

Transmitter

Proactive Product Maintenance Program

Overview for North America

Supporting Your
Investment



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Prologue – Christian Leicher, President and CEO, Rohde&Schwarz

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Dear Customers,

I am often asked what has made Rohde&Schwarz so successful over so many decades, and enabled the company to drive technological progress in the market.

One aspect is the passion with which we work every day in our R&D labs to push the limits of what is physically feasible. Another is our desire to create winning products that exceed the expectations of our customers in terms of technology, functionality and quality.

Our service and support philosophy is another key factor in our success. For us, it goes without saying that we offer our customers the best possible support in every phase of the product life cycle.

We provide a wide variety of customized service offerings, which we plan in close dialog with our customers and our support specialists very early in the product development phase. This lets us identify needs early on in order to minimize your operating costs and maximize uptime.

Our comprehensive and continuously growing range of services is designed to ensure that you are satisfied with every aspect of your Rohde&Schwarz product. I am convinced that this commitment, implemented by our worldwide network of expert service and support personnel, is one of the major factors behind the success of our company.

Christian Leicher
President and CEO

We're all about ensuring uptime and long-term support for your investment.

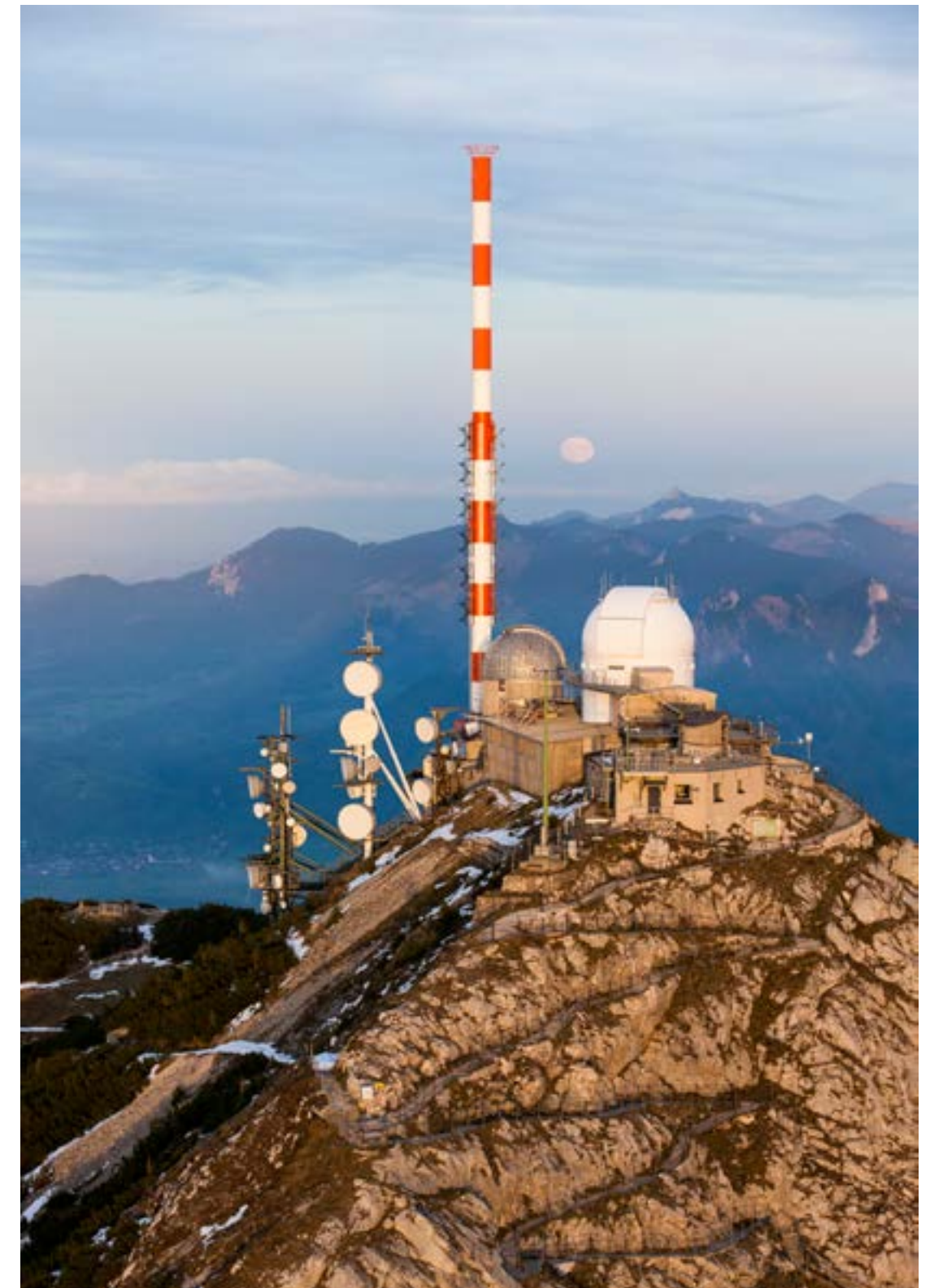
Built on a 80-year heritage, Rohde&Schwarz is a recognized global leader in its established business fields, and provides top-notch products and solutions that stand for quality, precision and innovation. Rohde&Schwarz offers an unparalleled expertise in digital television and radio transmitter installations, and has established itself as the market leader in this field, with thousands of high-profile installations deployed and successfully operating in North America and around the world. As an independent, family-owned company, Rohde&Schwarz generates its growth from its own resources. Since the company does not have to think in quarters, it can focus on customer needs and long-term planning, and invest in achieving the best quality for its product ranges to ensure customers are equipped with state-of-the-art solutions. Rohde&Schwarz has approximately 10,500 employees worldwide, with about 6,000 working at the headquarters in Germany, where our products are designed and manufactured in our own manufacturing facilities. The group achieved a net revenue of EUR 2 billion in the 2016/2017 fiscal year (July to June). Our product solutions are built for future upgradability and a long operational life. We think of our customers as partners, and provide them with unique and customized support and service options that ensure their uptime and investment.



