

AARONIA TEST & MEASUREMENT EQUIPMENT



SPECTRUM ANALYZERS / 1Hz to 20GHz / Handheld, USB, Remote . . .



ANTENNAS / DC to 40GHz / Isotropic, Log-Periodic, Horn, Biconical . . .



SOLUTIONS / Drone Detection System, Shielding Materials, Pre-amps . . .



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MADE IN GERMANY



SPECTRAN V5 SERIES

REAL-TIME SPECTRUM ANALYZER

1Hz-20GHz | 350MHz RTBW

THE NEW STATE OF THE ART

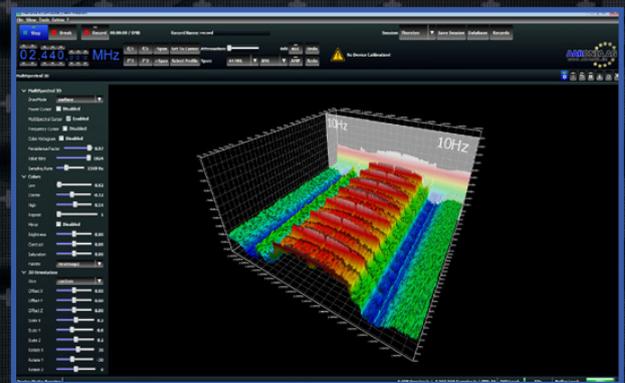
Aaronia presents the SPECTRAN V5 series, real-time spectrum analyzers designed to capture even the shortest signal transmissions. The SPECTRAN V5 is the culmination of Aaronia's efforts in building the spectrum analyzer with best price-performance ratio on the market. It scans 20GHz in less than 20 milliseconds, which is an astonishing speed of 1000GHz per second.

With this spectrum analyzer you can master all the challenges. Whether it is for spectrum monitoring, RF and microwave measurements or Interference hunting, EMC testing, Wi-Fi and wireless network measurements, RF surveillance and counter-surveillance measurements, the SPECTRAN V5 is always the ideal spectrum analyzer for making fast and reliable measurements.

A weight of just 850g e.g. predestines the V5 Handheld for measurements in the field yet it can also be used in the lab. The included PC analysis software RTSA Suite transforms each V5 into fully-featured benchtop spectrum analyzers.



aaronia.com/v5-series



FAST, FASTER, V5

With more than 100 million samples per second the V5 sets itself worlds apart from any comparable real-time spectrum analyzer.

The V5 offers a real-time bandwidth up to 350MHz, combined with affordable prices and intuitive hardware and software layout.

The real-time streaming function is another special feature of the SPECTRAN V5. Contrary to existing real-time spectrum analyzers, which do not allow uninterrupted data logging, the V5 can stream data continuously and save them gap-free with unlimited length. Recordings of hours, days or even months can be stored and post-processed.

A variety of more advanced software-evaluation and analysis-options are currently under development and these will be available for retrofit when requested (e.g. GSM decoder).

Available in 7 different versions (see next page) the V5 offers a solution for almost every RF and microwave application.



SPECTRAN V5 HANDHELD

1Hz to 20GHz, Only 850 grams, Incl. PC Software

World's first real-time handheld spectrum analyzer! The SPECTRAN V5 Handheld offers up to 175MHz real-time bandwidth, a POI below 1 μ S, an ultra fast sweep mode and unlimited recording time if used with the included PC software „RTSA Suite“. Ultimate performance in a small form factor.

SPECTRAN V5 X

USB Version, Fanless cooling, Unlimited Recording

Real-time USB spectrum analyzer with a very fast sweep mode. It scans 20GHz in less than 20mS, world-record for USB spectrum analyzers. Optionally upgradeable with an I/Q Generator (6GHz) and a Power Meter (40GHz). Available in 4 different versions, covering 1Hz to 20GHz.



