

# SignalShark and ADFA training (basic module)

## Target group

Beginners and more advanced users in the fields of radio receiver technology, radio direction finding, interference hunting, spectrum and signal analysis

## Aim

To improve and consolidate theoretical knowledge around the measurement of radio signals as well as extending practical experience by means of wide ranging hands-on measurement exercises



## Event date in 2024

**Tuesday 23<sup>rd</sup> to Thursday 25<sup>th</sup> April 2024 in Pfullingen**  
**Tuesday 24<sup>th</sup> to Thursday 26<sup>th</sup> September 2024 in Pfullingen**

**(3-day seminar)**

We can also run these seminars for you at your own location. Please contact us for more information about this.

## Course contents

### Day 1:

#### **Basics and simple exercises**

- Device overview and form factors
- Operating concept
- Using:
  - Spectrum, Spectrogram, Persistence, Peak Table
  - Marker, Traces, Detectors, Demodulation
- Explanations regarding the setting of:
  - Fcent / Fspan / Fstart / Fstop
  - RBW
  - Reference Level / Input Attenuator
  - Preamplifier
  - Measurement Time, Scan Count
- Saving and management of measurements
- SignalShark operating system overview
- Signal processing in the SignalShark

### Day 2:

#### **Manual localization and more advanced exercises**

- Fundamentals of interference hunting
  - Canyon effect
  - Interference search in tall buildings / across several floors
  - Statistics and sensible locations for measurement and direction finding
  - Simple measures for suspected interferers
- Overview of handheld antennas
- Using:
  - Level Meter, Tone Search, Manual Bearing
  - Narda Map Tools (if needed)

- Horizontal Scan, Triangulation
- Indoor and outdoor interference search exercises with manual antennas

### Day 3:

#### Automatic localization with ADFA

- ADFA technology
- Explanations regarding the setting of:
  - Ftime, CBW
  - DF Quality, DF Squelch, Level Stability
  - Velocity Squelch, North Reference
- ADFA direction finding exercises, stationary
- ADFA direction finding on the move

### Special notes:

- We recommend that you bring your own SignalShark and antennas with you in order to perform the practical measurements. Narda can provide test equipment, but in such cases the participants will be grouped in pairs and the equipment shared between them.
- The number of participants for day 3 is limited to 9. Day 3 can be booked separately by participants who already have the knowledge covered in days 1 and 2 (e.g. because they have already participated in this seminar at an earlier date).

### Additional modules available on request:

As well as the basic module offered here, other modules and custom training content can be arranged and booked on request. This can include, for example:

- SignalShark & Python
- SignalShark for integrators (VITA49, SCPI, Windows, network technology)
- ADFA for advanced users and professionals
- SignalShark and third-party software
  - ATDI ICS Monitoring SRDN
  - Combit SIMon
  - Decodio ReD / ReX / Localizer
  - Kathrein KSA
  - Procitec go2Monitor
  - LS Telcom CMS Central Monitoring System

**Register now using the application form on the last page!**

### Basic module instructor:

#### **Mark Reinhard**

Mark Reinhard has been involved with radio receiver technology and signal analysis for more than eight years. As an “interference hunter”, he has provided support to network operators throughout the world and is more than happy to pass on and exchange with others his experience in this field.

### Seminar fees / conditions

|   |         |
|---|---------|
| Participation on days 1, 2 and 3:   | € 1,699 |
| <b>An early-bird discount of Euro 50.00 is only offered for registrations for the full 3-days-seminar and for registrations received by 31.1.2024 and by 31.7.2024!</b> |         |
| Participation on days 1 and 2 only:   | € 1,299 |
| Participation on day 3 only   | € 599   |

**Payment conditions:** Full payment in advance

**General information:**

The number of participants is strictly limited and application closes 4 weeks before the start of the seminar. The number of participants that can be accommodated on day 3 is limited to 9 for logistical reasons, and we reserve the right to cancel the seminar at short notice if the number of participants is too small. The seminar fees include lunch and refreshments and the seminar notes. You will receive a brief email confirming receipt of your application once we have received and registered your application. You will then receive confirmation of your application along with the address where the event will be held and sketch map with directions on how to get there. You will be invoiced directly by your supplier. A 10% discount per person will be offered for the second and additional participants from the same company. This will only apply if all these persons register at the same time. You can cancel free of charge up to 4 weeks in advance of the event. Later cancellations will be charged at 50% of the seminar fee. In the event of non-attendance or cancellation 3 days or less before the event, the full fee will be charged. All cancellations must be made in writing. Participation can be transferred to another person. The quoted prices do not include statutory value added tax.

***The application form is on the next page. Please email the completed form to [info@narda-sts.com](mailto:info@narda-sts.com) or fax it to +49 7121 9732 790, or send your application directly to your supplier. A list of suppliers can be found on our website here: <https://www.narda-sts.com/en/sales-partner-list/>***

## SignalShark and ADFA training (Basic module) - Application

Fax: +49 7121 9732 790

Tel.: +49 7121 9732 0

**We will pass on your application to our reseller in your region who will then invoice you. You can also apply directly to your local sales partner. You can find a list of these at <https://www.narda-sts.com/en/sales-partner-list/>**

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Participant's surname, first name \_\_\_\_\_

Position / Department \_\_\_\_\_

Phone / fax number \_\_\_\_\_

Email address (for confirmation of receipt) \_\_\_\_\_

Company name \_\_\_\_\_

Address / PO box \_\_\_\_\_

City / ZIP code / State \_\_\_\_\_

Date / Signature \_\_\_\_\_

Please send application confirmation to  
(if other than the participant) \_\_\_\_\_

Please send invoice to  
(if other than the participant) \_\_\_\_\_

I wish to participate on: ☐ Days 1,2 and 3 (price 1,699 €) ☐ Days 1 and 2 (price 1,299 €) ☐ Day 3 only (price 599 €)

I have my own SignalShark: ☐ yes ☐ no

I have my own manual antennas: ☐ yes ☐ no

**(If yes, please bring the devices and power supplies with you)**

Language ☐ German only ☐ English only ☐ English or German

☐ I agree that my personal data may be used to provide information to Narda Safety Test Solutions GmbH and its sales partners. This includes checking my data against the international anti-terrorism lists under EU law as well as Restricted Party Screening in the USA. I accept that my participation will not be possible if either of these checks is unfavorable.

☐ I agree that Narda Safety Test Solutions GmbH may email me regular information about its products (e.g. in the form of a Newsletter). I can withdraw this consent at any time.