

Y-TEQ - NEPTUNE



Y-TEQ – Neptune 4 Datasheet

The Neptune 4 amplifier is designed to deliver superior audio performance with exceptional technical features. With 4x300W @ 8Ω and 4x500W @ 4Ω this amplifier ensures maximum power output for your audio systems.

The advanced stable PFC power supply with a wide voltage operation of 180~264VAC ensures stable performance and reliable operation. This amplifier also includes 4 Dante input channels, allowing for seamless integration with other Dante Network audio equipment. The intelligent temperature detecting and fan controlling system ensures quiet standby and ultra-low noise operation.

Furthermore, this amplifier features built-in DSP processing with 48kHz 24bit, enabling advanced sound control with noise gate, PEQ, delay, 4x4 matrix mixing, compressor and limiter adjusting. It also supports various filters such as HPF, LPF, Butterworth, Bessel, Linkwitz-Riley, LSLV, HSLV and ALL-PASS filters.

The amplifier also includes built-in FIR filters and linear phase settings, with 1x256/512/768/1024 taps for each Input and Output.

It supports constant voltage and constant resistance, including 100V, 70V, 8ohms and 4ohms, making it compatible with a wide range of distributed speaker systems. It also supports various modes including stereo, bridge, parallel, and matrix mode.

The 320x240 pixel IPS color display and control connections via USB or TCP/IP, as well as RS232 and RS485 central control connections, ensure easy operation and setup. Additionally, the amplifier is configured with GPIO external expansion control connections, and its dual-network port design supports TCP/IP daisy chaining. Finally, the amplifier comes with a user-friendly GUI for Windows 7/8/10/11 making it simple and convenient to manage your audio setup.

ENGINEERING SPECIFICATION

The digital signal processor with amplified outputs (DSP) is required to have fixed-architecture configuration and be enclosed in a 19-inch, 1U chassis. It is expected to provide four (4) analog audio inputs, a USB/Ethernet interface, and GPIO connectivity. The Network Interface should enable daisy chaining for up to 5 units, and it should offer native Dante audio networking with 4x4 channels, as well as comply with AES67. The DSP should have a single-core processor with a 24-bit architecture and include built-in FIR Filters. Additionally, it is necessary for the DSP to support proprietary control products like Mercury that are powered by Power-over-Ethernet to IEEE 802.3af, class 0 standard and the external control engine must be available to offer third-party command execution through the Lua scripting language. The DSP is required to feature advanced signal processing algorithms, including but not limited to various forms of mixers, equalizers, filters, crossovers, dynamics/gain controls, and delays. It must be linkable to other units of its kind. The program memory of the DSP must be non-volatile to provide program security in case of a power failure. It should conform to CE standards. The DSP shall be the Y-TEQ Neptune 4.

TECHNICAL SPECIFICATIONS

Power

Channels	4
Power	4x 500W@8Ω, 4x 300W@4Ω
Bridge Mode	2x 900W@8Ω
Cooling System	Dual Fan System with Sensor Control
Protection	Audio limiter, high temperature, DC, high frequency, short circuit, back electromotive force, peak current limiter, surge current limiter, start delay, power breaker protection, power supply over-voltage/under-voltage
Monitoring	Temperature, Power, Voltage, Current
Additional Functions	100V, 70V (in Bridge Mode)

Audio Inputs and Outputs

Processor Type	48kHz 24bit
Inputs	Balanced analog 4x XLR & Terminal block, 4x Dante
Outputs	Terminal block (unprocessed), 4x Dante (parallel to amp outs)
Gain	6dB sensitivity: 30dB / 0dB sensitivity: 36dB
Max Input Level	6dB sensitivity: 14dBu (3.88V); 0dB sensitivity: 8dBu (1.94V)
Powered Output	Banana type connectors (included)

Audio Performance

Frequency Response	20Hz~20kHz (±0.5dB)@1W, 8Ω
Ground Noise	700uVRMS (-60dBu)
THD+N	<1%@1W to full power
SNR	6dB sensitivity: 97dB; 0dB sensitivity: 97dB
Crosstalk	<-70dB

Connections and Display

TCP/IP interface	Dual-port RJ-45 Control & Dante, daisy chain supports up to 5 devices
USB	Type-B, Class Compliant
GPIO	8x 3.81mm screw terminals (function free configurable)
Serial Ports	1x RS232 / 1x RS485 (3.81mm screw terminals)
Display	320x240 IPS color display

Electrical and Physical

Internal PSU	AC180 ~264 50/60Hz
Unit dimensions	483mm*265mm*44mm, 1U
Parcel dimension	542mm*453mm*77mm
Net weight	4.65kg
Packaged weight	5.2kg

General

Compliance	CE EMC, CE EN62368
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