SPECTRAN V5 RSA

19" Rack mount, 1Hz to 20GHz, Remote Controllable

A rack-mountable 19" version of the SPECTRAN V5 with an integrated PC and up to 16TB SSD. Includes remote recording and streaming software. The V5 RSA eliminates trips to difficult locations by allowing the transfer of data via TCP/IP.



SPECTRAN V5 XFR PRO

Powerful Military Standard (IP65) Analyzer, 1Hz to 20GHz

Ultra robust spectrum analyzer for use under extreme conditions. The V5 XFR PRO offers unrivaled hardware power and is tested to military standards. The very bright touchscreen and 4TB SSD predestine this analyzer for mobile use. It's the perfect choice for counter-surveillance measurements.



SPECTRAN V5 OEM

For Custom System Integration, Including Powerful API

OEM version of the SPECTRAN V5. Designed for integration into existing systems, the V5 OEM comes with API and offers the smallest available form factor. The low weight and optional internal battery even allows to use the OEM in planes or UAVs.

SPECTRAN V5 COMMAND CENTER

The Ultimate RF Surveillance Machine with 350 MHz RTBW

Aaronia's high-end RF „Battleship“ with up to 2x internal receivers and 350MHz real-time bandwidth. Most powerful spectrum analyzer version which overcomes any measurement challenge. The Command Center is highly portable and comes with triple UHD-screen and optional 128TB SSD.



SPECTRAN V5 ODB

Weatherproof, Remote Controllable, Unlimited Streaming

Outdoor mountable, weatherproof and remotely controllable version of the SPECTRAN V5. The ODB has a passive fan-less cooling and supports a temperature range from -40°C to +60°C. It offers up to 4 RF inputs, 1Hz to 20GHz frequency coverage and remote recording and streaming software.





SPECTRAN V4 / NF / V3 SERIES

SWEEP SPECTRUM ANALYZER

1Hz - 9,4GHz

AFFORDABLE ANALYZERS

The SPECTRAN was designed for a very wide range of customers where portability, mobility, low weight and dimensions as well as the price are important. This includes areas such as installation of mobile communication, maintenance, service and EMC / field strength measurements for users in laboratories, universities, military and the industry sector.

Frequency Range 1Hz - 9,4GHz

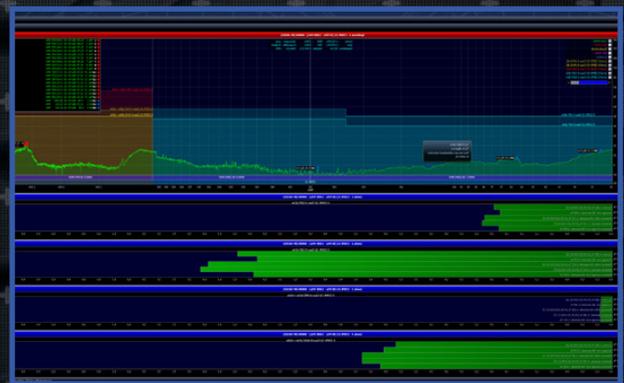
-170dBm/Hz Sensitivity (with Amp)

Low Cost, Prices from 500€ up

Incl. PC Software (Win/Mac/Linux)

Large Selection of Types & Options

Including Antenna up to 10GHz



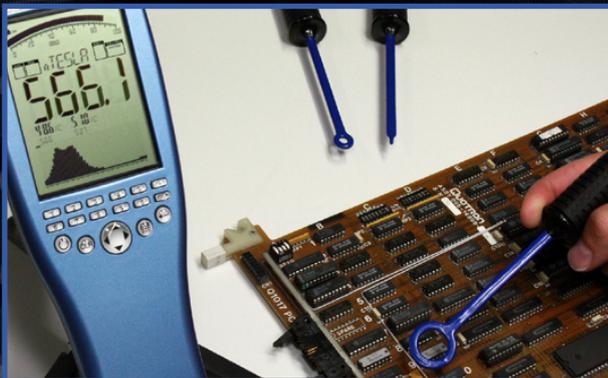
MADE IN GERMANY

Based on a completely new patented method of spectrum analysis, the Aaronia SPECTRAN V4 / NF / V3 spectrum analyzers offer RF, EMF and EMC measurements at a spectacular price. The SPECTRAN analyzers have an extremely compact design and incredibly high sensitivity (HF-60100 V4 up to -170dBm/1Hz).

