

ADVANCED FM RADIO RE-BROADCAST RECEIVER WITH IP AUDIO & MP3 BACKUP PLAYERS

DB7007 is a second generation digitally-tuned FM Re-Broadcast Receiver. Considering the needs of the most demanding broadcasters and continuously supplementing new features to our devices, DEVA has enhanced DB7007 to be smarter and fully functional unit, equipped with two high-selective DSP-based FM tuners.

Thanks to the built-in monitoring system, upon audio loss at the inputs, DB7007 will not only notify the maintenance staff, but will also automatically switch to the second back-up RF Station. In case a fail of the second station is detected, DB7007 will shift to the incorporated IP Stream, MP3/AAC back-up audio source player. It is essential that the back-up sources priority is user-defined. The audio files and playlists can be uploaded in the device's internal memory directly from your PC, via any FTP client. When the signal at the default input is restored, the DB7007 will automatically switch back to it. Depending on your preferences, several types of alarm notifications are utilized - E-mail, SNMP and SMS (via the optional GSM modem).

The DB7007 has an easy to read, high-resolution OLED graphical display, front panel alarm indicators and ultra-bright bargraphs with up to 40 LED segment indicators that allow reading at a glance of the MPX, Left and Right audio and the RF level, as well. The RF (IF) signal is digitized as soon as it enters the device and all signal processing is then made through DSP algorithms, thus guaranteeing measurement reproducibility over time. The IF bandwidth filters guarantees unprecedented signal selectivity, while the difficult adjacent-channel problem will be completely solved. DEVA advanced DB7007 will measure all important parameters of the FM transmission.

Additionally, the RDS information contained in the processed MPX signal is easily visualized and represented as RDS/RBDS Data and detailed RDS/RBDS Statistics. The utilized Band Analyzer function presents an overview of all available FM signals, plus the RF signal strength. Scans can be performed within any section of the FM band in 4 different frequency steps. The consequently generated spectrum diagram visualizes the relation RF Level vs. Frequency.

Adhering to the underlying principle of all DEVA products to be as much user-friendly as possible, the DB7007 can be also easily controlled through the built-in Web server - you can use a standard web browser to monitor the status or to make any adjustments (iOS and Android devices are also supported); the supplied free of charge DEVA Device Manager Software or alternatively, through the very intuitive user interface.



FEATURES

- Two independent DSP based Digital FM Tuners
- Dual antenna ports with built-in RF attenuator
- Up to 100 dBμV direct RF Antenna Input
- Selectable wide range IF filter bandwidths
- FM Band 65 - 107.9 MHz Basic Spectrum Analyzer
- Built-in DSP based Stereo Re-encoder
- Advanced SNMP Ver.2C support
- Professional AES/EBU, SPDIF and Optical Digital audio outs
- Wide angle, easy to read OLED display
- Very Intuitive Navigational Menu
- Selectable De-emphasis - 50μs and 75μs
- Real Time Audio Program Streaming
- Remote Listening via optional GSM modem
- Apple and Android devices support
- SNTP for automatic sync of the built-in clock
- RDS and RBDS decoder with BER meter
- TCP/IP Remote monitoring & control via SNMP & WEB
- Alarm dispatch via E-mail, SMS, SNMP and GPO
- Multiformat Backup IP Audio player
- Built-in Backup MP3 Player
- Lots of Storage for over 24 hours of non-repeating audio
- Adjustable MIN/MAX alarms for RF, Pilot, L&R Audio Levels
- Adjustable MIN/MAX alarms for MPX & RDS
- Digital Volume Control of all Audio Sources
- Status reporting with SMS via optional GSM modem
- Protected access to the device settings
- Balanced Analog Audio Outputs on XLR Connectors
- USB communication interface for local connectivity
- Headphone output with front panel level control
- Easy and intuitive Windows Application
- Firmware updates will ensure improved operation
- Accurate front-panel metering for local use
- Restore Factory Parameters option
- Wide operating voltage range: 100-240V AC
- 19" Professional Case for high RF immunity
- Easy Installation and Setup

SPECIFICATIONS

RF Input

Tuning Range	FM Band 65 - 107.9 MHz
Tuning Step	10, 20, 50, 100 kHz
Tuner Sensitivity	30 dBμV
Antenna Ports	Dual, 2 x BNC Connectors, 50Ω
Antenna Ports Isolation	> 40 dB
Internal Attenuator	0, 10, 20 and 30 dB
Dynamic range	100 dB

FM Demod

IF Filter Bandwidth	50kHz to 314kHz overall; ±25kHz to ±157kHz; 15 Increments
Frequency Response	±0.1 dB, 10 Hz to 86 kHz
Dynamic range	90 dB

Stereo Decoder

Freq. Response (L&R)	±0.1 dB, 10 Hz to 15 kHz
SNR (Stereo)	60 dB, 50 μs de-emphasis
THD	0.1%, 10 Hz to 15 kHz, 50 μs de-emphasis
Separation	50 dB, 50 Hz to 10 kHz, 50 μs de-emphasis
Crosstalk	52 dB

Backup IP Audio Player

Number of Streams	one main and two alternative streams with auto-switch on failure
Stream Clients	shoutcast, icecast
Stream Formats	PCM (32, 44.1, 48kHz), MPEG1 Layer 3 (MP3), HE-AAC (v.1 and v.2)
Bit Rates	All standard bit rates, including VBR
Number of Channels	Mono, Stereo
Buffer Size Adjust	5Kb to 64Kb
Digital Gain Adjust	-10db to +10dB

Backup MP3 Player

Storage Capacity	2Gb on SD Card
Supported encoders	HE-AAC (v.1 and v.2), MPEG-1 Layer 3
MP3 bit rates	32-320 kbps and VBR
Sample rates	All sampling frequencies specified by MPEG1 L1/L2/L3 (32, 44.1 and 48kHz); MPEG2 L1/L2/L3 (16kHz, 22.05kHz and 24kHz) and MPEG2.5 L3 (8kHz, 11.025kHz, and 12kHz)
Supported file types	*.MP3, *.AAC, *.M4A, *.M3U
Playback modes	Alphabetical ascending and descending, Shuffle, Playlist and Shuffled playlist
Remote file management	Build-in FTP server
Digital Gain Adjust	-10db to +10dB

RDS Decoder

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

Metering Accuracy

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

Outputs

Composite	+12 dBu @ 75kHz, 75Ω, unbalanced BNC Connector
Audio (L, R)	+6 dBu, 600Ω, balanced XLR conn.
AES3 (L, R)	5.0 Vp-p, 110Ω, balanced XLR conn.
SPDIF (L, R)	3.0 Vp-p, 110Ω, unbalanced BNC conn.
Optical (L, R)	Transmitter, TOSLINK
Alarms	Programmable 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
GSM Modem	15 pin Male D-Sub Connector

Measurement Storage

Storage	2GB Build-in Memory Card
Data format	Text, CSV

Operating conditions

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

Power

Voltage	100-240V / 50-60 Hz / 25W
Connector	IEC320

Size and Weight

Dimensions (W;H;D)	485 x 44 x 180 mm
Shipping Weight	540 x 115 x 300 mm / 2.7kg

