NRA – NARDA REMOTE SPECTRUM ANALYZER

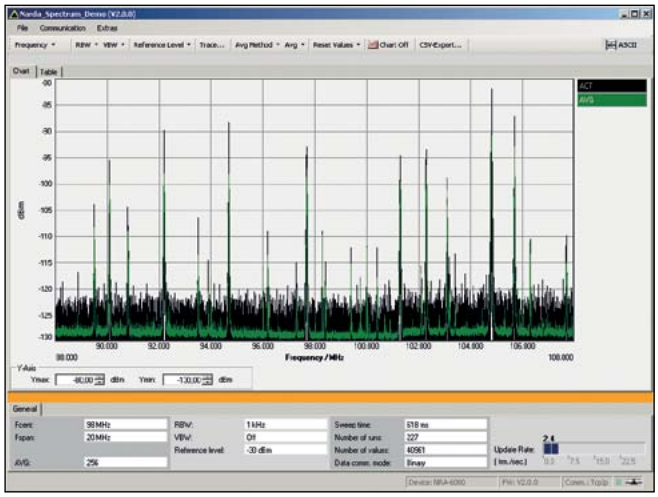
for radio monitoring

NRA-3000

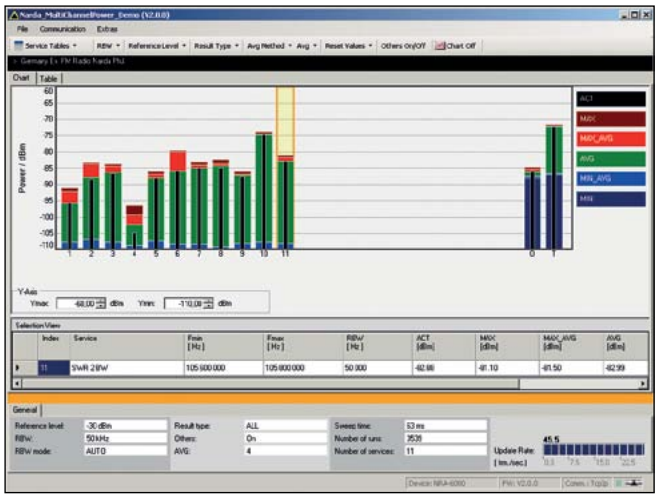
NRA-6000

narda®
Test Solutions
an L3 Communications Company

NRA, the Narda Remote Spectrum Analyzer, is a versatile device that can easily be integrated into radio monitoring systems as a central remote-controlled measuring instrument. The NRA offers systems integrators, operators and authorities technical features and practical advantages that are exceptional in its price range.



Analyzing the UHF band in Spectrum Analysis mode. The instantaneous values (ACT) are shown in black, the average values (AVG) in green.



Monitoring UHF channels in Multi-Channel Power mode with simultaneous measurement of instantaneous, maximum, minimum, and average values. The "Selection View" window shows detailed information about the selected channel.

Typical applications

The NRA shows whether the actual result of a planned spectrum corresponds to expectations. The NRA rapidly delivers the relevant data for spectrum management. Changes in the spectrum can be quickly detected using the NRA. It can also be used to monitor the levels of carriers and channels, determine intermodulation and interference, and discover illegal transmitters and spurious emitters. Further in-depth signal analysis in the frequency- and time domains using the NRA enables fast clarification of the causes.

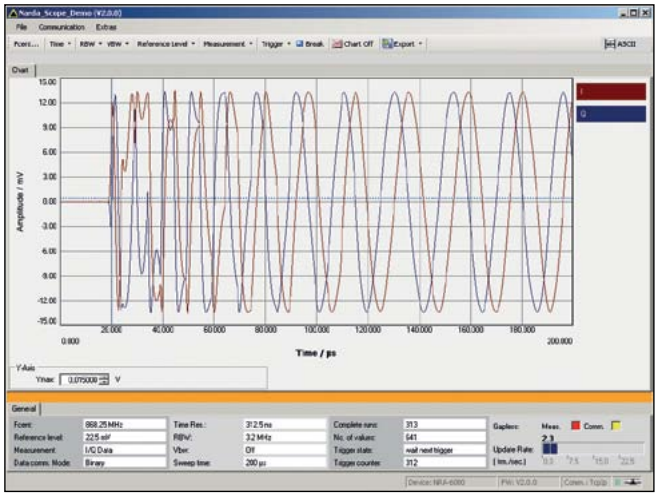
Excellent characteristics

When operated as a spectrum analyzer, the NRA delivers spectra with up to 600,000 samples. The combination of an analog heterodyne receiver with digital FFT analysis enables the NRA to achieve sweep rates of up to 12 GHz/s. As a receiver, the NRA can selectively receive even the narrowest signals with resolution bandwidths down to 10 Hz, yet it has exceptional wideband characteristics thanks to its largest resolution bandwidth of 32 MHz. The NRA can scan up to 500 freely-definable channels in a single sweep and record their minimum, maximum and average power levels. The

"Scope and I/Q data" option enables the NRA to deliver data to the radio monitoring system which can be demodulated in order to monitor analog signals, or which can be processed to produce constellation diagrams for the identification of digitally modulated signals. The NRA supplies uninterrupted data as a real-time stream up to a channel bandwidth of 400 kHz, or in blocks of 250,000 points up to 32 MHz.