The detection of interference sources, the determination of frequency and signal strength as well as the evaluation of even the most complex limits is possible when using Aaronia spectrum analyzers.

All SPECTRAN spectrum analyzers are developed, individually manufactured and calibrated in Germany, guaranteeing highest quality standards.

Aaronia offers a 10 years warranty for all SPECTRAN V4 / NF / V3 spectrum analyzers.



aaronia.com/v4-series



SPECTRAN V4 / V3 / NF HANDHELD

Compact and Lightweight, Measurements in the Field

The popular SPECTRAN Handheld spectrum analyzers have become an industry standard - affordable, portable and used by engineers, students, researchers, authorities and hobbyists alike. Covering 1Hz to 9,4GHz, with prices between 500,- and 2000,- €, the SPECTRAN is a perfect fit for small budgets.

SPECTRAN V4 / NF X

Passive Cooling, Simple, Elegant Design

The USB versions of the above Handhelds. Controlled via PC, these USB analyzers are shipped with PC Software for Windows, MAC OS and Linux. The high-quality aluminum housing offers passive cooling, without fans. Available in 4 versions these analyzers cover a frequency range up to 9,4GHz.



SPECTRAN V4 / NF RSA

For 19" Racks, 1 Height Unit, Remote Controllable

Full remote control from any location and the continuous streaming of any spectrum of interest are the main advantages of the SPECTRAN RSA series. These 19" rack-mountable analyzers (1 height unit only) eliminate trips to difficult locations and allow the monitoring of multiple sites.

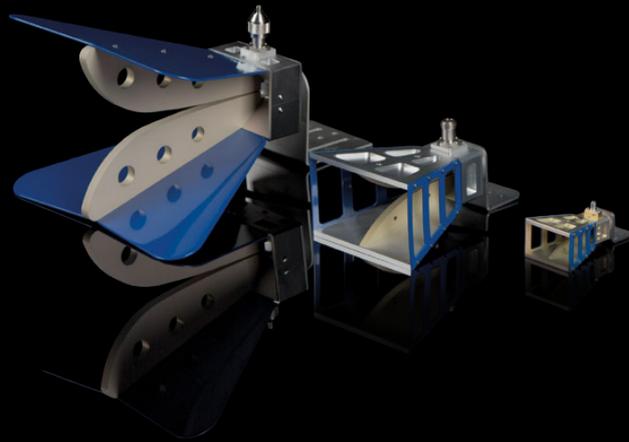
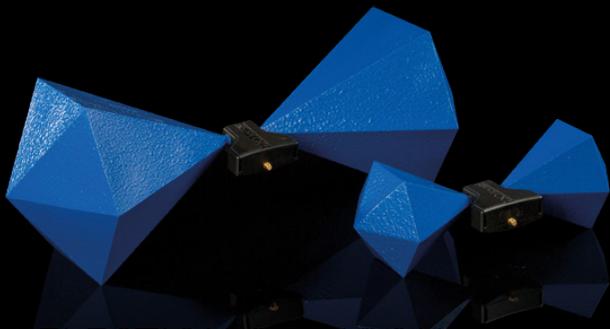


SPECTRAN V4 / NF XFR

Powerful Rugged Military Standard (IP65) Analyzers

Ultra robust outdoor spectrum analyzers for use under extreme conditions. The XFR series is tested to military standards and provides a powerful, extremely impact resistant outdoor notebook, as well as a high-end spectrum analyzer, in one compact device. Frequency coverage is 1Hz to 9,4GHz.