Proactive Product Maintenance.

Your transmitter is the lifeblood of your broadcast station. But even the best engineered equipment can develop problems over time. Routine preventative maintenance helps you avoid hardware and software related issues before they happen, thus a comprehensive maintenance plan is essential for smooth transmitter operations and achieving the highest possible efficiency.

Rohde & Schwarz's comprehensive Proactive Product Maintenance program delivers a tailored solution for your maintenance needs. It helps to extend the lifecycle of your transmitter and reinforces that your investment continues to deliver peak performance. It's a smart, cost-effective strategy that minimizes downtime and maximizes operational efficiencies.



Wendelstein, Germany

The Rohde&Schwarz Proactive Product Maintenance Program.

Service Level	Ordering Description	Item Number	Order Number
PPM	Proactive Product Maintenance program - TV Transmitters	R&S®SL1THR9	5930.2582.00
PPM	Proactive Product Maintenance program - Radio Transmitters	R&S®SL1THR9	5930.2582.01
Onsite Service	Standard Onsite Service Visit - TV & Radio Transmitters	R&S®SL1THR9	5930.2599.00



The Rohde&Schwarz Proactive Product Maintenance program begins with an extensive transmitter evaluation. Factory trained engineers will ensure your system is configured properly and review your fault logs for potential issues. After measuring the output power and calibrating the forward/reflected power sensor, we will verify the overall performance of the transmitter, paying specific attention to operating values. The initial evaluation also includes a check of all exciters and a test of the cooling expansion tank and fluid. We will even perform a thermal image scan of the transmitter, interconnection line, and filter.

Once diagnostics are complete, Rohde&Schwarz will optimize your transmitter efficiency. The multi-step process includes cleaning the heat exchangers as well as performing nonlinear and linear corrections, if needed. We will also update your system software, back up your transmitter configuration locally and remotely, and complete any required service related product changes.

Following your transmitter optimization, we will detail the results with a thorough report. You will receive an electronic copy of the transmitter check and documentation of all transmitter parameters. We also include the transmitter efficiency rating, an electronic copy of thermal images, recommendations for continued optimal performance, and a list of recommended spare parts. PPM customers also receive complimentary training, so your staff will know exactly what maintenance has been performed and what they can do to keep your transmitter running efficiently between visits.

A full PPM program overview is listed on page 10.

Aside from the PPM program, Rohde&Schwarz also offers a Standard Onsite Service Visit option that can be selected and scheduled upon request. The Standard Onsite Service Visit is separate from the Proactive Product Maintenance program. During the Standard Onsite Visit, factory trained engineers will help you resolve any issues you might have with your transmitter at your premises, but not perform the full range of services that are provided as part of the Proactive Product Maintenance program.

