



PREVIEW

# OPTIMOD 5950

## FM & DAB+/HD Radio Audio Processor

The OPTIMOD 5950 will be the first of Orban's new generation of audio processors. Only 1RU high, it offers a powerful suite of features including Orban's breakthrough MX peak limiter technology. Equipped with a new high-resolution touch display and controllable via any HTML5 web browser, the 5950 combines user-friendly operation with highest quality OPTIMOD audio processing for FM and DAB+/HD Radio broadcasts.



### Key Features

Featuring technologies from its flagship 8700i, Orban's new OPTIMOD 5950 includes several proprietary Orban technologies. The MX peak limiter decreases distortion, increases transient impact, and provides more high frequency energy. The multipath mitigator/phase corrector prevents high frequency loss during mono listening, including weak-signal blending in car radios. The subharmonic synthesizer generates punchy bass. OPTIMOD 5950 simultaneously processes one stereo program for FM and DAB+/HD Radio/Streaming. The settings can be coupled to make the blend between analog and HD1 as smooth as possible in HD Radio. Alternatively, the FM and the digital processing can be adjusted independently. This is valuable when the digital processing drives a channel that does not require blending, such as an Internet stream.

**Six Processing Structures:** Five-Band, Low-Latency Five-Band, Ultra-Low-Latency Five-Band, Two-Band, Five-Band MX and Two-Band MX.

**Window-Gated AGC:** Intelligent two-band window-gated AGC controls levels subtly and unobtrusively.

**RDS/RBDS:** Onboard generator supports dynamic PS scrolling and IP access.

**Factory Presets:** Like all OPTIMODs, the 5950 also comes with a variety of factory presets; Orban's exclusive "Less-More" control simplifies creating your own signature sound.

**AES67/SMPTE ST-2110:** Two redundant network interfaces are available for Audio-over-IP connections supporting AES67, RAVENNA™ and SMPTE ST-2110. AES67 provides Dante and Livewire+™ compatibility.

**Remote Control/Monitoring:** OPTIMOD 5950 can be configured and controlled via any HTML5 web browser. It also supports the SNMP v2 and the Ember+ protocols.

**Measurement Tools:** The HTML5 web browser control user interface offers a complete tool set to measure and monitor your audio signals including oscilloscope and FFT displays.

**Audience Measurement:** Two internal Nielsen or Kantar Encoders are optionally available, allowing the FM and the DAB+/HD Radio signals to be watermarked independently.

**Streaming Monitor Output:** The processed FM or DAB+/HD Radio signals can be monitored remotely via IP, allowing processor adjustment in locations where a clean off-air signal is unavailable.

**µMPX interface:** The optional µMPX Interface allows you to transmit DMPX over IP.



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**Internal Storage for Audio Backup:** A 2 GB Flash Memory provides two hours linear or twelve hours AAC, MP3 or OPUS encoded Audio.

**Internet Streaming Decoder:** This feature can be used as a backup audio source received via Audio-over-IP.

**Diversity Delay:** An adjustable delay can be inserted in the FM and/or digital path to ensure time-alignment of the FM and HD Radio/DAB+ signals at the receiver.

**“True Peak” Limiter:** The “True Peak” limiter in the digital processing path anticipates and controls peak levels following D/A conversion, a feature now required by many broadcasters.

**ITU BS.412 Multiplex Power Control:** For countries requiring the multiplex power to be constrained to a specified limit, this feature can be activated to ensure compliance while controlling MPX power smoothly and reliably.

**ITU-R BS.1770-4 Loudness Control** facilitates compliance with modern target loudness recommendations like EBU R 128.

**Silence Detection:** A programmable silence detector is available for the analog, digital and AoIP inputs. It can generate alarms and allows automatic switching to a backup input/input audio storage.

**Dual Power Supplies:** OPTIMOD 5950 is equipped with monitored dual-redundant power supplies to ensure 24/7 operation.

**Safety Bypass Relays:** The analog, digital AES3 and the composite audio inputs and outputs have defeatable safety bypass relays that operate in case of hardware or power failures.

**Audio Inputs:**  
2 x analog  
2 x digital AES3  
2 x Ethernet for AoIP (dual-redundant)

**Audio Outputs:**  
2 x analog  
2 x analog MPX/composite  
2 x digital AES3 or 1 x digital AES3 and 1 x DMPX (configurable)  
2 x Ethernet for AoIP (dual-redundant)  
1 x headphone output (for monitoring)  
Optional 1 x  $\mu$ MPX (DMPX over IP)

**SCA Inputs:** 2 x

**Synchronisation:**  
10 MHz clock input  
AES11 sync input  
19 kHz pilot tone reference output

**GPIOs:** 8 x inputs, 2 x outputs

**Latency:**  
4 - 260 msec (depending on the processing structure)  
Low-latency AES Output: 3 - 8msec

**IP Network:**  
1 x RJ45 Ethernet Management  
2 x RJ45 Dual-redundant AoIP

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