- ◆ ADDITIONAL display in W/m² with AUTORANGE (pW, µW etc.)
- ◆ Incl. battery pack and charger
- ◆ Incl. HyperLOG 7025 EMC antenna
- ◆ Incl. elegant aluminum carrycase
- ◆ Dimensions (L/W/D): (260x86x23) mm
- ◆ Weight: 420gr
- ◆ **Warranty: 10 years**

Application examples Spectran® HF-2025E Spectrum Analyzer

Analysis and measurement of:

- ◆ GSM900
- ◆ DECT
- ◆ GSM1800
- ◆ UMTS
- ◆ WLAN
- ◆ Microwave oven
- ◆ WiFi

Description

Conforming to standards and exact

RF Measurement in this price range has never been this professional.

Find radiation sources in your surroundings. Find their respective frequencies and signal strengths, including **direct display of exposure limits**. This used to be impossible in this price category, professional units often costing several thousand euros and being excessively complicated in handling.

The highly complex calculations in spectrum analysis incl. exposure limit calculation is being performed, unnoticed in the background, by a high-performance DSP (digital signal processor). This ultra-fast processor even allows REAL-TIME display in all EMF (LF) versions of the SPEC-TRAN® series.

**Fast, handy, cost-effective, beautiful exterior and PRECISION - what more could you ask ?**

Professional PC analysis software (free download)

The professional PC analysis software demonstrates SPECTRAN's vast capabilities. This software can be used in addition to SPECTRAN and offers an incredible amount of features. All this for FREE. Just download it from our homepage, and your PC turns into a real spectrum analyser with a huge display:

- ◆ **MULTI-device capability**! Remote control of several SPECTRAN units. These can be controlled and their data displayed at once on a single PC.
- ◆ **HIGH-RESOLUTION**!, freely scalable, coloured spectrum display with falloff function..
- ◆ **Display of channel identifiers**! for EXACT identification of providers. Channel numbers etc. freely programmable and extensible!
- ◆ Up to 10! markers with frequency and level display.
- ◆ Intuitive zoom control with very comfortable frequency adjustment.
- ◆ High quality "waterfall"-display with TIMECODE. Colour scale freely configurable. Size freely scalable. Optional display of data DIRECTLY ON TOP OF THE GRAPH by pointing with your mouse and CTRL-clikking!
- ◆ **High-resoution SLOT ANALYSER with 3D display!**
- ◆ **SUPER-LOGGER**: ALL data can be written to disk continuously. File format is readable by spreadsheet applications, for creating custom reports, etc.
- ◆ Freely positionable windows for comfortable entry of frequency, RBW, sweeptime etc. etc.
- ◆ **Various pre-defined profiles** for DECT, UMTS, GSM, WLan etc. etc. for instant recall. Incl. optimal parameters and extensive channel information! Freely programmable and extensible!
- ◆ Independant main display with SIMULTANEOUS display of dBm, dBµV, V/m, W/m2 and A/m, each with AUTORANGE. Freely transposable and scalable.
- ◆ **SUPERB exposure limit display** with various profiles (ICNIRP, Salzburg precautionary values, ECOLOG, etc. etc.). Freely programmable with a virtually infinite amount of display options.
- ◆ Functionality to update SPECTRAN measurement device firmwares.
- ◆ Freely programmable key assignments and labels for SPECTRAN measurement devices.
- ◆ Filemanager and COMPILER for creation and management of YOUR OWN PROGRAMS for SPECTRAN measurement devices.
- ◆ "Rename" option for renaming any of your SPECTRAN units (for example, including location) for better identification
- ◆ etc. etc. etc.
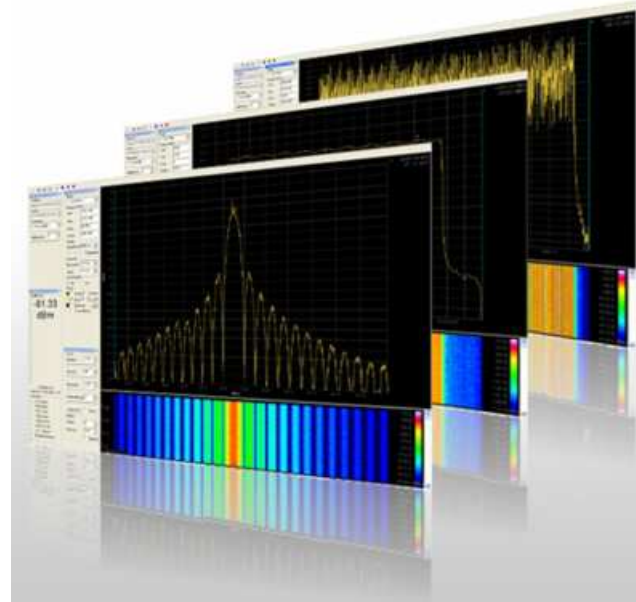
AMAZING: The PROFESSIONAL PC software for SPECTRAN. Get to know SPECTRAN's real capabilities!
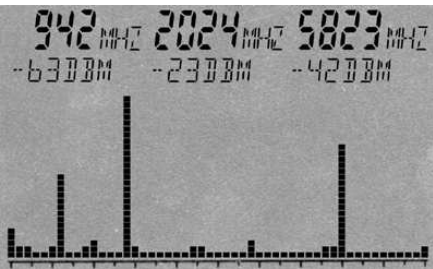
RF spectrum display and automatic triple multi-marker display on the digital screen of SPECTRAN® (Screenshot)
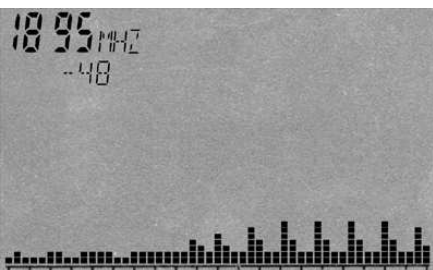
Well visible: "Frequency hopping" of a DECT portable phone between 1890 and 1900 MHz (Screenshot)

