RMS

Multi-channel FM monitoring,
compliance recording,
and streaming to UDP

- Receive and decode RDS
- Radio signal level (RFL/SNR)
- Monitor up to 16 FM channels

Radio Monitoring Streamer

Solution for multi-channel FM monitoring, compliance recording and streaming to UDP.

With a user friendly and convenient web user interface, it can be used to monitor and measure FM RF signals, perform real-time analysis and allows you to remotely monitor your facilities.

RMS is also used by many operators to receive multiple FM channels over the air and rebroadcast them into IP networks. Managing multiple Radio channels comes with its own challenges.

Monitoring requirements can be at the main broadcast station or can be in remote geographic locations to gauge signal quality and reach. RMS can receive up to 16 FM channels providing RF analysis as well as the ability to encode and restream the channels via IP. Hence, providing the operator with the ability to monitor the channels from anywhere remotely.

Once the channels are converted to live IP multicast streams, they can be easily received for compliance recording purposes with Telestrider's StratoView monitoring platform. Setup and installation is a breeze and takes less than 10 minutes.

Key Features

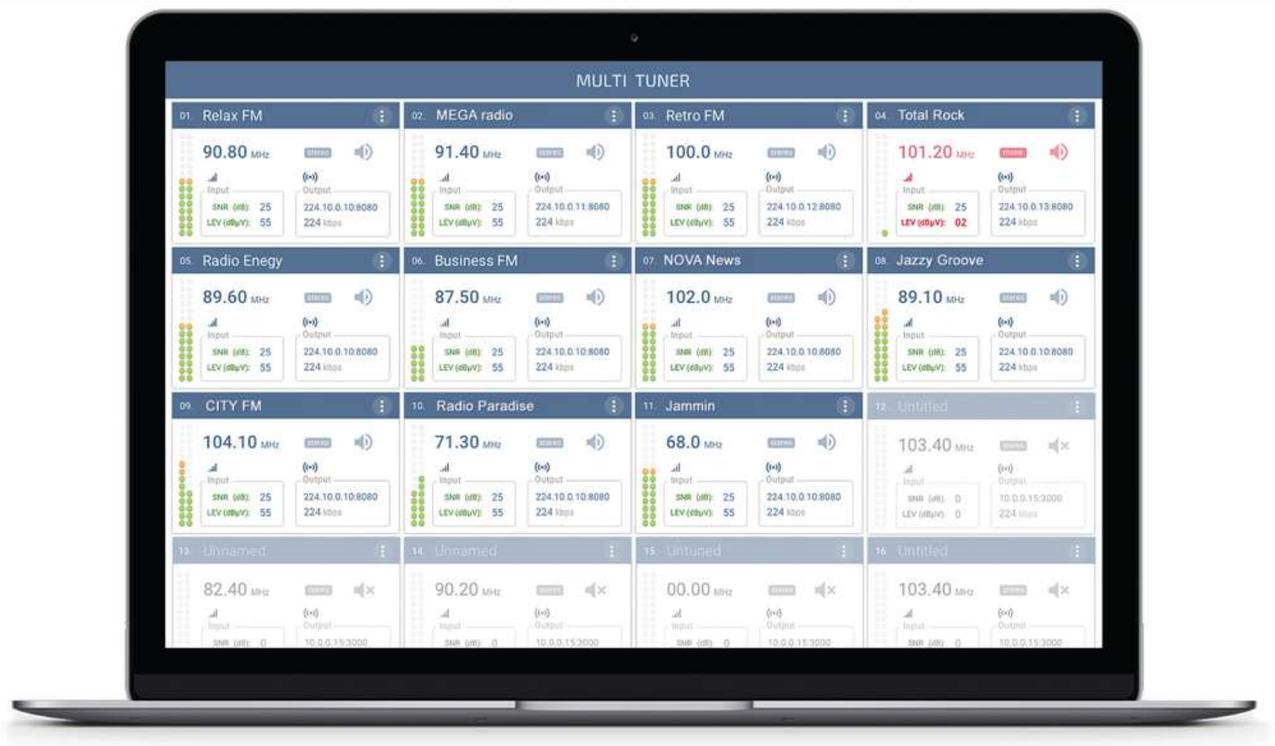
- Operating Range: FM, VHF with polar modulation and pilot signal
- Number of monitoring channels can be 4/8/12/16
- Front panel analog monitor output, 3.5 mm Jack
- REST API for remote configuration, alarms and polling
- User friendly WEB interface
- Fully integrated with StratoView Monitoring and Compliance Recording
- Event logging
- Receive and decode RDS
- Pilot signal presence indicator
- Radio signal level measurement (dBµV), Signal noise ratio (dB), Multipath indicator (in % 0-100), Sound level (%)
- Multi-channel setup manager for automatic or manual frequency slot configuration
- Streaming to UDP multicast with AAC compression (ISO/IEC 13818-7)
- Enable/disable/sleep monitoring of a specific radio station by schedule
- Standard 19" 1 RU rack mountable

