

# R&S® Spectrum Rider FPH Handheld spectrum analyzer

Small form factor to handle big tasks





# R&S® Spectrum Rider FPH

Modern and rugged portable design – the perfect multi-purpose tool for lab and field measurements

## Class-leading RF performance

- ▮ Software-upgradeable frequency ranges: 5 kHz to 3 GHz/4 GHz
- ▮ DANL: typ. < -160 dBm between 10 MHz and 3 GHz
- ▮ Phase noise: -105 dBc (1 Hz) at 100 kHz offset
- ▮ Sweep time: 34  $\mu$ s in zero span, 20 ms for span < 600 MHz
- ▮ Level accuracy: typ. 0.5 dB between 10 MHz and 4 GHz

## Application examples

- ▮ EMI debugging
- ▮ RF design debugging
- ▮ Education and training
- ▮ Spectrum monitoring
- ▮ Field strength measurement
- ▮ Signal location
- ▮ RF transmitter testing and maintenance

## R&S® Spectrum Rider

Rugged, dust and dripwater proof housing with protected connectors

Multilingual support and on-screen keyboard

Measurement wizard for automatic measurements

Backlit keypad to work in the dark





Capacitive touchscreen like a smartphone

Simple menu-based operation via hard keys (gloves) or touchscreen

Save screenshots and measurements with a single button press

Multifunction rotary knob

## User friendly

- ▮ Gesture operation by capacitive touch-screen (like smartphone)
- ▮ Dual operation via touchscreen or robust keypad in the field
- ▮ Low reflection display for operation under sunlight conditions

## Features and options

- ▮ RF spectrum measurement with multifunction markers
  - ▮ Frequency counting
  - ▮ Noise measurement
- ▮ Precise RF power measurement
  - ▮ Average power measurement using Rohde & Schwarz power sensors
  - ▮ Pulse power analysis using Rohde & Schwarz wideband power sensors
- ▮ Fast and easy channel power measurement
- ▮ Easy recall of predefined measurement scenarios
- ▮ Remote control via LAN/USB

## Field-friendly

- ▮ Low weight, only 2.5 kg including battery
- ▮ Small form factor (202 mm x 294 mm x 76 mm)
- ▮ Single charge for one-working-day portable operation
- ▮ Illuminated keypad for dim environment
- ▮ Large buttons for easy operation with gloves
- ▮ Robust design for rugged operational environments
- ▮ Design protected against dust and drip water in line with IP51
- ▮ Data storage on various media (internal memory, USB and microSD card)



# Measure with confidence

Specifications comparison			
	R&S® Spectrum Rider	Comparable handheld spectrum analyzers	Comparable benchtop spectrum analyzers
<b>Frequency range</b>	5 kHz to 2/3/4 GHz	Model-dependent	Model-dependent
<b>Frequency extension (via software upgrade)</b>	5 kHz to 3 GHz/4 GHz	No	No
<b>Touchscreen using capacitive sensing technology like smartphone</b>	Capacitive touch, on-screen keyboard, smartphone-like gestures	Some with resistive touch (slow response time)	Not available
<b>Battery operating time</b>	8 hours (longest operating time compared to all other handheld spectrum analyzers)	Typically between 2 and 4 hours	Not applicable
<b>Weight</b>	2.5 kg	Typically between 3 kg and 5 kg	Typically more than 4.5 kg

## In the lab

The R&S® Spectrum Rider features basic diagnostic capability for service or even development lab. It is ideal for EMI debugging to determine disturbance from a device under test during development. The R&S® Spectrum Rider offers a wide range of measurements, such as frequency and level measurements, spurious measurements, etc.

Requiring only minimum bench space, the R&S® Spectrum Rider is the perfect tool for tasks in R&D labs and service stations.

The R&S® Spectrum Rider can be easily remotely controlled via LAN or USB, which enables users to automate measurement scenarios. Using the R&S® InstrumentView software, it is also possible to project the display on a larger screen. This makes the R&S® Spectrum Rider perfect for education purposes in schools and universities.