Spectrum ANALYSIS

The perfect analysis:
Professional RF measurement devices use a **frequency dependant measurement approach**, the so-called **spectrum analysis**. In a certain frequency range, the individuals signals and their respective strengths are being broken down, for example into a "bargraph" display (see SPECTRAN® screenshots on the left). The height of the individual bars represents the corresponding signal strength. For the 3 strongest signal sources, SPECTRAN® automatically displays the exact frequency and signal level, thanks to its "Auto Marker" feature. Of course, you can also setup the filter width and the frequency range to be analysed as you like.

In the RF spectrum shown, a frequency range of approx. 100MHz to 7GHz from left to right is being analysed (full sweep). During analysis, the Auto Marker feature has determined - fully automatic - three main signal sources:
Signal#1=942MHz (GSM communications) at -63dBm
Signal#2=2024MHz (UMTS) at -23dBm
Signal#3=5832MHz (802.11a WLan) at -42dBm

Thanks to its DIRECT frequency display of the individual signal sources, a doubtless mapping of measurement results to the corresponding radiation sources is possible.

EXPOSURE LIMITS

At the push of a button:
Exposure limit calculation used to be a complex and awkward procedure even for the professional, as most of the time, a chaotic mixture of an abundance of different frequencies, modulations and signal strengths is present.
The indispensible, highly complex calculation of frequency-dependant exposure limits can ONLY be performed CONFORMING TO STANDARDS by a spectrum analyser with high-performance software. Not a problem for SPECTRAN® units: They can calculate even several authoritative exposure limits, precautionary limits and recommendations (simply selectable via a button) and display these as a practical bargraph display (including convergence display in percent!), while the measurement is running.
The attached SPECTRAN® screenshot demonstrates how it works: At the push of a button, the ICNIRP exposure limit has been chosen among the various available exposure limits. SPECTRAN® now automatically calculates convergence or excess of this limit. For achieving this, often thousands of complex calculations have to be performed per second, and a steady scan of the entire frequency range needs to be performed. A true nightmare for every processor. In our test case, the graphic display shows an approximation towards the ICNIRP limit by 6,06%. If you use a NF-5030 you can even cover the total ICNIRP-banwidth (depending on frequency). Hence, even the novice can perform exposure limit calculations ACCORDING TO STANDARDS without having to use complex tables and calculators.

Graphic display of frequency-dependant exposure limits.

SPECTRAN® displays exposure limits both as percentage as well as a bargraph display.