SELECTION OF AARONIA ANTENNAS

DC - 40GHz

FOR EVERY APPLICATION

Aaronia antennas and probes offer an exceptional mix of performance, functionality and design, formerly unknown in this price category.

Together with Aaronia antennas, any regular spectrum analyzer becomes a professional RF or EMC measurement device.

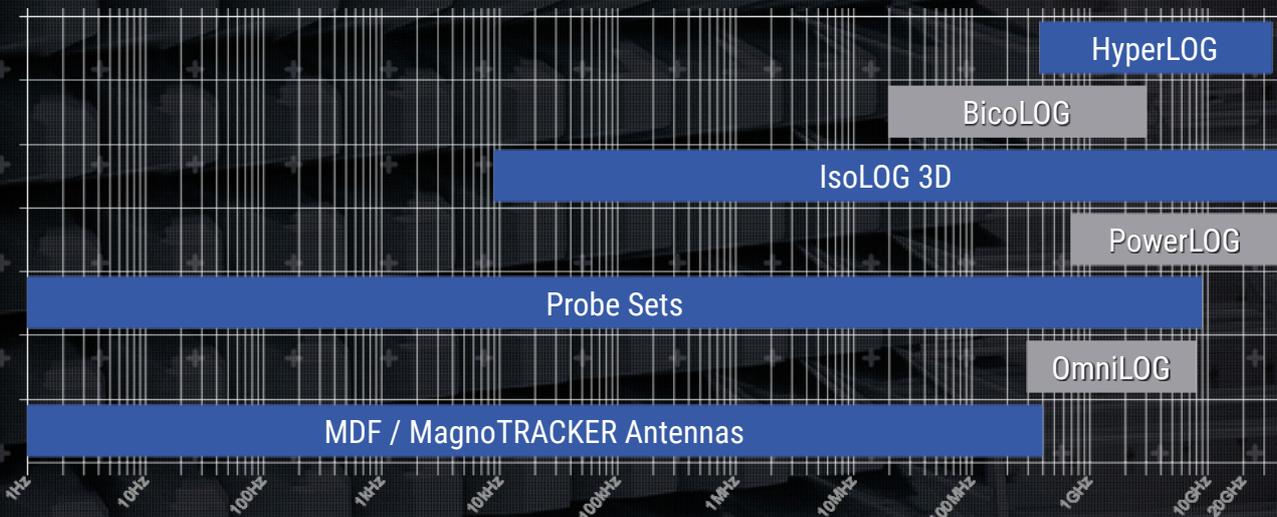
With hundreds of different versions any RF, EMC or microwave challenge up to 40GHz can be mastered.

Exhaustive calibration data is included in the delivery for almost all of the supplied Antennas, which offers the ability to make very accurate EMC measurements with any Spectrum Analyzer.



MADE IN GERMANY

All Aaronia antennas are developed, individually produced and calibrated at the Aaronia headquarter in Germany. This guarantees highest standards, resulting in a full 10 year warranty for all antennas & probes.



aaronia.com/antennas



LOGPER ANTENNAS

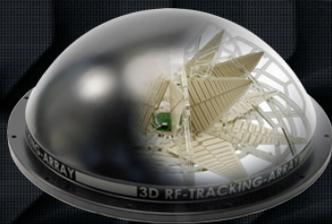
20MHz to 35GHz, Gain up to 45dBi, Active and Passive

The HyperLOGs are Aaronia's worldwide well-known series of high-quality log-periodic antennas, with extended frequency coverage up to 35GHz. An unbeatable frequency coverage, combined with high directionality and gain are the key factors of the success of these antennas.

BICONICAL ANTENNAS

20MHz to 3GHz, Active and Passive, up to 40dBi Gain

Available as active or passive versions the BicoLOG is the answer whenever a biconical antenna is required. Calibrated from 20MHz to 3GHz it transforms every regular spectrum analyzer into an EMC measurement receiver for pre-compliance EMC tests.



