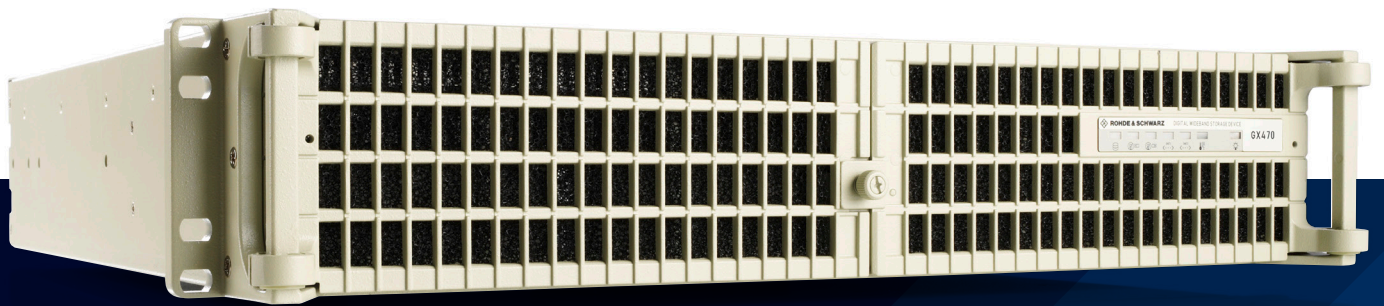


# R&S® GX470

## DIGITAL WIDEBAND STORAGE DEVICE

Recording and replaying I/Q data  
with up to 500 MHz bandwidth



Product Brochure  
Version 05.00

**ROHDE & SCHWARZ**

Make ideas real



# AT A GLANCE



The R&S®GX470 is a recording and replaying device for storing data when there is not enough time or resources available to analyze or process live RF scenarios during signal interception. It is ideal for use in electronic intelligence (ELINT) and communications intelligence (COMINT) applications. The multichannel, multiclient device can record various data formats in parallel. Together with Rohde & Schwarz receivers/direction finders and signal analysis software, it functions as a loop buffer for analyzing recorded signals.

## Recording capabilities

The R&S®GX470 is a central unit for storing I/Q recordings and result data (e.g. PDWs, IQDWs). The multiclient capability allows a single recorder to be used by many different operators. The recorder can handle multiple parallel recording and replaying tasks from various operators.

Rohde & Schwarz offers a recording solution by connecting the R&S®GX470 to Rohde & Schwarz receivers and direction finders. Multiple recordings can be handled in parallel using several sensors or the receiver's built-in DDCs.

The R&S®GX470 manages simultaneous recording and replaying sessions with a total bandwidth of 500 MHz for wideband I/Q data. The recorder can use the IQDW data from the R&S®WPU2000 to store radar signal pulse data wider than 500 MHz. The R&S®GX470 has a loop mode for continuous recording and replaying. Continuous recording allows the preselection of a continuous specific loop buffer capacity for 24/7 operation.

The R&S®GX470 has solid-state drives (SSD), which can be removed for transportation or security.

# KEY FACTS

- ▶ Up to 256 recordings of different data types in parallel (I/Q, PDW, IQDW, symbol, FFT, etc.)
- ▶ Recording and replaying with a maximum I/Q data bandwidth of 500 MHz
- ▶ 2 HU, 19" format
- ▶ Removable SSD storage units, up to 50 Tbyte
- ▶ Continuous recording and replaying (loop mode)
- ▶ Fully integrated solution with Rohde & Schwarz monitoring receivers, direction finders, signal and pulse analysis and system software
- ▶ Multiclient capability

## R&S®GX470 controls

The R&S®GX470 is controlled by

- ▶ R&S®TPA technical pulse analysis
- ▶ R&S®RAMON radiomonitoring software
- ▶ R&S®CA100 or R&S®CA120 signal analysis software

## Postprocessing of recorded signals

Once data is stored in the R&S®GX470, it can be analyzed further. In ELINT applications, the R&S®TPA technical pulse analysis is used to detect and analyze pulsed and FMCW modulated radar signals (configuration 1).

The R&S®GX470 also supports real-time replay of I/Q data into the R&S®SMW200A, generating a wideband RF signal that is received by the R&S®WPU500 or R&S®WPU2000 to perform instant signal analysis using the built-in pulse processing and measurement function (configuration 2).

In COMINT applications, I/Q data files can be analyzed using the R&S®CA100 PC based signal analysis and signal processing software and R&S®CA120 multichannel signal analysis software.

The recorded I/Q data of signal scenarios can also be exported for offline technical analysis with R&S®CA210 signal analysis software.