INCLUDED WITH DELIVERY

◆ RF spectrum analyzer SPECTRAN HF-2025E
◆ HyperLOG 7025 EMC/directional antenna
◆ 1300mAh power battery with charger
◆ Pistol grip with miniature tripod mode
◆ SMA toolset
◆ SMA adapter
◆ 1m SMA cable
◆ Sturdy aluminum-design carrycase (with custom padding!)
◆ Exhaustive manual with lots of basic information, hints and exposure limit tables

The included Transportcase

SPECTRAN® HF (RF) Spectrum Analyser

APPLICATION EXAMPLES: Measurement of (active) radar, mobile communications, mobile phones, UMTS, DECT phones, transmission towers, WLan, Wifi, Bluetooth, microwaves etc.

Specifications base unit[1]	Entrance HF-2025E	Intermediate HF-4040	Professional HF-6060V4	Professional HF-6080V4	Professional HF-60100V4	Outdoor HF-XFR
Frequency Range (min)	700MHz	100MHz	10MHz	10MHz	1MHz	1MHz
Frequency Rance (max)	2,5GHz	4GHz	6GHz	8GHz	9,4GHz	9,4GHz
Optional PEAK Power-Detector (Maximum usable frequency)[3]	2,5GHz	4GHz	6GHz	8GHz	10GHz	10GHz
DANL (Displayed Average Noise Level)[2]	-80dBm	-90dBm	-135dBm(1Hz)	-145dBm(1Hz)	-155dBm(1Hz)	-155dBm(1Hz)
DANL (Displayed Average Noise Level) with Preamp (Option 020)[2]	-	-	-150dBm(1Hz)	-160dBm(1Hz)	-170dBm(1Hz)	-170dBm(1Hz)
Max Power at RF input	0dBm	0dBm	+10dBm	+10dBm	+40dBm[2]	+40dBm[2]
RBW (resolution bandwidth) (min)	1MHz	100kHz	10kHz	3kHz	200Hz[2]	200Hz[2]
RBW (resolution bandwidth) (max)	50MHz	50MHz	50MHz	50MHz	50MHz	50MHz
EMC-Filter 200Hz, 9kHz, 120kHz, 200kHz, 1,5MHz, 5MHz	-	-	-	-	✓	✓
Demodulator	AM	AM/FM	AM/FM	AM/FM/PM	AM/FM/FM/GSM	AM/FM/FM/GSM
Detector	RMS	RMS	RMS/MinMax	RMS/MinMax	RMS/MinMax	RMS/MinMax
Units dBm, dBµV, V/m, A/m, W/m² (dBµV/m etc. via PC software)	✓	✓	✓	✓	✓	✓
Internal Datalogger (size). Expandable to 1MB (option 001)	-	64K	64K	64K	64K	harddisk
Lowest SampleTime	100mS	100mS	10mS	10mS	5mS	5mS
Accuracy (typical)	+/-4dB	+/-3dB	+/-2dB	+/-2dB	+/-1dB	+/-1dB
Highlights						
Real-time remote control via USB	✓	✓	✓	✓	✓	internal
Calibration setup (antenna, cable, attenuator etc.)	✓	✓	✓	✓	✓	✓
Exposure limit calculation according to ICNIRP, EN55011, EN55022 etc.	ICNIRP only	ICNIRP only	ICNIRP only	ICNIRP only	✓	✓
Extended full ICNIRP range	-	-	-	-	✓	✓
Suitable for pre-compliance test	-	-	-	-	✓	✓
Realtime limit calculation with simultaneous percentage display	-	✓	✓	✓	✓	Analyzer sw
Time-Domain and fast Zero-Span sweep	-	-	✓	✓	✓	✓
Vector power measurement (I/Q) and True RMS	-	✓	✓	✓	✓	✓
Simultaneously displays frequency and signal strength	✓	✓	✓	✓	✓	Analyzer sw
Up to 3 marker (showing both frequency and field strength)	-	✓	✓	✓	✓	unlimited
Jog Dial controlled manual marker readout	-	✓	✓	✓	✓	key & touchpad
Write, AVG and Hold function	no AVG	no AVG	✓	✓	✓	& Min, Max
DECT and TimeSlot Analyzer	✓	✓	✓	✓	✓	✓
Audio Level Indicator (changes audio frequency vs power level)	-	-	✓	✓	✓	-
Free of charge firmware update (via Intenet)	✓	✓	✓	✓	✓	✓
Supports programming of custom P-Code & C++ based custom software	-	✓	✓	✓	✓	✓
14Bit Dual-ADC & DDC Hardware-Filter	-	-	✓	✓	✓	✓
150MIPS high performance DSP (Digital Signal Processor)	-	-	✓	✓	✓	✓
Large high resolution multifunctional LCD (95mm)	✓	✓	✓	✓	✓	14" TFT
Spectrum display (51x25 pixel)	✓	✓	✓	✓	✓	Analyzer sw
High resolution 50 segment bargraph (trend display)	✓	✓	✓	✓	✓	Analyzer sw
Enhanced, much sharper Aaronia LCD display (3d generation)	-	-	✓	✓	✓	14" TFT
Integrated battery charger (supports our optional LiPo battery)	✓	✓	✓	✓	✓	XFR charger
Internal speaker	Piezo	✓	✓	✓	✓	✓

