Radio Explorer

MOBILE FM BAND SPECTRUM AND MODULATION ANALYZER
RDS/RBDS DECODER-READER WITH BUILT-IN GPS RECEIVER

Radio Explorer is a multifunctional, easy to use tool, designed to evaluate FM broadcast band congestion and to measure and store all of important radio broadcast parameters in a Log file. This is a stand-alone solution for running surveys - no other additional tools are needed. You can setup for observation up to 50 preselected channels. All you need to do is to get Radio Explorer in the vehicle and go. When your campaign is over just use the supplied free of charge Windows software to convert the log files into KMZ format and visualize the stored data in Google Earth. Thus you can "get the picture" of what really happens in the field, to outline the coverage of every station comparing with competitors. Such functionality is irreplaceable when you need to analyze and tune your broadcast equipment and antenna. The Log file can be exported also as transitional format for future analyze or to keep it in record.

With a click on the button Radio Explorer becomes an excellent tool for analyzing and setup of whole broadcast equipment on the site. It can measure RF level, MPX deviation, Left & Right Audio levels, RDS and Pilot injection levels and display the measurements on large, easy to read LCD display. Easy switching between RDS/RBDS standards and measurement units makes Radio Explorer compatible for use by broadcast engineers from all around the world. For even better control and data representation connect the device to a usual Windows PC, via a USB port. You can choose between various bar-graphs, data plots, histograms and etc. A super-fast band scan mode is available and gives to you real-time live visualization of whole FM band or just small part of it with down to 5 kHz resolution. All of device or campaign settings you can do by using software or via very intuitive and sample user interface with 5 buttons and LCD screen.

Radio Explorer incorporates a high quality FM front end with all MPX signal and RDS parameters data logger and high sensitive GPS receiver in reinforced steel box. Additional MPX input is available for monitoring as well as MPX output, left and right "program output" and AES/EBU digital audio output. Inputs are for FM and GPS antennas and for power supply. The program received can be monitored with headphones plugged into a standard 1/8" jack with electronic volume control.

FEATURES

- **FM Band 87-108 MHz Basic Spectrum Analyzer**
- **Selectable wide/narrow IF bandwidth**
- **MPX, PILOT & RDS deviation meters**
- **Built-in Stereo decoder; Stereo Presence Detection**
- **LEFT and RIGHT demodulated audio level meters**
- **Built-in 50-channels GPS Receiver**
- **Measurement results visualisation in Google Earth**
- **Accurate front-panel metering for local use**
- **Headphones audio output with volume control**
- **RDS and RBDS decoder**
- **FM/RDS/RBDS Data Logger**
- **RDS/RBDS Stream BER meter**
- **Metal Case for high RF immunity**
- **Full control and monitoring via USB connection**
- **RF and RDS Measurements (real time & average)**
- **Very Intuitive Application Interface**

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R·D·S RADIO DATA SYSTEM

GPS

Radio Explorer

SPECIFICATIONS

FM Receiver	
Frequency Range	87-108 MHz
Step Increment	50 kHz (5 kHz in Band Scan mode)
RDS Sensitivity	0 error at Vrf= -90dBµV, 4kHz RDS deviation, no modulation
RF Level Evaluation	±4dB from 20°C to 30°C, 20 to 60dBµV without modulation
S/N	60dB
Dynamic	0 to 90dBµV; 20 dBµV (-87 dBm) for monaural; 43.5 dBµV (-63.5 dBm) for stereo

Audio, MPX, Pilot, RDS Levels	
Measurement Validity	RF level preferably > 50dBµV
Multiplex Level	Peak displayed, >1000 samples/sec
Audio Level	Peak displayed, >1000 samples/sec
Pilot Level	Mean Peak displayed, >1000 samples/sec
RDS Level	Mean Peak displayed, >1000 samples/sec

User interface	
Indicators	3 LEDs, Buzzer and Navigation Buttons
Line Output	1/8"(3.5mm) phone jack (rear panel)
Composite Output	BNC (rear panel)
Composite Input	BNC (rear panel, adjustable)
FM Antenna Input	BNC (rear panel)
GPS Antenna Input	SMA (rear panel)
Program Output	2 x XLR (rear panel, adjustable)
AES/EBU Output	XLR (rear panel)
Headphone Output	1/8" (3.5mm) phone jack (front panel)
Display	Superb 4x20 characters, LCD
USB	Type B (front panel)

Stereo Decoding	
Stereo Separation	>40dB
De-emphasis	50µs or 75µs, Selectable
Audio Freq. Response	±0.5dB, 20 Hz to 15 kHz; follows selected de-emphasis curve
Typical Separation	approximately 26dB to 35dB

RDS Data Decoding	
Standards	European RDS CENELEC; United States RBDS NRSC
Error Correction & Error Counting	Yes
AF, CT, PI, PTY, DI, MS, TA/TP, RT, PS	Yes

Measurement Storage	
Storage	2GB Built in Memory Card
Data Formats	proprietary binary files

Accuracy	
MPX Deviation	±10%, ±5% typically
Audio Level	±5%
Sub-Carrier Level	±10% typical and not guaranteed

FM Antenna Input	
Connector	BNC on rear panel
Impedance	50?
External Attenuator	No

Size and Weight	
Dimensions(W x H x D)	8.5" x 3.5" x 7.5" 216mm x 89mm x 190mm
Weight	6.2 lbs, 3kg

Operating Conditions	
Equipment operational between	10°C to 60°C
EMC Immunity	6V/m

Power Requirement	
Power Supply	12VDC / 0.7A max
Connector	XLR (on rear panel)

WE NEVER SPARE EFFORTS AND RESOURCES TO TURN OUR IDEAS INTO SUCCESSFUL PRODUCTS

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