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Rugged RF Recorders Snare Signals to 26 GHz

This wideband RF signal recorder captures 1 to 26 GHz and fits in a half-ATR chassis while meeting rigorous military requirements for small size, weight and power (SWaP).

When RF/microwave signals must be captured for analysis, few recorders match the range and power of the model RTX 2684 from Pentek in such a small package. Designed to strict size, weight and power (SWaP) requirements and packed into an air-cooled, half-ATR chassis, this RF recorder covers 1 to 26 GHz with instantaneous bandwidth as wide as 500 MHz and with quickly removable QuickPac SSD memory that can hold as much as 61 TB data storage. Well suited for signal intelligence (SIGINT), communications intelligence (COMINT), and electronic intelligence (ELINT) applications, the recorder is the latest addition to Pentek's Talon line of signal recording and playback systems.

Designed for the types of hostile operating environments associated with SIGINT applications, the RF recorder weighs just 23 lb and is a candidate for signal surveillance and monitoring systems on small unmanned aerial vehicles (UAVs). "The RTX 2684 Sentinel recorder is a complete antenna-to-disk solution with RF signals downconverted directly to the A/D converters," said Rodger Hosking, vice president of Pentek. "Its 5x reduction in packaging size over the rackmount equivalent, bandwidth performance and storage capacity all offer huge improvements in addressing challenging SWaP constraints in mobile or space limited platforms."



This RF signal recorder captures signals from 1 to 26 GHz across instantaneous bandwidths as wide as 500 MHz while meeting strict SWaP requirements and fitting in a half-ATR chassis.

The signal recorder incorporates one of the company's model 78141A high-speed transceivers working with 12-b analog-to-digital converters at 3.2 Gb/s to acquire detected signals over the 1-to-26-GHz range. A digital downconverter in the transceiver provides a choice of intermediate-frequency (IF) bandwidth, 125, 250 or 500 MHz, for recording captured signals. Based on a Microsoft Windows workstation with Intel Core i7 microprocessor, the signal recorder saves files to a Windows-native new technology file system (NTFS) data format for ease of access. The RF recorder's computer systems are supported by Pentek's SystemFlow software. The RTX 2684 is designed for operating temperatures from -40 to +50°C and supports redundant array of independent disks (RAID) levels 0, 5 or 6.

<https://www.mwrf.com/markets/defense/article/21125422/rugged-rf-recorders-snare-signals-to-26-ghz>