HF-2025E   HF-4040   HF-6060 V4   HF-6080 V4   HF-60100 V4   HF-XFR

Specifications subject to change without further notice, errors excepted. Subject to our most current terms and conditions.

SPECTRAN® HF (RF) Spectrum Analyser

APPLICATION EXAMPLES: Measurement of (active) radar, mobile communications, mobile phones, UMTS, DECT phones, transmission towers, WLan, Wifi, Bluetooth, microwaves etc.

AARONIA AG
WWW.AARONIA.DE

	Entrance	Intermediate	Professional			Outdoor
Connectors / Interface	HF-2025E	HF-4040	HF-6060V4	HF-6080V4	HF-60100V4	HF-XFR
USB 1.1/2.0	✓	✓	✓	✓	✓	2x
Audio output (2,5mm jack)	✓	✓	✓	✓	✓	3,5mm jack
Charger plug (max. 12V)	✓	✓	✓	✓	✓	✓
50Ohm SMA input (f)	✓	✓	✓	✓	✓	✓
Jog Dial (easy usage of menu operation and volume control)	-	✓	✓	✓	✓	key & touchpad
1/4" tripod connector	✓	✓	✓	✓	✓	in-Vehicle docking
Included In Delivery						
OmniLOG 90200 Antenna	-	-	-	-	-	✓
HyperLOG EMC directional LogPer antenna (model)	7025	7040	7060	6080	60100	60100 (black)
SPECTRAN 1300mAh rechargable battery (integrated)	✓	✓	✓	✓	✓	6 cell battery
Battery charger and power supply incl. international adapter sit	✓	✓	✓	✓	✓	no adapter set
Aluminum carrying case with foam protection	✓	✓	✓	✓	✓	-
Detailed English manual (on CD)	✓	✓	✓	✓	✓	installed
Analyzer Software for MAC-OS, Linux and Windows (on CD)	✓	✓	✓	✓	✓	installed
SMA tool	✓	✓	✓	✓	✓	✓
SMA adapter	✓	✓	✓	✓	✓	-
Available Options (extra charge)						
Option 001 (1MB memory expansion)	-	✓	✓	✓	✓	harddisk
Option 002 (high accurate 0,5ppm TCXO timebase)	-	-	-	-	✓	installed
Option 020 (15dB internal low noise preamplifier, switchable)	-	-	✓	✓	✓	installed
Option 20x (Real-time Broadband Peak Power Meter)	✓					✓
Option UBBV1 (40dB external preamplifier 1MHz-1GHz)	-	-	✓	✓	✓	✓
Option UBBV2 (40dB external preamplifier DC-8GHz)	-	-	✓	✓	✓	✓
Optional Accessories						
USB Cable (special EMC screened version)	✓	✓	✓	✓	✓	installed
3000mAh Lithium Polymer (LiPo) Power-Battery	✓	✓	✓	✓	✓	-
Car Power Adapter (operate or charge via cigarette lighter)	✓	✓	✓	✓	✓	-
Outdoor Rubber Protection (perfect for outdoor usage)	✓	✓	✓	✓	✓	-
Pistol Grip / Miniature Tripod	✓	✓	✓	✓	✓	-
Heavy Multifunctional Pistol Grip	✓	✓	✓	✓	✓	-
Aluminum Tripod (big version)	✓	✓	✓	✓	✓	-
DC-Blocker (protects the input against DC voltage)	✓	✓	✓	✓	✓	✓
20dB Attenuator (expands the measurement range by 20dB)	✓	✓	✓	✓	✓	✓
PBS1 Near Field Probe Set (passive)	-	-	-	-	✓	✓
PBS2 Near Field Probe Set (active, incl. UBBV2 preamplifier)	-	-	-	-	✓	✓
ADP1 Active Differential Probe (conductive measurement)	-	-	-	-	✓	✓
5m or 10m low loss SMA Cable	✓	✓	✓	✓	✓	✓
Calibration Resistor (needed for noise floor calibration, SMA)	-	-	✓	✓	✓	✓
Calibration Certificate	✓	✓	✓	✓	✓	✓
Heavy Plastic Carrying Case	✓	✓	✓	✓	✓	-