## Compact device, 2 HU, 19" format

The R&S®GX470 is a compact (2 HU, 19") digital data recording and replaying device that can be rackmounted with the compact Rohde & Schwarz receivers. The R&S®GX470 is equipped with an SSD unit that can be removed for data sharing between stations.

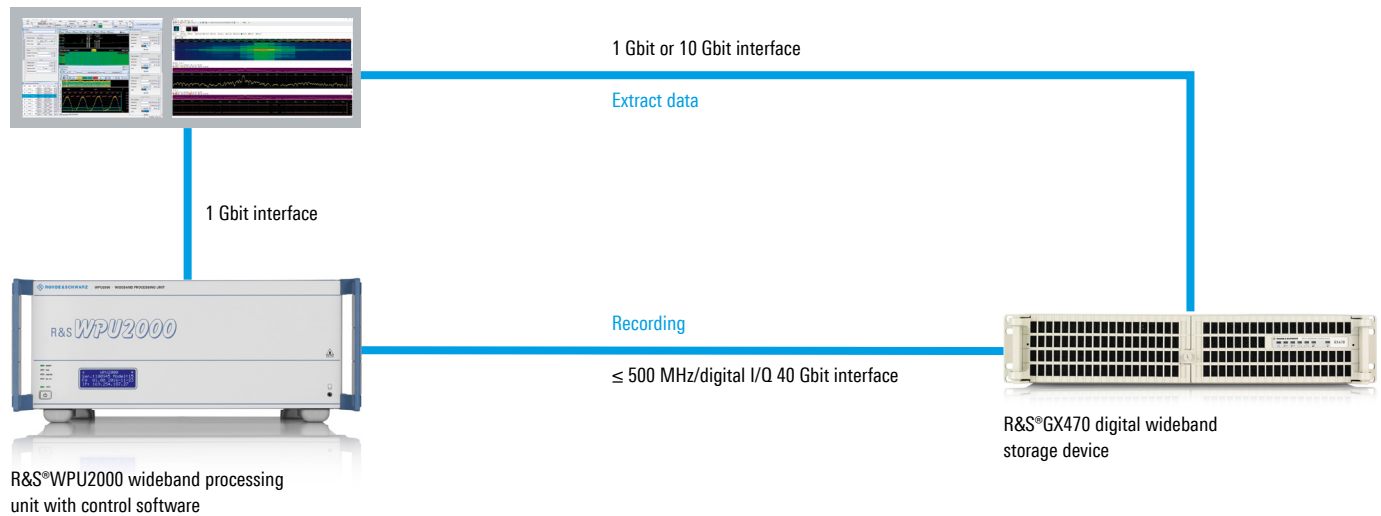
# CONFIGURATIONS

Two example configurations show how to use the R&S®GX470.

## CONFIGURATION 1

This example shows a configuration with the R&S®WPU2000 wideband processing unit that includes the GUI, R&S®TPA technical pulse analysis and R&S®GX470 digital wideband storage device. (Note: The example provides a simplified overview of the system architecture.)

R&S®WPU2K-CTL control software and  
R&S®TPA technical pulse analysis



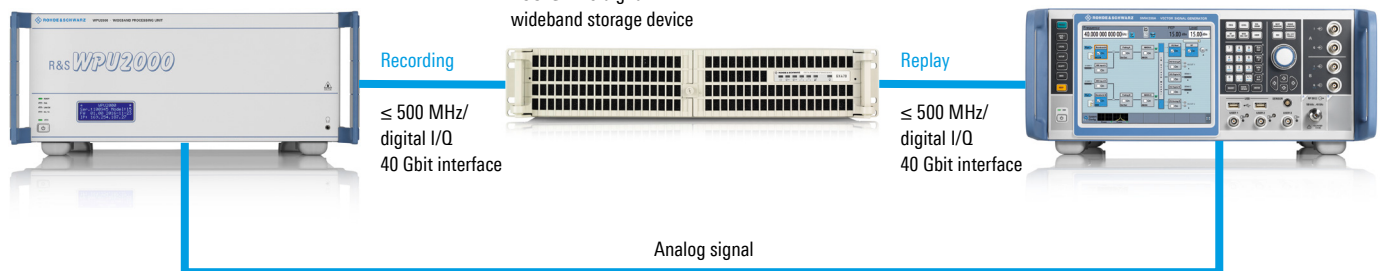
## CONFIGURATION 2

This example shows a configuration with the R&S®WPU2000 wideband processing unit, R&S®SMW200A vector signal generator and R&S®GX470 digital wideband storage device. (Note: The example provides a simplified overview of the system architecture.)