3D / ISOTROPIC ANTENNAS

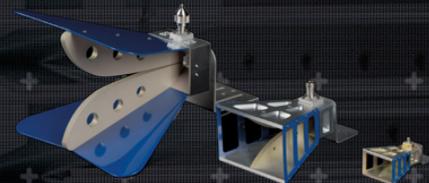
9kHz to 40GHz, DF Arrays and Portable EMF Antennas

New and unique is Aaronia's IsoLOG 3D series. The antenna array IsoLOG 3D covers 9kHz to 40GHz and allows direction finding with ultra high accuracy. On the other hand the IsoLOG 3D mobile covers 9kHz to 6GHz and is used for 3D EMF measurements. Both are compatible with any analyzer.

HORN ANTENNAS

700MHz to 40GHz, Ultra High Gain, 500W Input Power

Very high input power up to 500W and gain up to 20dBi, these are the key figures of the PowerLOG series. These horn antennas come with specific, detailed calibration data and can be used for pre- and full-compliance EMC tests, radiated emission testing or signal transmitting.



NEAR-FIELD PROBES

DC - 9GHz, 4x H-field & 1x E-Field Probe, Active & Passive

The Aaronia probe set fits to any spectrum analyzer and allows straightforward pinpointing and measurement of interference sources from DC to 9GHz. Incl. converter app, calibration data, 40dB pre-amp and 1m cable. Perfect for pre-compliance tests according to e.g. EN55011, CISPR etc.

OMNI-DIRECTIONAL ANTENNAS

300MHz to 8GHz, Small and Lightweight

Aaronia OmniLOG antennas are specially developed as small and compact, yet broadband omni-directional antennas. Despite the small size they cover a large frequency range from 300MHz to 8GHz, with a constant gain. Perfect for the every-day mobile use.



MAGNETIC ANTENNAS

1Hz to 400MHz, Extremely Directional with High Gain

Based on a patented production process the new MDF and MagnoTRACKER antennas offer stunning performance in the low frequency range down to 1Hz. Built-in amplifiers, extremely high directionality with 1° accuracy and phenomenal gain are the main advantages of these unique antennas.



ISOLOG 3D MOBILE

ISOTROPIC ANTENNA

9kHz - 6GHz

HIGHLIGHTS

Handheld Isotropic Antenna

9kHz to 6GHz Frequency Range

Suitable for any Spectrum Analyzer

High Gain and Low Noise

Built-in Bypass Preamp

Manual or Automatic Axis Switch

Battery or DC Powered

3D RF TESTING AT ITS BEST

The new IsoLOG 3D Mobile, Aaronia's latest development, is an ultra light and small isotropic antenna which is compatible to any spectrum analyzer. It just works on the fly and is a perfect plug and play solution for 3D measurements in limited time frames.

The antenna requires no software installation, no power connection and no hardware changes. It is connectable via the N (male) connector to any analyzer or oscilloscope.

The IsoLOG 3D Mobile covers a frequency range from 9kHz up to 6GHz.

HARDWARE

Each IsoLOG 3D Mobile includes an internal, rechargeable battery, offering a run-time of 6 hours, and a switchable low noise bypass preamplifier.

The integrated amp allows measurements of very low-powered signals. Thus, used in bypass mode, the antenna is still usable for high field-strengths.

The control of the antenna is done via USB or via manual antenna selection mode, requiring no USB connection.

Aaronia also integrated an ultra fast adjustable „chopper“ function. Using special, glitch free RF switches this feature offers an automatic endless antenna rotation/selection with a switching duration of up to 50kHz. This feature transforms the IsoLOG 3D Mobile into a fully functional 3D antenna without the need of any USB software control.