(1) The new V5 real-time spectrum analyser generation up to 80GHz is already in development. Please contact us for further details!
Preliminary specifications dated 01.03.2013. The V4 and XFR series are available with latest Beta firmware. The Beta firmware is constantly in development. Some functionality may still be limited and not fully to specifications (Beta status). By regularly checking our homepage for updates, you can always keep your measurement device up-to-date. As soon as V1.0 of the firmware is released, all functionality and features will be fully available. Range, sensitivity and accuracy can change depending on frequency, setup, antenna and used parameters. Precision datas are based on Aaronias calibration-reference under specific test conditions. Unless otherwise stated, these specifications are according to the following reference conditions: Ambient temperature 22±3°C, relative air humidity 40% to 60%, continuous wave signal (CW), RMS detection. V4 and XFR DANL @3,6009GHz. Maximum sensitivity of Rev.3 units: -90dBm @2,2GHz.
(2) Standard: +20dBm. Only with optional 20dB attenuator +40dBm. Standard: 1kHz. Only with option 002 down to 200Hz.
(3) Depending on frequency the option 20x offers a sensetivity down to -50dBm and max. +10dBm, with optional 20dB attenuator +30dBm.

HF-2025E   HF-4040   HF-6060 V4   HF-6080 V4   HF-60100 V4   HF-XFR

Specifications subject to change without further notice, errors excepted. Subject to our most current terms and conditions.

Recommended accessories for Aaronia Spectrum Analyzer

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 (esp. for directional measurement) and even fixed installation of the unit. STRONGLY recommended for PC use!

Order/Art.-No.: 280

Aluminum 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)

To connect your Spectran to the PC. Special version with high performance EMC-ferrite. STRONGLY recommended for PC use!

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. Available as 1m, 5m and 10m Cable. All versions: SMA plug (male) / SMA plug (male).

3000mAh LiPo Power-Battery

Offers a MUCH higher runtime of your SPECTRAN (up to 400%). Strongly recommended for autonomic measurement! The 1300mAh standard-battery will be replaced.

Order/Art.-No.: 254

Car power adapter for mobile use

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

Order/Art.-No.: 260

Protection rubber

Protect and personalize your SPECTRAN with a sturdy rubber case and keep it scratch-n-dent free. Allows full access to all functions.

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 noise-floor of each Spectran V4-Analyzer.

