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Wolf 1MS & 2MS

FM monitoring system

⊗ EVERYTHING UNDER CONTROL

Wolf 2MS and **1MS** are state-of-the-art monitoring systems, designed to check FM air signals. Onboard twin tuners allow to accurately scan frequencies, they offer high performances in FM reception, MPX audio encoding and RDS data streaming. This cutting-edge equipment features three main operating modes: continuously reception, bandscan and smart bandscan.

With FM static mode the user can focus on a single channel, selected and monitored exclusively. Thanks to the scan mode up to 32 channels for each tuner can be scanned and supervised in

a single analysis. FM static mode also receives up to 64 memories. **Wolf 2MS** and **1MS** allow to manage accurately RF, MPX, RDS, Audio and RDS data dynamic services. In smart mode the channel scan time is adjusted automatically according to instantaneous measurements requirements.

Wolf 2MS and **1MS**, integrate a Network Management System and offer excellent quality. With SNMP protocol, all data and informations captured during FM monitoring are graphically displayed on any kind of Web interface.



// Models



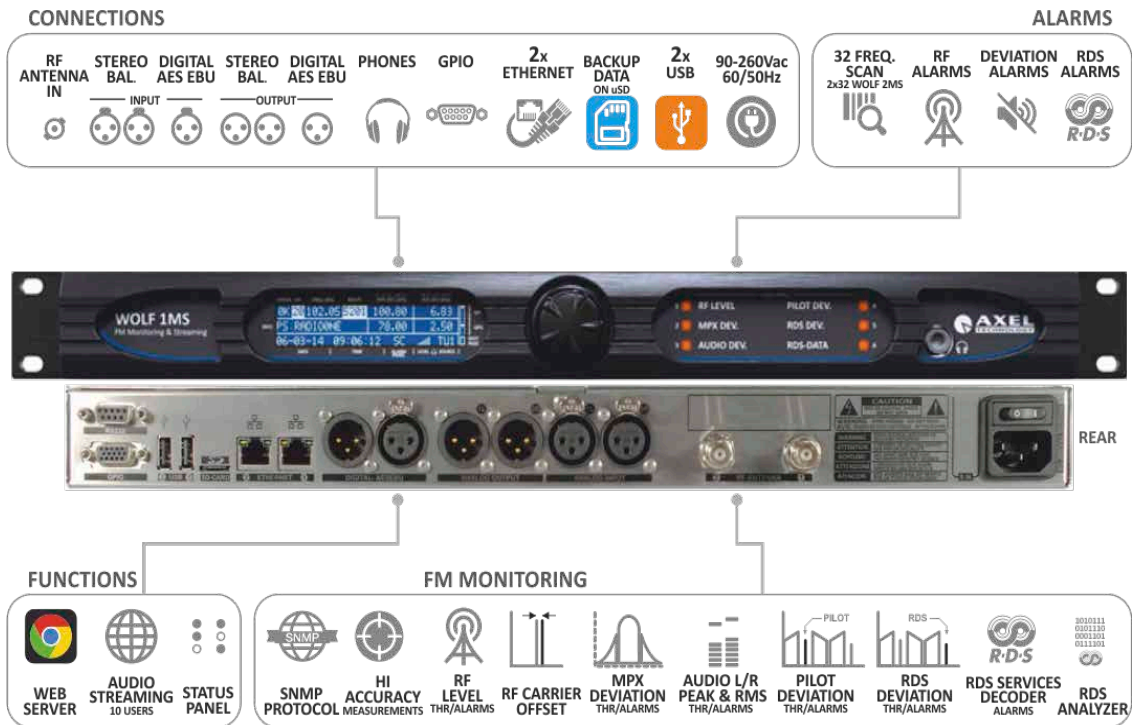
For simple configurations that do not require NMS software, Wolf 2MS can send via email a daily report of the 24 hours events. Wolf 2MS and 1MS provide a database sheet to manage this information. The two built-in audio streamers are the essential feature of Wolf 2MS (Wolf 1MS has 1 built in audio streamer).

Audio channels can be streamed to a remote logging system that records both, audio and data, coming from the transmitter site. It is also possible to send audio stream to a remote player for audio on-demand purposes. Users can listen to each single FM tuner and streamed audio anywhere, using all Internet browsers.

Two onboard network interfaces provide maximum flexibility in streaming and connectivity processes.

From PCs, tablets and smartphones broadcasters can completely control Wolf 2MS and 1MS and have full access to all data and alarms. When an alarm is triggered, NMS system sends notifications via SMS or email or takes an action to manage any possible issue.

External input sources are available: analog Left + Right and digital AES/EBU inputs. Users can connect audio to the controlled external input sources. These audio inputs are constantly monitored: silence detection, and audio presence. Tests, performed also by end users, have shown that Wolf 2MS circuits are extremely safe and completely free from any kind of radiofrequency interference.





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⊗ WOLF 1MS & 2MS

Wolf 1MS and Wolf 2MS are FM monitoring systems designed for FM Off Air signal monitoring purpose. Wolf 1MS is provided with one high quality FM tuner, while Wolf 2MS allows the broadcaster to receive up to two frequencies thanks to an internal double tuner. Tuners are independent and they can operate in three ways: Continuous reception, Bandscan and SmartScan. Internal tuner ensures high performances in FM reception, RF and MPX audio analysis and RDS data stream output. The monitoring made on FM channels can be a basic RF analysis or an advanced RF, MPX and AUDIO measurement.

- » Continuous reception: a single carrier is selected and monitored;
- » Bandscan mode: 32 FM Channels can be scanned and monitored in Wolf 1MS and 64 FM Channels can be scanned and monitored in Wolf 2MS. The bandscan time is also user definable, in a range from 1 second up to 10 seconds for each channel;
- » SmartScan mode allows a smart and variable scan time that is adjusted automatically to fit the instantaneous measurement

⊗ SPECIAL FEATURES

During continuous reception mode, each single tuner checks and completely decodes the multiplexed signal: Mono level, Pilot level, Audio and RDS levels are measured and they are always under control. All datas, captured during FM Channel monitoring, can be sent to a Network Management System (such as Axel Technology's Ranger) or they can be shown in a common password protected Web page. Communication between **Wolf 2MS** and Ranger NMS is SNMP v2C protocol. For all single parameters under monitoring, a threshold can be set. If one or more values go out of range, alarms are delivered.

Once the RF signal is received, audio should be streamed from the transmitter site back to a remote logging system. The streamer input allows to do an internal selection between all inputs available: Tuners, External Analog In, External AES/EBU In.

Wolf 1MS and **Wolf 2MS** are completed with an "External Input" source: analog Left + Right input and Digital Left + Right in AES/EBU format. This audio input

is continuously monitored: silence detection (Threshold/time and level), left and right presence, peak left, peak right. Rear-panel audio output always presents the audio decoded from Tuner-1 or Tuner-2 and this setting is user definable, while audio is available on analog or AES/EBU format.

Wolf 1MS and **Wolf 2MS** provide a large variety of connection: double Ethernet port, USB and front panel headphone output, 4x GPin opto coupled and 4x GPOut over relays. Rs232 serial port for RDS-UECP bridging and rebroadcasting purposes, and rear panel placed SD card to store or recall the complete equipment configuration.

RF antenna inputs are over BNC connectors, a XLR balanced stereo analog input and output, AES/EBU input and output. OS and datas are loaded and stored over solid state memory as SD and flash RAM. Universal switching power supply, 1 rack unit space in fan-less configuration, allows to operate worldwide.