Shipped in a waterproof transport-case, accompanied with a pistol grip with tripod functionality, the scope of delivery leaves nothing to be desired.

aaronia.com/iso3d-m





BPSG AND UBBV

GENERATORS AND PREAMPS

DC - 20GHz

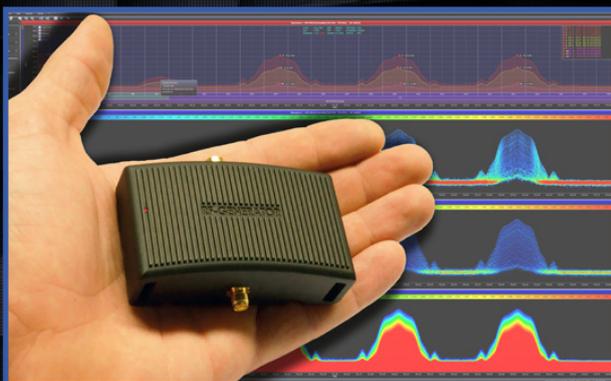
HIGH PERFORMANCE...

Aaronia presents the new, battery-powered signal generators and pre-amplifiers of the BPSG and UBBV series.

The BPSG generators offer precision generated RF signals for the testing of EMC-shielding and EMI/RFI measurements. Available in 4 different versions the generators cover frequency ranges from 23,5MHz up to 6GHz.

The UBBV pre-amplifiers are portable amps which work with any brand of spectrum analyzer, but are also designed to mount directly to our Aaronia SPECTRAN Handheld models for complete integrated operation. Eight different models cover DC to 20GHz and offer up to 40dB gain, available with and without bypass options.

With the very compact dimensions of just 80x50x30 mm and weighing only 150 grams, the UBBV and BPSG series are predestined for mobile use and fit in every pocket. The compact form factor makes them the world's smallest, battery-powered RF generators and pre-amplifiers up to 20GHz.



VERSIONS

	TYPE	RANGE	GAIN / POWER OUT.
BPSG4	Generator	35MHz-4,4GHz	+17dBm
BPSG6	Generator	23,5MHz-6GHz	+18dBm
UBBV1	Amplifier	1MHz-1GHz	40dB
UBBV2	Amplifier	1MHz-10GHz	40dB
UBBV 9010	Amplifier	9kHz-6GHz	22dB
UBBV DC20	Amplifier	DC-20GHz	15dB
UBBV NF-25	Amplifier	1Hz-60MHz	25dB
UBBV NF-35	Amplifier	1Hz-30MHz	35dB
UBBV 1060 BPA	Amplifier	100MHz-6GHz	23dB

...IN A SMALL PACKAGE

Many Aaronia antennas can be transformed into active antennas or field strength generators when combined with the UBBV and BPSG in a few simple steps.

In standalone mode the generator can produce simple or very complex batch programs that automatically start after power up. This allows for a fixed level frequency or the start of a pre-defined sweep, complex frequency lists, modulation, etc.

All the generators and pre-amps are designed and manufactured in Germany.

aaronia.com/amps

AARONIA

SHIELDING MATERIALS

DC to 50GHz, 110dB Attenuation

AVAILABLE MATERIALS

	TYPE	ATTENUATION
A2000+	Mesh	20dB
SHIELD	Fabric	50dB
SHIELD ULTRA	Fabric	70dB
MESH	Mesh	45dB
X-DREAM	Fleece	110dB
X-STEEL	Heavy Fabric	80dB
MAGNOSHIELD FLEX	Metal Foil	70%
MAGNOSHIELD DUR	Metal Plate	93%
CANOPIES	Tent	50dB

RF AND EMC SHIELDING

The various shielding systems available on the market today differ widely in both affordability and protection efficiency.

They are often far too difficult to handle, particularly for the novice, but also for professional users. Apart from this, they are typically far too expensive. Also, customers often need two separate shielding solutions simultaneously, as most RF shielding materials offer hardly any protection against low-frequency fields, and vice-versa.

