



OPTIMOD-FM 8700

Includes both FM and HD audio processing in one model at one price

- New subharmonic synthesizer generates punchy bass
- “Multipath Mitigator” minimizes L-R energy without compromising stereo separation
- Full-featured RDS/RBDS generator
- AES67 (Ravenna) Audio-Over-IP I/O
- 192 kHz AES3 digital composite output
- Ratings Encoder Loopthrough can be placed after the AGC or the FM limiter output
- Dual-redundant power supply with automatic failover
- Highly reliable architecture: separate control microprocessor and DSP

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OPTIMOD-FM 8700 is Orban’s flagship processor. Featuring versatile five-band and two-band processing for both analog FM transmission and digital media, the 8700 provides the industry’s most consistent sound, track-to-track and source-to-source. This consistency allows you to create a sonic signature for your station with the assurance that your signature will stay locked in, uniquely branding your sound.

The 8700 builds on 8600 V4’s outstanding reliability and industry-leading sound quality. It adds Ravenna audio-over-IP connectivity (100% AES67 compliant) and a hot-swappable, dual-redundant power supply with automatic failover. A digital MPX output using a 192 kHz AES3 connection is now standard, as are two digitized SCA inputs. A new program-adaptive subharmonic synthesizer ensures punchy bass, even with older program material. An important feature is a phase skew corrector/multipath mitigator that ensures crisp reaction when receivers blend to mono and minimizes energy in the stereo subchannel without compromising separation. The phase skew corrector uses a proprietary multidimensional processing program algorithm that can simultaneously correct several unequal delay errors, such as multiple-microphone pickup of a single instrument in the original recording session combined with left/right gap skew in an analog mixdown recorder.

Orban’s exclusive MX peak limiter technology decreases distortion while increasing transient punch and high frequency power handling capacity. Compared to the 8500’s limiter, the MX limiter typically provides 2.5 to 3 dB more power at high frequencies, which minimizes audible HF loss caused by pre-emphasis limiting. Drums and percussion cut through the mix. Highs are airy. “Problem material” that used to cause audible distortion is handled cleanly.

The 8700’s main goal is to make FM analog broadcasts more competitive with the cleanliness, punch, and open high frequencies of the digital media against which FM analog transmissions now battle. The FM loudness wars represent 20th century thinking; in the 21st century, the new competition is digital media. Thanks to its crisp, punchy sound, the 8700 helps level the playing field between analog FM and its ever more aggressive digital-only competitors.

The 8700 offers 8500-style processing presets too. Because the input/output delay of the MX peak limiter is too long to permit talent to monitor off-air on headphones, 8500-style is useful for remotes and outside broadcasts where off-air headphone monitoring is desired and the 8700’s low-delay monitor output cannot be brought to the talent.

In addition to subharmonic synthesis and phase skew correction, the 8700 provides stereo enhancement, HF enhancement, equalization, AGC, multiband compression, low-IM peak limiting, stereo encoding, and composite limiting — everything that even the most competitive major market station needs to stand out on the dial.

Processing for digital media like DAB+, netcasts and HD Radio™ is supplied standard. The FM and digital media processing paths split after the 8700’s stereo enhancer and AGC. There are two equalizers, multiband compressors and peak limiters, allowing the analog FM and digital media processing to be optimized separately. The bottom line? Processing that optimizes the sound of your FM channel while punching remarkably crisp, clean, CD-like audio through to your digital channel audience.

More than 20 excellent sounding, format specific factory presets get you started. You’ll find all of your favorite 8500 presets, plus “MX” presets that exploit the exciting possibilities inherent in the 8700’s MX peak limiter technology. Although the factory presets are fully competent “out of the box,” you can customize them with easy on-knob LESS-MORE control or with more than 60 advanced controls whose versatility will satisfy even the most finicky on-air sound designer.

If you choose to use the 8700’s superb DSP-based stereo encoder and composite limiter, be assured that they deliver an FM analog signal that is always immaculately clean and perfectly peak limited, with full spectral protection of subcarriers and RDS/RBDS regardless of the amount of composite limiting. A full featured RDS/RBDS generator that supports dynamic PS is standard.

The 8700 includes ITU-R BS.1770-3 loudness meters and loudness controllers for use in countries that enforce a BS.1770 loudness limit on FM radio broadcasts. There are independent loudness meters and loudness controllers for the FM and digital radio processing chains.