Easy integration

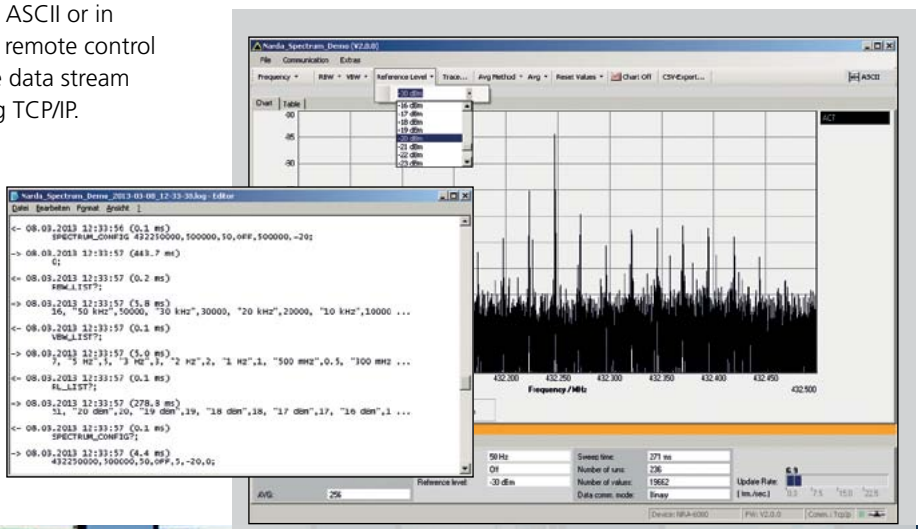
The NRA is easy to integrate. It takes up just 1 U in a 19" rack. It uses little current, so it does not require forced ventilation and therefore operation is practically silent. Ethernet is used for remote control and data exchange. Drivers are available for control and monitoring systems such as the INRADIOS CSM system.



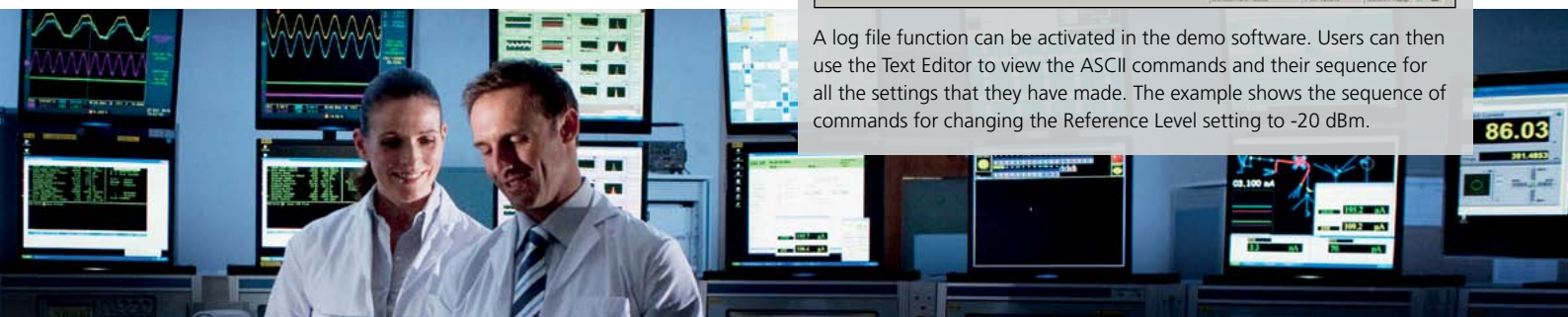
Signal variation over time displayed in "Scope and I/Q Data" mode. The I/Q data can be used as the basis for further evaluations.

Simple programming

All the measurement tasks can be programmed using simple ASCII commands, that are virtually plain text. Programming support for users is provided by demo software and excellent documentation. The NRA outputs the data in ASCII or in binary form for faster data transfer. Data and remote control commands can be transmitted separately, the data stream using TCP/IP or UDP and remote control using TCP/IP.



A log file function can be activated in the demo software. Users can then use the Text Editor to view the ASCII commands and their sequence for all the settings that they have made. The example shows the sequence of commands for changing the Reference Level setting to -20 dBm.



NRA – Facts and figures

- Application-oriented operating modes tailored to user tasks
- Spectrum Analysis mode with wideband FFT delivers spectra with up to 600,000 samples at resolution bandwidths (RBW) from 10 Hz to 20 MHz and sweep rates up to 12 GHz/s
- Multi-Channel Power mode (option) for rapid channel evaluation captures up to 500 bands per sweep
- Level Meter mode (option) with true RMS measurement and peak detectors
- Scope and I/Q Data mode (option) outputs the time signal selected with a channel bandwidth (CBW) of up to 32 MHz; data transfer in blocks, or as a continuous real-time stream via TCP or UDP for CBW of up to 400 kHz.
- High sensitivity with low noise factor
- NRA can easily be integrated into the measurement environment and remote controlled via Ethernet
- Simple, easy to understand remote control commands
- Excellent documentation with examples and demo software
- Designed without forced ventilation for silent long-term operation
- Compact and space-saving: 1 U (1.75") high 19" rack mount unit

Further technical details available in the data sheet at www.narda-nra.com

Three instruments to choose from

NRA is a device family for different applications:

· NRA-2500 (5 MHz to 2.5 GHz),
· NRA-3000 (9 kHz to 3 GHz) and
· NRA-6000 (9 kHz to 6 GHz).

The NRA-3000 and NRA-6000 are particularly suitable for radio monitoring.

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