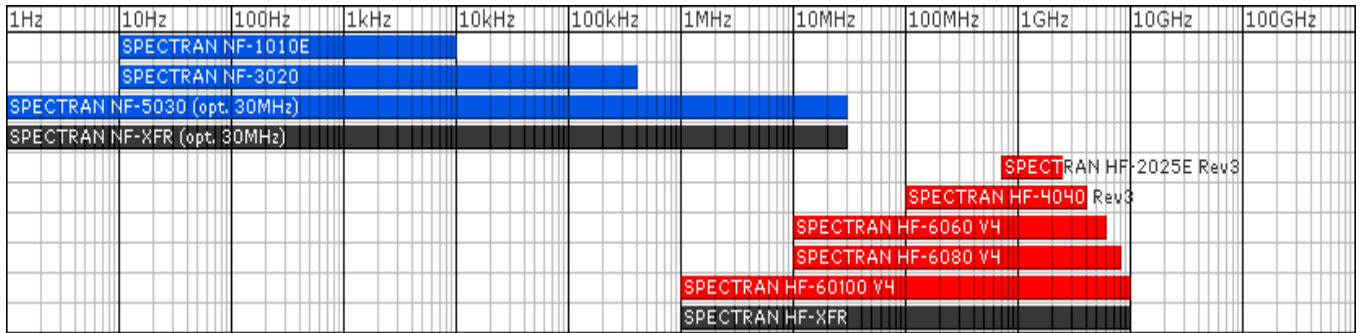*Order/Art.-No.: 779*

20dB SMA high-end Attenuator

Expands the measurement range to +40dBm. (ONLY SPECTRAN HF-60100 V4 and HF-XFR).
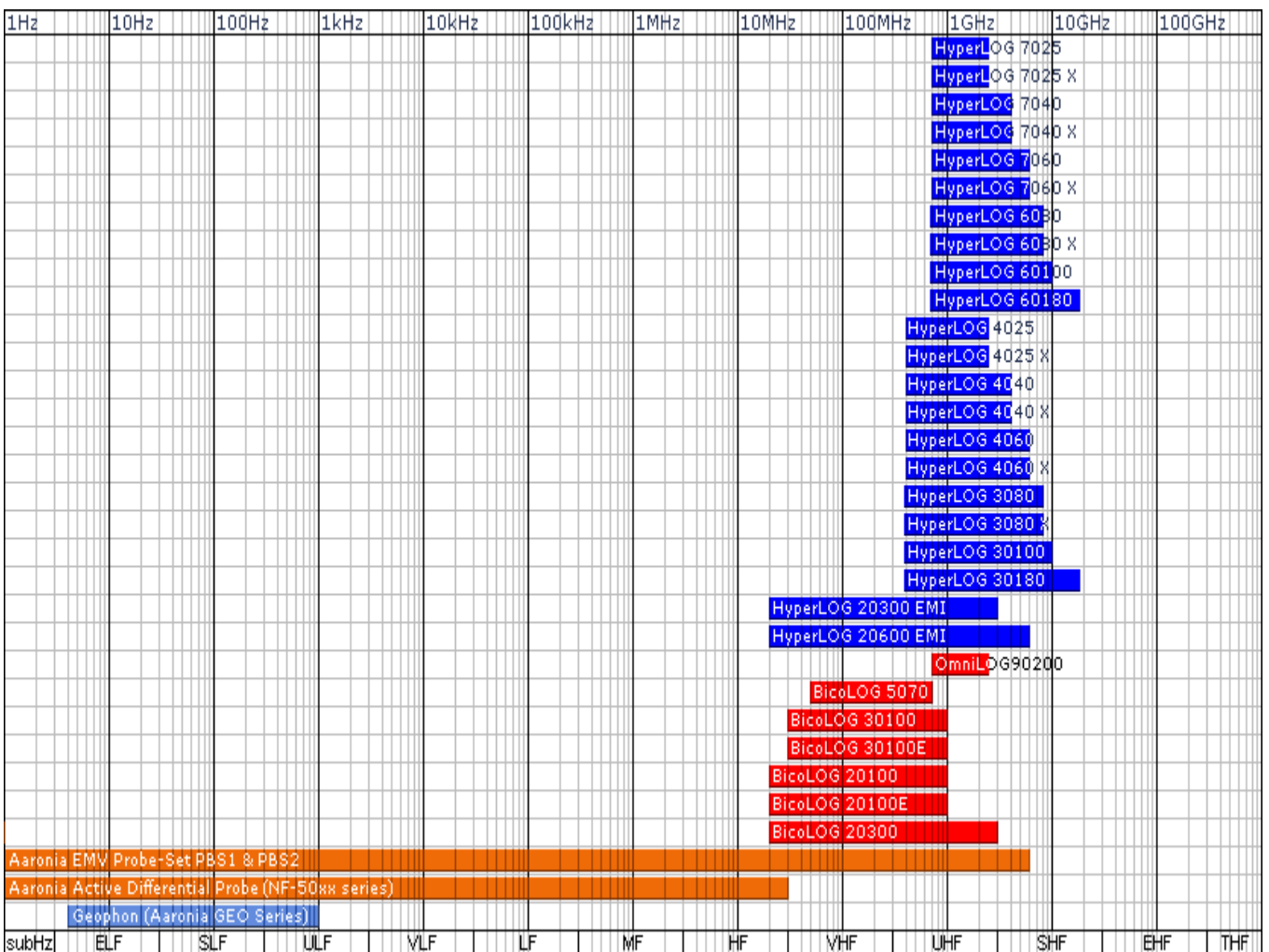
Order/Art.-No.: 775