Web User Interface

RMS can be accessed and configured through the web interface, which is accessible via any standard web browser. The screenshot displays the main monitoring window.

This summary view displays the main parameters for each channel. Each window displays data on: frequency, signal level, station name, signal-to-noise ratio, sound level, pilot signal presence indicator, RDS text ticker, streaming parameters.

In addition to visual and audio alerts, it is possible to eavesdrop each radio station.



Highlights

Streaming

RMS supports receiving and streaming
into IP networks up to 16 stereo broadcast channels.

The number of channels is dependent
on the device version: 4/8/12 or 16 channels.

RMS performs the encoding and compression
of the FM channels with the ability of changing bitrates.

All signal parameters can be accessed via a dashboard
interface accessible remotely via a web interface.

Use cases

- Broadcaster premises FM Monitoring and Streaming (on and off site)
- Compliance and audit organizations
- Compliance recording
- As part of a distributed monitoring network for remote and hard to reach maintenance free stations
- As a gateway that converts FM broadcast signals for rebroadcast over IP data networks
- For large sailing vessels and cruise ships to aggregate and rebroadcast FM signals via the local IP network

Architecture

Radio signals are received via a feeder antenna (not included) and supplied to the RF input port of the RMS.

Internally, the signals are fed to a splitter from which they are fed to receiver modules. On the motherboard there are 4 connectors for the receiver modules and each module contains 4 RF receivers. The number of installed modules determines the configuration of the device.

The receiver modules amplify, demodulate, de-multiplex and decode the received RF signals and provide signal measurements in real time for monitoring.

Any received signal can be routed to the monitoring output, at the front of the unit, for listening. An onboard processor provides all the necessary control and monitoring of the signals as well as a built-in web interface.

RMS supports receiving and streaming over IP networks up to 16 stereo broadcast channels. The number of channels is dependent on the device version: 4/8/12 or 16 channel. RMS performs the encoding and compression of the FM channels with the ability of setting bitrates. All signal parameters can be displayed on a dashboard interface accessible remotely via a web interface.

Frontal view

The front panel has a power button, an operating status indicator and an audio monitoring connector (3.5 mm Jack). The device case is rack mountable in a standard 19” rack.

Rear view

On the rear panel there is a 220V power connector, an RJ45 connector for the Ethernet port and an RF connector for the feeder antenna.

Specifications

RF characteristics

- Input (RF)
- Frequency Range MHz 64-108 MHz
- Tuning increments 10 KHz
- SNR sensitivity 26 dB, no worse than μV 3.5
- Input impedance 4 kΩ
- Input capacitance 5 pF
- Adjacent channel selectivity ±200kHz 50 dB
- Amplitude modulation suppression Mmax=0.3 40 dB

Supported Streaming Formats

- AAC compression (ISO/IEC 13808-7)
- CBR or VBR
- Mono-Stereo and joint stereo modes
- UDP, Multicast (RFC 5771)

Physical Characteristics

- Overall dimensions (H*W*D) 1U, 19” rack 44x482x250 mm
- Operating temperature range 5-40 ºC
- Weight 2 Kg
- Power supply voltage 220 V
- Power consumption 10 W

Audio

- Audio predistortion range 50 or 75μs
- Frequency range at -3 dB 30-15000 Hz
- Right and left channel separation, no worse than 35 dB
- Right and left channel balancing accuracy 1 dB
- SNR (Mono), no worse than 58 (55) dB

Interfaces and Protocols

- Antenna interface IE61169-2, 75 ohm
- Management interface RJ-45, Ethernet
- User interface Built-in webserver
- Management protocol SNMPv2
- Output interface RJ-45, Ethernet
- Output formats UDP, multicast, IGMPv2, IGMPv3
- Audio sound monitor output RCA, 0 dB, 600 ohm