

R&S® MP007 PORTABLE DIRECTION FINDING SYSTEM

Compact and extremely precise



Product Brochure
Version 06.00

ROHDE & SCHWARZ

Make ideas real



AT A GLANCE

The R&S®MP007 direction finding (DF) system combines the R&S®PR200 portable direction finder upgrade kit with R&S®ADDx07 compact DF antennas. The result is a unique combination of functionality and performance in a system of this size. It can be used as a stationary or mobile DF station or as a portable manual direction finder, and can be reconfigured within minutes to meet the requirements of the situation at hand. The R&S®MP007 comes with a wide range of powerful software options and add-ons, making it ideal for all applications that require a compact and flexible yet powerful DF system.

Compact DF systems are becoming ever more important due to their improved flexibility, mobility and performance. The R&S®MP007 combines the outstanding performance of the R&S®PR200 with the extremely high DF accuracy of R&S®ADDx07 DF antennas in a portable direction finding system. The DF system supports a broad range of applications such as searching for missing persons in difficult terrain, locating radio interference sources, radiomonitoring at large events and protecting friendly forces during fact finding/reconnaissance missions.

Utilizing the built-in intelligent charging electronics, a central power supply and other accessories, the R&S®MP007 enables an entirely new approach to portable direction finding in urban areas or hard-to-reach locations. Wireless networking of multiple R&S®MP007 systems makes it possible to calculate the location of radio transmitters online and display the results on a digital map.

The tried and tested R&S®CEPTOR or R&S®RAMON software ensure dependable operation with a ruggedized laptop or handheld PC. All the necessary settings, DF results and calculated positions can be conveniently displayed on a digital map.



KEY FACTS

- ▶ Wide frequency range from 20 MHz to 6 GHz (DF mode)
- ▶ Outstanding DF accuracy in a compact design thanks to correlative interferometer direction finding
- ▶ Real-time position fixing for detected transmitters through networking multiple R&S®MP007 systems
- ▶ Longer operating time thanks to high-power battery and external AC and DC power supplies (battery packs or solar panels)
- ▶ Integration into existing Rohde & Schwarz direction finding systems

BENEFITS

Flexible and easy to use

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Immediate position fixing in networked operation

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FLEXIBLE AND EASY TO USE

Suitable for outdoor use thanks to environmental protection system

All system components are integrated into a rugged, sealed hard shell case that can withstand challenging environments and weather conditions, making the system ideal for standalone use.

On-the-march use with handheld PC

The R&S®MP007 can be deployed on the march to protect friendly forces. The operator carries the system in a backpack and can operate the system via radio control with a small handheld PC/tablet running R&S®CEPTOR software for radiomonitoring systems. The modern R&S®CEPTOR GUI is an intuitive task-oriented interface. The system is clearly structured and self-explanatory.

Thanks to the integrated GPS compass in the R&S®ADDx07 DF antenna, operators can always know where they are in the terrain, where they are looking and the incoming direction of the target signal. Operators can also demodulate signals and listen in on conversations.

Components of the R&S®MP007

Mast extension for stationary operation



Inside view

WLAN access point

Electronic power supply
and charging unit

R&S®PR200 portable monitoring receiver

BB2590 250 Wh battery pack



Semi-mobile operation with a laptop

Stationary system operation is possible when a certain area must be monitored for a defined period of time. The carrying frame is placed on the ground and fixed with guy ropes. The carbon mast extension increases the antenna height to about 1.8 m without a separate tripod. In stationary operation, the operating computer is a ruggedized laptop with control software modules. The high performance laptop can run additional software, such as a digital signal analysis program.



Semi-mobile operation with a laptop

IMMEDIATE POSITION FIXING IN NETWORKED OPERATION

Networking via wireless communications

When the exact location of an emission must be determined, multiple R&S®MP007 systems can be wirelessly connected to a radiolocation system. The relevant connections can be established for broadband data transfers with wideband duplex IP connections, such as WLAN or WiMAX™ radio links. Networked operation of multiple R&S®MP007 systems requires additional hardware and software and, if necessary, system integration.

Networked position fixing of fixed-frequency transmitters

In networked operation, one R&S®MP007 can be defined as the main station for remote control of the other stations. Depending on the wireless connection, DF data can be obtained continuously. The DF results from the remote stations are converted into locations that are immediately displayed on the map by the main station.