Frequency overview Analyzer & Antennas

Frequency Overview SPECTRAN Spectrum Analyzer

1Hz	10Hz	100Hz	1kHz	10kHz	100kHz	1MHz	10MHz	100MHz	1GHz	10GHz	100GHz

- SPECTRAN NF-1010E
- SPECTRAN NF-3020
- SPECTRAN NF-5030 (opt. 30MHz)
- SPECTRAN NF-XFR (opt. 30MHz)
- SPECTRAN HF-2025E Rev3
- SPECTRAN HF-4040 Rev3
- SPECTRAN HF-6060 V4
- SPECTRAN HF-6080 V4
- SPECTRAN HF-60100 V4
- SPECTRAN HF-XFR

Frequency Overview HyperLOG and BicoLOG Antennas and Probes

1Hz	10Hz	100Hz	1kHz	10kHz	100kHz	1MHz	10MHz	100MHz	1GHz	10GHz	100GHz

- HyperLOG 7025
- HyperLOG 7025 X
- HyperLOG 7040
- HyperLOG 7040 X
- HyperLOG 7060
- HyperLOG 7060 X
- HyperLOG 6080
- HyperLOG 6080 X
- HyperLOG 60100
- HyperLOG 60180
- HyperLOG 4025
- HyperLOG 4025 X
- HyperLOG 4040
- HyperLOG 4040 X
- HyperLOG 4060
- HyperLOG 4060 X
- HyperLOG 3080
- HyperLOG 3080 X
- HyperLOG 30100
- HyperLOG 30180
- HyperLOG 20300 EMI
- HyperLOG 20600 EMI
- OmniLOG90200
- BicoLOG 5070
- BicoLOG 30100
- BicoLOG 30100E
- BicoLOG 20100
- BicoLOG 20100E
- BicoLOG 20300
- Aaronia EMV Probe-Set PBS1 & PBS2
- Aaronia Active Differential Probe (NF-50xx series)
- Geophon (Aaronia GEO Series)

subHz	ELF	SLF	ULF	VLF	LF	MF	HF	VHF	UHF	SHF	EHF	THF

References

User of Aaronia Antennas and Spectrum Analyzers (Examples)

Government, Military, Aeronautic, Astronautic

- NATO, Belgium
- Boeing, USA
- Airbus, Germany
- Bund (Bundeswehr), Germany
- Bundeswehr (Technische Aufklärung), Germany
- Lufthansa, Germany
- DLR (Deutsches Zentrum für Luft- und Raumfahrt,Germany
- Eurocontrol (Flugüberwachung), Belgium
- Australian Government Department of Defence, Australia
- EADS (European Aeronautic Defence & Space Company) GmbH, Germany
- Institut für Luft- und Raumfahrtmedizin, Germany
- Deutscher Wetterdienst, Germany
- Polizeipräsidium, Germany
- Landesamt für Umweltschutz Sachsen-Anhalt, Germany
- Zentrale Polizeitechnische Dienste, Germany
- Bundesamt für Verfassungsschutz, Germany
- BEV (Bundesamt für Eich- und Vermessungswesen)

Research/Development, Science and Universitys

- Deutsches Forschungszentrum für Künstliche Intelligenz, Germany
- University Freiburg, Germany
- Indonesien Institute of Sience, Indonesia
- Max-Planck-Institut für Polymerforschung, Germany
- Los Alamos National Labratory, USA
- University of Bahrain, Bahrain
- University of Florida, USA
- University Erlangen, Germany
- University Hannover, Germany
- University of Newcastle, United Kingdom
- University Strasbourg, France
- Universität Frankfurt, Germany
- University Munich, Germany
- Technical University Hamburg, Germany
- Max-Planck Institut für Radioastronomie, Germany
- Max-Planck-Institut für Quantenoptik, Germany
- Max-Planck-Institut für Kernphysik, Germany
- Max-Planck-Institut für Eisenforschung, Germany
- Forschungszentrum Karlsruhe, Germany