## In the field

The light weight and ruggedness of the R&S® Spectrum Rider makes field work easy. Its unique combination of market-leading battery life of 8 hours, large 7" full color display and backlit keypad enables on-site operation day and night. Leveraging these unique features, field strength measurements as well as monitoring and locating the signal of interest become much more convenient and easier.

To save time and effort, users can also preconfigure 100 or more (depends on data storage media capacity) measurement sequences before setting off for measurements. This helps reduce human error and increase efficiency with automated measurements. After each measurement, the results are automatically saved.

For documentation, the R&S® InstrumentView bundled software has a report generator function to generate a complete measurement report in a few seconds. For post-processing, the software can add markers to saved traces for a detailed analysis.



# Ordering information

Designation	Type	Order No.
R&S®Spectrum Rider Handheld Spectrum Analyzer, 5 kHz to 2 GHz	R&S®FPH	1321.1111.02
<b>Accessories supplied</b>		
Lithium-ion battery pack, USB cable, AC power supply with country-specific adapters for EU, GB, US, AUS, CH, CD-ROM with R&S®InstrumentView software and documentation, quick start guide, side strap		
<b>Options</b>		
Spectrum Analyzer Frequency Upgrade 2 GHz to 3 GHz	R&S®FPH-B3	1321.0667.02
Spectrum Analyzer Frequency Upgrade 3 GHz to 4 GHz (R&S®FPH-B3 required)	R&S®FPH-B4	1321.0673.02
Spectrum Analyzer Preampifier	R&S®FPH-B22	1321.0680.02
Analog Modulation Analysis AM/FM	R&S®FPH-K7 <sup>1)</sup>	1321.0696.02
Power Sensor Support	R&S®FPH-K9	1321.0709.02
Interference Analysis	R&S®FPH-K15 <sup>1)</sup>	1321.0715.02
Signal Strength Mapping	R&S®FPH-K16 <sup>1)</sup>	1321.0615.02
Channel Power Meter	R&S®FPH-K19	1321.0721.02
Pulse Measurements with Power Sensor	R&S®FPH-K29	1321.0738.02
Receiver Mode and Channel Scanner	R&S®FPH-K43 <sup>1)</sup>	1321.0621.02
<b>Accessories</b>		
Car Adapter	R&S®HA-Z302 <sup>1)</sup>	1321.1340.02
Battery Charger for Lithium-Ion Battery	R&S®HA-Z303	1321.1328.02
Lithium -Ion Battery Pack (6.4 Ah)	R&S®HA-Z306	1321.1334.02
Spare Power Supply	R&S®HA-Z301	1321.1386.02
Soft Carrying Bag	R&S®HA-Z220	1309.6175.00
GPS Receiver	R&S®HA-Z340 <sup>1)</sup>	1321.1392.02
Log Periodic OEM Antenna	R&S®HA-Z350	1321.1405.02
Headphone	R&S®FSH-Z36	1145.5838.02
Hard Shell Protective Carrying Case	R&S®RTH-Z4 <sup>1)</sup>	1326.2774.02

<sup>1)</sup> Planned

## Service that adds value

- | Worldwide
- | Local and personalized
- | Customized and flexible
- | Uncompromising quality
- | Long-term dependability

## About Rohde & Schwarz

The Rohde & Schwarz electronics group offers innovative solutions in the following business fields: test and measurement, broadcast and media, secure communications, cybersecurity, radiomonitoring and radiolocation. Founded more than 80 years ago, this independent company has an extensive sales and service network and is present in more than 70 countries. The electronics group is among the world market leaders in its established business fields. The company is headquartered in Munich, Germany. It also has regional headquarters in Singapore and Columbia, Maryland, USA, to manage its operations in these regions.

## Sustainable product design

- | Environmental compatibility and eco-footprint
- | Energy efficiency and low emissions
- | Longevity and optimized total cost of ownership

Certified Quality Management  
**ISO 9001**

Certified Environmental Management  
**ISO 14001**

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