

NAB 2017: Rohde & Schwarz presents the first transmitter for the fourth generation HD Radio™ standard

The new exporter and importer functions in the R&S THR9 high-power transmitter from Rohde & Schwarz greatly simplify the previously very complex system architecture of HD Radio™ transmitters. The highly efficient transmitter allows radio broadcasters to cut energy costs as well as to reduce maintenance and rental costs over the lifecycle of the transmitter. It offers the highest efficiency and smallest footprint in the industry. Rohde & Schwarz will deliver the first transmitter of this type to WYCT radio station in Pensacola, Florida. It can also be seen at NAB 2017.

Munich, April 25, 2017 — The exporter and importer functions greatly simplify the system architecture for HD Radio™. They use the same R&S HDR900 hardware and can be integrated into a single instrument with power supply redundancy. This reduces complexity and the number of possible error sources. The professional Rohde & Schwarz implementation of the exporter and importer functions is based on FPGA signal processing. This provides better performance and greater accuracy than PC-based HD Radio™ importer and exporter solutions, which is particularly important for ensuring the consistency of the set diversity delay. The HD Radio™ experience, especially at the periphery of the coverage range, mainly depends on the analog and digital signals remaining synchronized. Radio broadcasters now have a simple but powerful solution specifically designed for fourth generation HD Radio™ that offers the highest availability.

The R&S THR9 provides an output power of 3 kW to 45 kW in hybrid mode and up to 80 kW in analog FM mode. The FM transmitter owes its high efficiency to innovative amplifiers and an uncompromising approach to system design. All RF power components, including the power combiner and the RF rigid line, feature minimum attenuation. This allows the transmitter system to achieve an energy efficiency of up to 75 % in analog FM mode and up to 57 % at –10 dB injection level.

Radio broadcasters especially benefit from the compact design of this transmitter generation. The R&S THR9 delivers an output RF power of up to 24 kW in hybrid mode and up to 40 kW in analog FM mode in a single 19" rack. Many other components can also be installed in the rack, which further reduces space requirements. These can range from a single transmitter with integrated pump unit to a multitransmitter (MultiTX) system. The R&S THR9 offers the highest power density available on the market and is ideal for transmitter sites that need to provide high output power in very small spaces.

The R&S THR9 operating concept is based on many years of user experience and designed to be extremely intuitive. The transmitters can be integrated into a network management system to monitor and analyze parameters and performance data.

The R&S THR9 is the only HD Radio™ transmitter on the market to use advanced liquid cooling technology. It cools all components in the transmitter, including power supplies and couplers. Air conditioning requirements in the transmitter room are reduced significantly, eliminating the need for high-performance air conditioning systems. This saves an enormous amount of space and reduces energy consumption. A/C systems have to be serviced several times per year, but the cooling system for the R&S THR9 only has to be serviced once every four years. It has two pump modules that are operated in active standby and a heat exchanger equipped with two redundant fans, making transmitter cooling highly failsafe.

The broadcast and media specialist will showcase the R&S THR9 high-power transmitter family and other solutions at NAB in Las Vegas from April 22 to 27, 2017, in South Lower Hall, booth SL1205.

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Rohde & Schwarz

The Rohde & Schwarz electronics group offers innovative solutions in all fields of wireless communications as well as in IT security. Founded more than 80 years ago, the independent company has an extensive sales and service network with subsidiaries and representatives in more than 70 countries. On June 30, 2016, Rohde & Schwarz had approximately 10,000 employees. The group achieved a net revenue of approximately EUR 1.92 billion in the 2015/2016 fiscal year (July to June). The company is headquartered in Munich, Germany, and also has strong regional hubs in Asia and the USA. R&S® is a registered trademark of Rohde & Schwarz GmbH & Co. KG.

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