Industry

- Shell Oil Company, USA
- ATI, USA
- Fedex, USA
- Walt Disney, Kalifornien, USA
- Agilent Technologies Co. Ltd., China
- Motorola, Brazil
- IBM, Switzerland
- Audi AG, Germany
- BMW, Germany
- Daimler Chrysler AG, Germany
- BASF, Germany
- Deutsche Bahn, Germany
- Deutsche Telekom, Germany
- Siemens AG, Germany
- Rohde & Schwarz, Germany
- Infineon, Austria
- Philips Technologie GmbH, Germany
- ThyssenKrupp, Germany
- EnBW, Germany
- RTL Television, Germany
- Pro Sieben – SAT 1, Germany
- Channel 6, United Kingdom
- WDR, Germany
- NDR, Germany
- SWR, Germany
- Bayerischer Rundfunk, Germany
- Carl-Zeiss-Jena GmbH, Germany
- Anritsu GmbH, Germany
- Hewlett Packard, Germany
- Robert Bosch GmbH, Germany
- Mercedes Benz, Austria
- EnBW Kernkraftwerk GmbH, Germany
- AMD, Germany
- Infineon Technologies, Germany
- Intel GmbH, Germany
- Philips Semiconductors, Germany
- Hyundai Europe, Germany
- Saarschmiede GmbH, Germany
- Wilkinson Sword, Germany
- IBM Deutschland, Germany
- Vattenfall, Germany
- Fraport, Germany

Aaronia Distributors

USA

Aaronia USA, 651 Amberton Crossing
Suwanee, Georgia 30024 USA
Phone: +1 678 714 2058
Fax: +1 678 714 2092
Email: sales@aaroniausa.com
URL: www.aaroniaUSA.com

China

Aaronia China, 3BRM, RD FL Luhua Technology Bldg,
Guangxia Road 7, Futian, 518049 Shenzhen, China
Phone: +86 755 888 580 86
Fax: +86 755 830 73 418
Email: mail@aaronia-china.com
URL: www.aaronia-china.com

Russia

Testpribor
Fabriciusa St. 30 Moscow 125363 Russia
Phone: +7 495 225 67 37
Fax: +7 495 657 87 37
Email: testpribor@test-expert.ru
URL: www.test-expert.ru

India

Aimil Ltd, B-906, BSEL Tech Park, Opp. Vashi
Rly Stn, 400705 Vashi, Navi Mumbai, India
Phone: +91 22 3918 3554
Fax: +91 22 3918 3562
Email: narayanedke@aimil.com
URL: www.aimil.com

Greece

VECTOR Technologies Ltd
40 Diogenous str., 15234 Halandri, Greece
Phone: +30 210 685 8008
Fax: +30 210 6858 8118
Email: info@vectortechnologies.gr
URL: www.vectortechnologies.gr

Turkey

EgeRate Elektronic Muh. ve Tic. Ltd. Sti Perpa Ticaret
Merkezi, A Blok Kat: 5 No: 141, Sisli / Istanbul, Turkey
Phone: +90 212 220 3483
Fax: +90 212 220 7635
Email: info@egerate.com
URL: www.egerate-store.com

Taiwan

E-Instrument Tech Ltd., No. 16, Lane 37
Guanye E. Riad, Pingchen City,
324587 Taoyuan County, Taiwan
Phone: +886 3 4576 809
Fax: +886 3 468 8611
Email: sales@e-channel.com.tw
URL: www.e-channel.com.tw
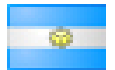
Argentina

EKKON SA, Paraná 350, Capital Federal,
1017 Buenos Aires, Argentina
Phone: + 54 114 123 009 1
Fax: +54 114 372 324 4
Email: info@aaronia-argentina.com.ar
URL: www.aaronia-argentina.com.ar

Israel

RDT Equipment and Systems Ltd
5 Ha`Arad St., IL-69710 Tel Aviv, Israel
Phone: +972 3 6450 780
Email: info-rdtest@rdt.co.il
URL: www.rdtest.co.il

Serbia

Tagor Electronic doo
Tihomira Brankovica 21,
18000 Nis, Serbia
Phone: +381 18 575 545
Fax: +381 18 217 125
Email: miodrag.stojilkovic@tagor.rs
URL: www.tagor-instrumenti.rs

Iran

International Rayan Nik
Unit 1, No. 25, Nahal Alley, Kanoon St., Kashani
Ave, P.O.Box 14875-148, Tehran, Iran
Phone: +98 21 4433 8882
Fax: +98 21 4433 8883
Email: info@rayannik.com
URL: www.rayannik.com

AARONIA AG
WWW.AARONIA.DE

Made in Germany

| Spectran® | HyperLOG® | BicoLOG® | OmniLOG® | Aaronia-Shield® | Aaronia X-Dream® | MagnoShield® | IsoLOG® |

are registered trademarks of Aaronia AG