R&S®WPU2000 wideband processing unit

R&S®GX470 digital wideband storage device

R&S®SMW200A vector signal generator



# APPLICATIONS

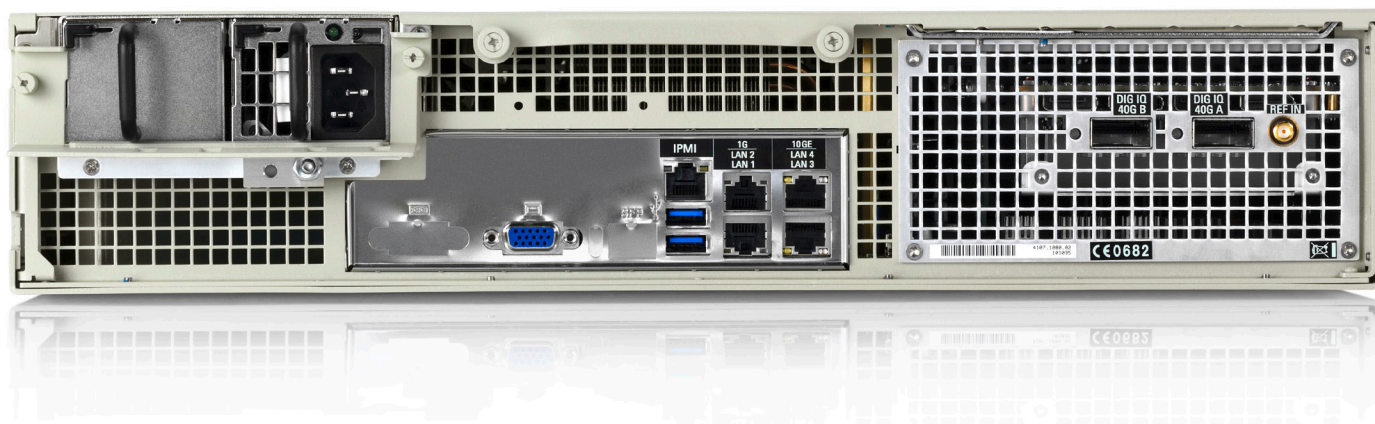
The goal of any electronic intelligence (ELINT) mission is to intercept, analyze and collect complex radar signals to build up a comprehensive emitter database.

The R&S®GX470 can record live radar signals, which specialists in central departments can analyze in detail. Signals that cannot be processed online (disrupted signals or those that are too weak) are recorded for later offline analysis.

The R&S®GX470 records various data formats (I/Q, PDW and IQDW) for later dedicated offline analysis with R&S®TPA technical pulse analysis software. A long-term recording can be used to extract signal events of interest in postprocessing.

The R&S®GX470 can be used as a signal history buffer in COMINT applications for online signal monitoring and immediate reinvestigation of signal scenarios. The operator can use the recorder to review signals of interest and perform repeated signal analysis using different settings. Reinvention can yield new monitoring results for postprocessing.

Rear view



# ORDERING INFORMATION

Designation	Type	Order No.
<b>Base unit</b>		
Digital wideband storage device for recording and replaying scenarios up to 500 MHz bandwidth; R&S®RAMON basic R&S®AMREC manager software included	R&S®GX470	4107.0102.03
<b>Options</b>		
Solid-state drive, 7.68 Tbyte storage capacity	R&S®GX4-S107	4107.0460.02
Solid-state drive, 25 Tbyte storage capacity	R&S®GX4-S125	4107.0477.02
Solid-state drive, 50 Tbyte storage capacity	R&S®GX4-S150	4107.0483.02
Copper cable, for 40 Gbit, QSFP+, incl. two transceivers, length: 2 m	R&S®GX470-CCG	4107.0302.02
Optical cable, for 40 Gbit, QSFP+, incl. two transceivers, length: 20 m	R&S®GX470-OCG	4107.0319.02
Cable for R&S®Digital I/Q Interface, optical cable, QSFP+ plug, length: 3 m; mandatory for replaying I/Q data from the R&S®GX470 into the R&S®SMW200A	R&S®DIGIQ-HS	3641.2948.03

Your local Rohde&Schwarz expert will help you determine the optimum solution for your requirements. To find your nearest Rohde&Schwarz representative, visit [www.sales.rohde-schwarz.com](http://www.sales.rohde-schwarz.com)

## Service that adds value

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

## Rohde & Schwarz

The Rohde & Schwarz technology group is among the trailblazers when it comes to paving the way for a safer and connected world with its leading solutions in test and measurement, technology systems, and networks and cybersecurity. Founded more than 85 years ago, the group is a reliable partner for industry and government customers around the globe. The independent company is headquartered in Munich, Germany and has an extensive sales and service network with locations in more than 70 countries.

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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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