OPTIMOD 5750 HD

FM & DAB+/HD-1/HD-2 Radio Audio Processor

OPTIMOD 5750 HD is the second of Orban's new generation of audio processors and comes with all the features needed in a high-quality audio processor for FM and digital radio. It has a compact 1RU design, is equipped with a new high-resolution touch display, and controllable via any HTML5 web browser.

HD Radio® Digital AM & FM

Key Features

The OPTIMOD 5750 HD replaces its predecessor OPTIMOD 5700i and provides processing for FM analog and for DAB+, HD Radio and streaming. The FM and HD 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.

OPTIMOD 5750 HD is equipped with analog, AES3, composite and digital MPX as well as AES67/SMPTE-ST2110 inputs and outputs includes advance audio routing and Diversity Delay and can easily be integrated in any studio and transmitter environment. Additionally, optional µMPX allows a cost-effective transmission of digital MPX signals over IP.

- **Four Processing Structures:** Five-Band, Low-Latency Five-Band, Ultra-Low-Latency Five-Band and Two-Band.
- **Window-Gated AGC:** Intelligent two-band window-gated AGC controls levels subtly and unobtrusively.
- **RDS/RBDS:** An onboard RDS/RBDS generator supports dynamic PS scrolling and IP access.
- **Factory Presets:** Numerous factory presets included in delivery.
- **Audio-Over-IP:** Two redundant network interfaces are available for Audio-over-IP connections supporting AES67, SMPTE ST-2110 and RAVENNA or DANTE.
- **Remote Control/Monitoring:** OPTIMOD 5750 can be configured and controlled via any HTML5 web browser. SNMP v2 is also supported. Ember+ will be added in a future release.
- **"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:** The defeatable ITU BS.412 Multiplex Power Controller constrains MPX power smoothly and reliably, ensuring compliance in countries that regulate it.
- **ITU-R BS.1770-4 Loudness Control:** Facilitates compliance with modern target loudness recommendations like EBU R128.
- **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.

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The OPTIMOD 5750 HD Broadcast Audio Processor, back panel.

- **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.
- **Audience Measurement:** Two internal watermarking encoders that support Nielsen Audio, Kantar, or IPSOS are optionally available, allowing the FM and the DAB+/HD Radio signals to be watermarked independently.
- **Streaming Monitor Output:** Optionally, 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 bandwidth-limited DMPX over IP.
- **APTmpX Interface:** The optional APTmpX Interface allows you to transmit full bandwidth DMPX over IP.
- **Internal Storage for Audio Backup:** An optional 2 GB Flash Memory provides two hours linear or twelve hours AAC, MP3 or OPUS encoded audio.
- **Internet Stream Decoder:** This optional feature can be used as a backup audio source received via Audio-over-IP.
- **Dual Power Supplies:** OPTIMOD 5750 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 Input Channels:	1 x stereo analog 2 x stereo digital AES3 2 x stereo AoIP
Audio Output Channels:	1 x stereo analog 2 x analog MPX/composite 2 x stereo digital AES3, or 1 x stereo digital AES3 and 1 x DMPX (config) 4 x stereo AoIP 1 x headphone output (for monitoring) Optional 1 x µMPX (DMPX over IP)
SCA Inputs:	2 x
Synchronization:	10 MHz clock input AES11 sync input 19 kHz pilot tone reference output
GPIOs:	8 x inputs, 2 x outputs
Latency:	4 – 22 msec (depending on the processing structure) Low-latency processing AES Output: 3 – 8 msec
IP Network:	1 x RJ45 Ethernet Management 2 x RJ45 Dual-redundant AoIP (AES67, SMPTE ST-2110, Dante or RAVENNA)

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