Radio Explorer III FM

COVERAGE SURVEY TOOL

R·D·S RADIO DATA SYSTEM

GPS

Third Generation Mobile FM Radio Analyzer

Radio Explorer III FM is DEVA Broadcasts's most advanced FM coverage survey tool yet. Making the most of their considerable expertise, vast know-how and years of experience, our engineers have developed a product that retains all of the best features of its predecessors, but also builds on them for even better monitoring performance. All of this makes for an advanced unit which conducts field surveys, evaluates FM broadcast band congestion and stores all important parameters in a log file, while the built-in FTP system allows you to download and manage the files through the DEVA Device Manager software.

The appeal of the Radio Explorer III FM lies not only in its reliability, but also in the second tuner it comes equipped with - an innovative approach in this range of products, guaranteeing a much higher level of effectiveness and precision. Used to collect RDS AF information and for running a PI scan, this tuner reduces both the time needed for monitoring a channel, and the distance between the map points in the log.

This device measures the RF level, MPX deviation, Left & Right Audio levels, RF field strength, as well as RDS and Pilot injection levels. All measurements are visualized on the easy-to-read OLED graphical display.

There are two campaign modes. The Radio Explorer III FM can be set to measure automatically one or multiple preselected frequencies (up to 50). It can also run an RDS PI / RBDS Call campaign, whereby up to 10 stations can be chosen. The device will automatically detect the used frequency. While the campaign is running, the chosen stations will be monitored; the Radio Explorer III FM will automatically switch between the variable frequencies during movement - just as the car radio of your listeners does.

When the campaign is over, the log files could be converted into KMZ format and visualized in Google Earth using the Windows software, which is supplied free of charge. The band scan mode guarantees real-time live visualization of either the FM band or a particular predefined part of it with down to 10 kHz resolution. The Radio Explorer III FM can be controlled through the built-in Web server, whereby a standard web browser can be used to monitor its status or to make some adjustments. iOS and Android devices are also supported. The Main Screen of the WEB Interface shows all mandatory parameters represented as LED bar graph readings.

Another way to manage the device is through the DEVA Device Manager Software, which is supplied free of charge – the easy-to-use interface allows for quick and easy connection to the unit. The dedicated module ensures managing of all the device's logs and displays all the events in a handy manner.

The Radio Explorer III FM can also be controlled through the very intuitive user interface with an OLED screen, front panel navigational buttons and soft buttons, which ensure easy usage of the device's built-in features.

At a great price, the Radio Explorer III FM is the ultimate mobile monitoring solution.

FEATURES

- **Dual Fully DSP based FM radio frontend**
- **FM Band 65 ÷ 108 MHz Basic Spectrum Analyzer**
- **Selectable IF bandwidth**
- **Built-in Stereo decoder**
- **Stereo Presence Detection**
- **Easy to use WEB Interface**
- **RDS and RBDS decoder**
- **RDS/RBDS Stream BER meter**
- **Powerful Dual DSP-based core**
- **Built-in 50-channels GPS Receiver**
- **Front panel OLED Graphical Display**
- **Very Intuitive Application Interface**
- **SNMP for adjustments and control**
- **LEFT and RIGHT demodulated audio level meters**
- **Full control and monitoring via LAN & USB connection**
- **Antenna port supporting up to 110 dBµV direct RF Antenna Input**
- **MPX, PILOT, RDS deviation meters and RF Field strength**
- **Maintenance via DEVA Device Manager Software**
- **Measurement results visualization in Google Earth**
- **Accurate front-panel metering for local use**
- **Headphone output with front panel level control**
- **RF and RDS Measurements (real time & average)**
- **FM/RDS/RBDS Data Logger**
- **3 General purpose outputs – GPS Fix, Multipath, Low RF Level**
- **Built-in FTP Server for easy download of the Log files**
- **Robust, custom made Metal Case for high RF immunity**

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SPECIFICATIONS

RF Input	
Tuning Range	User selectable, 87.1-108 MHz (CCIR), 65-74 MHz (OIRT), 76-95 MHz (Japan)
Tuning Step	10, 20, 50, 100 kHz
Tuner Sensitivity	30 dBµV
Antenna Ports	BNC Connector, 50Ω
Internal Attenuator	0, 10, 20 and 30 dB
Dynamic range	100 dB

FM Demod	
IF Filter Bandwidth	Selectable 15 Incr. (27 - 157kHz) or Auto
Frequency Response	±0.1 dB, 10 Hz to 86 kHz
Dynamic range	90 dB

Stereo Decoder	
Frequency Response (L&R)	±0.1 dB, 10 Hz to 15 kHz
De-emphasis	Flat, 50 µs or 75 µs, Selectable
SNR (Stereo)	60 dB, 50 µs de-emphasis
THD	0.15% @ 1kHz, 0.4% from 10 Hz to 15 kHz, 50 µs de-emphasis
Separation	50dB, 50Hz to 10kHz, 50µs de-emphasis
Crosstalk	52 dB

FFT Spectrum Analysis (RF, Composite, Audio)	
Signal Sources	RF (IF), MPX, Left, Right
FFT length	2048 points
Dynamic range	90 dB

Scope Analysis (RF, Composite, Audio)	
Signal Sources	RF(IF), MPX, Pilot, RDS, Main, Sub, Left, Right
Record length	4096 points
Dynamic range	90 dB

Metering Accuracy	
RF Level	±1 dB, 0 to 100 dBµV
MPX Power	±0.2 dBr, -12 to 12 dBr, 0.1 dBr res.
Total, Pos, Neg	±2 kHz, 10 to 100 kHz, 1 kHz resolution
Pilot, RDS	±0.5 kHz, 1 to 12 kHz, 0.2 kHz resolution
Audio	±1 dB, +10.0 to -55.0 dB, 0.1 dB res.

Measurement Storage	
Storage	16GB Build-in Memory Card
Data format	Text, CSV

Outputs	
Audio (L, R)	+6 dBu, 600Ω, balanced XLR Connector
GPO	Terminals on rear panel, optoisolated
Headphone	6,3mm (1/4") Phone Jack

Communication Interfaces	
USB	B-type Connector
Ethernet 10/100 Base-T	RJ45 Connector

RDS Decoder	
Standards	European RDS CENELEC; United States RBDS NRSC
Error Correction & Counting	Yes
AF Decoding	Yes
CT (Time/Date)	Yes
PI, PTY, DI, MS	Yes
TA/TP	Yes
RT (Radio Text), RT+	Yes
PS (Program Service name)	Yes
TMC, ODA	Yes
Group Analyzer	Yes
BER Analyzer	Yes
Group Sequence Display	Yes
RDS RAW Data Display	Yes

GPS Receiver	
Number of channels	50
Antenna	Pre-amplified, 5m of cable, magnetic
Connector	SMA, rear panel

Power Requirement	
Voltage	12 DC (11-15V) / 2A max at 12V
Connector	XLR (on rear panel)

Operating conditions	
Temperature	-15°C to 55°C
Humidity	< 95%, non-condensing
Altitude	0 to 5000m above sea level

Size and Weight	
Dimensions (W;H;D)	210 x 76 x 215 mm
Shipping Weight	470 x 180 x 310 mm / 4.031 kg

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