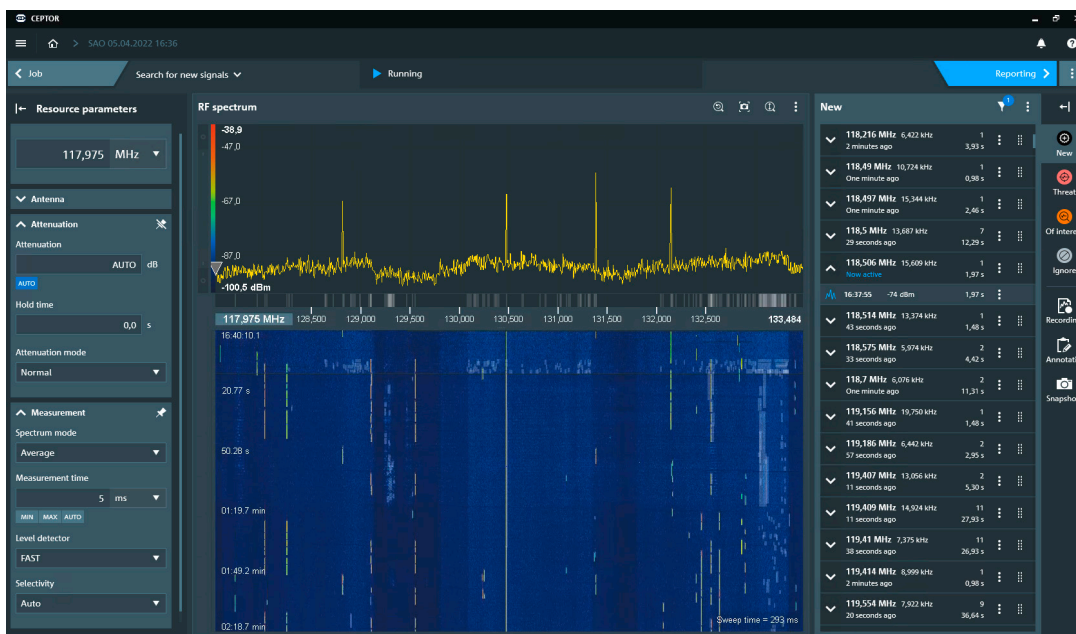
Comprehensive control and system software

The R&S®MP007 system software is designed for easy operation and fast results. Simplicity of use is more important than sophisticated functions that require extensive training. Small and affordable solutions with local or remote sensors are enough to resolve most issues. Each sensor in the system is treated as a separate station for autonomous operation. The system software supports a wide range of tasks, including:

- ▶ Collecting information about spectral usage and active transmitters
- ▶ Searching for new signals and observing known transmitters
- ▶ Monitoring and technical signal classification
- ▶ Direction finding
- ▶ R&S®MobileLocator for homing-in on transmitters with a moving DF sensor

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R&S®CEPTOR GUI for R&S®PR200 portable monitoring receiver.



SPECIFICATIONS

Specifications

DF mode

Frequency range	R&S®ADD107	20 MHz to 1.3 GHz
	R&S®ADD207	690 MHz to 6 GHz
	R&S®ADD307	20 MHz to 690 MHz
DF method	20 MHz to 173 MHz	Watson-Watt
	173 MHz to 6 GHz	correlative interferometer
DF accuracy ¹⁾		
R&S®ADD107	20 MHz to 1.3 GHz	3° RMS (typ.)
R&S®ADD107	300 MHz to 1.3 GHz	1° RMS (typ.)
R&S®ADD207	690 MHz to 6 GHz	1° RMS (typ.)
R&S®ADD307	20 MHz to 559 MHz	≤ 2° RMS, 1° RMS (typ.)
R&S®ADD307	550 MHz to 690 MHz	upon request

Receive mode

Frequency range	with separate receiving antenna	8 kHz to 8 GHz
Scan speed	with R&S®CS-PS	up to 60 GHz/s
IF spectrum display range	selectable	up to 40 MHz
Demodulation bandwidth	selectable	up to 1 MHz
Enhanced signal analysis capability	with R&S®CA100	yes

General specifications

Lithium-ion battery pack operating time per charge	DF mode	up to 8 h
Networked operation	main/remote operation	yes
Operating temperature range		0°C to +50°C
Storage temperature range		-20°C to +60°C
Power supply	AC, with external power supply unit	100 V to 240 V AC, 50/60 Hz, 1 A
	DC	20 V to 30 V DC, 4 A, nominal 24 V DC
	battery pack	rechargeable lithium-ion battery BB2590, 28.8 V, 8.7 Ah
Shock (40 g shock spectrum)		yes, in line with MIL-STD 810E method no. 516.4
Weight		
R&S®PR200	without battery	approx. 2.7 kg (5.95 lb)
R&S®ADD107, R&S®ADD207		approx. 6 kg (13.23 lb)
R&S®ADD307		ca. 6.6 kg (14.55 lb)
R&S®MP007 backpack	including charging electronics, cable and battery	approx. 14 kg (30.86 lb)

¹⁾ Referenced to antenna.

ORDERING INFORMATION

Designation	Type	Order no.
Portable direction finding system, including carrying frame, case, mast extensions, power supply and internal cabling ¹⁾	R&S®MP007	3053.9901.02

¹⁾ R&S®PR200, R&S®ADDx07, R&S®CEPTOR or R&S®RAMON operating software and control PC are not part of the delivery and have to be purchased separately.

Your local Rohde&Schwarz expert will help you determine the best solution for your requirements. To find your nearest Rohde&Schwarz representative, visit www.sales.rohde-schwarz.com

Service that adds value

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

Rohde & Schwarz

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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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