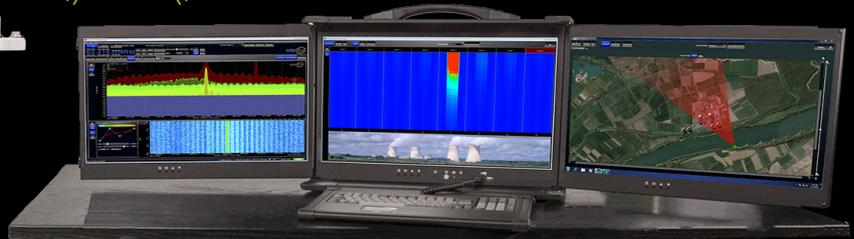
OVER 110dB ATTENUATION

With their EMC high-tech fleeces, meshes and fabrics, Aaronia offers some of the world's most efficient shielding performance of over 110dB, unique in this price category and with such material characteristics. These materials are easy to handle - even for novices - offering simultaneous protection against high-frequency (RF) and low-frequency (LF) E-field radiation. The secrets behind this extreme efficiency are patented manufacturing processes coupled with special, high-quality materials. Aaronia shielding materials are easy to handle and to install, can be folded without taking damage, are sturdy, frost- and weatherproof (depending on the material) and can even be installed in concrete. As such, they are also suitable for outdoor use while still being very affordable.

Aaronia materials can be used both for shielding against electric fields from local radiation sources like 50Hz power cables, as well as for shielding rooms or entire houses or other buildings against RF radiation. Installation is performed by attaching the material in adjacent lanes with overlapping seams of approx. 15cm to guarantee a closed surface.

aaronia.com/shield





AARONIA

DRONE DETECTION SYSTEM

Smart-Pattern-Trigger | 24/7 Unlimited Recording

THE UAV DETECTION SYSTEM

After 4 years of development Aaronia introduces its new Drone Detection System. The Aaronia Drone Detector is used to detect the incursion of unwanted drones, based on the directional real-time measurement of the electromagnetic emissions of drones. It warns the operator when drones approach the area and automatically sends alerts.

The system has no limitation in detection range, usually the detection range is the same as the usable distance from the operator to the drone (or better) so it always depends on the transmitter power of the drone/operator. Depending on the drone type it could be several km / miles without problems, e.g. a DJI Phantom 3 can be detected from 3km distance approx.

The drone detection system can be used anywhere. Typical scenarios are the protection of residential areas, governmental buildings, prisons and commercial / industrial areas like nuclear plants. Available as single-side or multiple-side solution the system is adjustable to the characteristics of the terrain to be monitored.



HIGHLIGHTS

All-In-One Solution

Smart-Pattern-Recognition

24/7 Unlimited Recording

Smart-Alarm-Trigger

Ultra-High Range

Early-Warning Capable

Tailored Solutions on Request

HARDWARE

The drone detector is based on the Aaronia IsoLOG 3D antenna, the SPECTRAN real-time spectrum analyzers V5 XFR Pro or RF Command Center and a special software plug-in for the RTSA Suite software. As a fully integrated system, the Aaronia DDS allows for 24/7 monitoring and recording with gapless data-streaming (up to 4TB/day). The system saves considerable measurement time and is compact and flexible.

It works at night, fog and bad weather with a very high tracking accuracy. Combined with at least 3 systems the DDS allows to triangulate the positions of the drone and / or the operator.

Designed and manufactured in Germany.

aaronia.com/drone

ABOUT US

Aaronia AG is a company that designs and manufactures high-end RF & MW equipment based in Germany. Founded in 1999, Aaronia uses innovative patents, high-grade materials and production methods, which allow the company to create high-quality products with a fair price.

AARONIA AG
WWW.AARONIA.DE

REFERENCES

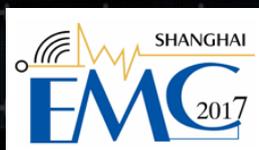
Government, Military, Aeronautic, Universities

- NATO, Belgium
- Department of Defense, USA
- Department of Defense, Australia
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- MIT - Physics Department, USA
- NASA, USA
- Lockheed Martin, USA
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