

NeuStar[™] 4.0

Audio Processor with Codec Pre-Conditioning[™]



NeuStar[™] 4.0 is the newest generation of Neural Codec Pre-Conditioning[™] hardware. NeuStar[™] 4.0 runs either as a standalone codec pre-conditioner/processor or in conjunction with traditional broadcast processing, adding the benefits of Codec Pre-Conditioning[™] to any signal path. Version 4.0 also features the Neural Coding Load Analysis System (N-CLAS[™]), which dramatically decreases codec artifacts. This breakthrough in codec pre-conditioning actually predicts and visually displays when and where the coding artifacts caused by difficult content will occur and then subtly modifies the content in advance of actual encoding.

N-CLAS[™], the Solution for Low Bit-Rate Audio

The NeuStar[™] 4.0 patent-pending audio processing solution is not found in ANY other product. Coupled with Codec-Friendly[™] audio processing, N-CLAS[™] creates the perfect processing solution for low bit-rate audio applications. It allows broadcasters to maximize their codec performance while maintaining a “signature sound,” making it the ideal tool for HD Radio[™] multicast, Internet streams, ISDN/POTS remotes, satellite syndication, STL protection, DAB, DRM, podcasts, etc.

Features / Benefits

- State-of-the-art Neural Codec Pre-Conditioning algorithms featuring N-CLAS[™] (codec performance improvements are *immediately* audible)
- Codec-Friendly[™] volume and spectral management tools that are not found in any other audio processor
- HD Radio[™] codec-specific feature set
- More DSP power than the original NeuStar[™]
- Analog and digital inputs from 22 kHz to 192 kHz
- Easier user interfaces including both front panel and TCP/IP Web control
- Updates to legacy features found in NeuStar[™] 1.0 and UltraLink
- User presets defined by both public and commercial radio broadcasters create an extremely fast setup
- Fully upgradeable architecture for future software and hardware additions
- Runs as a standalone codec pre-conditioner/processor or in conjunction with traditional broadcast processing to add the benefits of Codec Pre-Conditioning[™] to any signal path

Specifications

Specifications are subject to change without notice.

General

Analog Inputs and Outputs	Two balanced +4 dB XLR inputs Two balanced +4 dB XLR outputs
Digital Inputs and Outputs	AES/EBU, 110 Ω , balanced XLR, in and out wordclock, BNC 75 Ω , in, out and through
Audio Sampling Rate	32-96 kHz
Frequency Response.	20 Hz to 20 kHz, ± 0.25 dB
Distortion	<0.01% at 1 kHz <0.02%, 20 Hz to 20 kHz
Analog Output	Output level +4 dB, Maximum Output Level +23 dB THD+N (typical) .001% @ 1 kHz 1-6 dBFS Dynamic Range >110 dBA @ 1 kHz/-60 dBFS Frequency Response +/-0.25 dB, 5 Hz, 21 kHz@FS Channel Separation >100 dB @ 1 kHz
Dynamic Range	>96 dB
Communication	TCP/IP RJ45 Ethernet Two – GPIO ports Two – RS-232/485
Power Requirements	90–264 VAC, 50–60 Hz, auto-sensing, 15 W maximum; unit is designed to operate from a centrally switched power source
Dimensions and Weight	1RU rackmount: 44 x 483 x 324 mm (1.75 x 19 x 12.75 in.) Net: 2.7 kg (5.9 lb.)
Environmental Conditions	Operating: 0° C to 50° C (32° F to 122° F), natural convection cooling; 0% to 98% relative humidity (noncondensing) Nonoperating: -20° C to 70° C (-4° F to 158° F)

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System Requirements

- Intel® Pentium® III or 4 or Intel Centrino™ (or other SSE-enabled) processor (Pentium 4 or other SSE2-enabled processor required for video)
- Microsoft® Windows® XP Professional, Server 2003, or Home Edition with Service Pack 2
- 512MB of RAM (1GB recommended)
- 200MB of available hard-disk space
- 1024x768 display (1280x1024 recommended)
- Sound card with DirectSound or ASIO drivers
- USB port for dongle licensing
- CD-ROM drive
- Speakers or headphones recommended
- Internet or phone connection required for product activation and Internet-related services

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