Proactive Product Maintenance Program Overview:

Annual Proactive Product Maintenance Program (PPM)

The PPM is already included in the SLA Gold Service Level, but also available via a separate charge for any customer. Please refer to the SLA brochure for details.

Rohde&Schwarz's PPM program offers up to two annual on-site visits, where a series of tests and checks are run and documentation is provided to the customer at the end of the process to ensure that the transmitter is operating optimally. Here is a list of services provided during a PPM visit:

1. Perform Transmitter Evaluation

- Review fault logs for potential issues
- Measure output power and calibrate forward/reflected power sensor
- Ensure system is configured properly
- Verify performance of transmitter including operating values (temperatures, voltages, PA currents), also including automatic function check (input automatic, exciter, standby Tx in [N+1])
- Run "TX Check" on all exciters
- Test cooling expansion tank and fluid
- Thermal image scan of transmitter, interconnection line, and filter

2. Optimize Transmitter

- Set cooling pressure, warnings, and fault levels & cleaning heat exchangers
- Optimize efficiency of transmitter
- Perform non-linear and linear corrections (when needed)
- Update system software
- Back up transmitter configuration locally and remotely
- Conduct training and familiarization of transmitter with staff
- Realize service related product changes (internal Rohde&Schwarz "service circulars", if any required)

3. Document Results

- Provide electronic copy of TX check for all exciters post optimization and all transmitter parameters
- Annotate transmitter efficiency
- Provide electronic copy of thermal images
- Document recommendations for optimum continued performance
- Suggest recommended spares
- Ensure future software updates are distributed electronically

Register on GLORIS.

The Rohde&Schwarz Global Information System (GLORIS) is an extranet we maintain to provide access to documentation such as manuals, parts diagrams, user guides, and service bulletins as well as to enter support tickets directly any time of the day or night. While you can always call our Technical Customer Support Hotline, the GLORIS trouble ticket system offers our customers a web-based interface for questions, support and change requests. At any time, the customer can track the progress of requests, submit a follow-up request, as well as apply different views and filtering options. To access the Rohde&Schwarz Support Desk, customers have to register on GLORIS:

<https://gloris.rohde-schwarz.com>



GLORIS access requires a login with e-mail address and password. All Rohde&Schwarz customers can register on this page by clicking 'Register for GLORIS' and request access to the tile Broadcast//Media Support. The ticketing system is effective and quick. Some advantages are:

- Simple ticket creation in the Web portal (via GLORIS)
- Everything is centralized in one place: Transparent and collaborative (even if different customer staff are involved in the incident)
- Tracking the current status of the tickets (customers can always find out about the status of their incidents without being dependent on availability of a specific contact person)
- Allows customers to prioritize requests by choosing the respective severity level of the incident
- Ensures continuity and efficiency
- Incidents are automatically directed to the support engineer in charge, no more time wasted by choosing the responsible support engineer manually. Information flow is not affected by the absence of single service engineers due to vacation or illness.



Get advice for your planning.

Experts from Rohde & Schwarz, antenna manufacturers, RF consultants, and industry leaders have written a general "survival guide" called "Go 2 Repack" to help you plan ahead for the process, keep your transition on track, and turn a long-term investment in RF equipment into new revenue streams for your station. We've included information about the repacking process and ATSC 3.0, as well as details about the latest antenna and transmitter technologies, so you can make the best equipment and infrastructure choices for your facility. Download your copy today from the Rohde & Schwarz Website at:



https://www.rohde-schwarz.com/campaigns/tx9/en/index.html?WT.mc_id=www.rohde-schwarz.com/tx9

Service that adds value

- | Worldwide
- | Local and personalized
- | Customizes and flexible
- | Uncompromizing quality
- | Long-term dependability

Rohde & Schwarz

The Rohde & Schwarz electronics group offers innovative solutions in the following business fields: test and measurement, broadcast and media, secure communications, cybersecurity, monitoring and network testing. Founded more than 80 years ago, the independent company which is headquartered in Munich, Germany, has an extensive sales and service network with locations in more than 70 countries.

Sustainable product design

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



Transmitter Support

https://www.rohde-schwarz.com/us/products/broadcast-media/tv-transmitters/pg_overview_63702.html

Transmitter.Support@rsa.rohde-schwarz.com
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Service.rsa@rsa.Rohde-Schwarz.com
(For RMA's, Part Prices, and Loaners)

Customer.Support@rsa.Rohde-Schwarz.com
(For manuals, SW releases, and test equipment setup and configuration.)

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