

NX242

DIGITAL
TD CONTROLLER



NEXO's NX242 TDcontroller is an advanced, proprietary digital processor that maintains exceptional performance and reliability in GEO, Alpha and PS loudspeaker systems and associated Sub-Basses. The NX242 provides crossover, sensed-amplifier control and system alignment acoustically matched to each NEXO component.

The NX242's complex software algorithms integrate this calibrated data with sensed-voltage measurements, while analogue I/O functions share rear panel space with digital Audio Distribution and System Control over Standard Ethernet via EtherSound™ connection using the NXtension-ES4 Expander Board.



The NX242 supports all Nexo loudspeaker systems including:
 PS8, LS400
 PS10, LS500
 PS15, PS15Bass, LS1200
 Alpha EM, Alpha EF, B1-18
 Alpha M3, M8, B1, S2
 GeoT4805, GeoT2815
 GeoS805 GeoS830
 CD12 CD18

NX242 FEATURES

- Precision circuits engineered for NEXO loudspeakers permit increased sound pressure and operational reliability.
- Flexible loudspeaker management for all NEXO loudspeaker systems, providing crossover, driver protection and system alignment.
- User-configurable inter-channel gain, delay and array EQ.
- Low and High-pass filters optimised to work in conjunction with overall system response.
- High-quality audio performance from 24bit data with 48bit accumulator; 100MIPS.
- 2x audio inputs, 4x audio outputs and 4 sense inputs enable a single NX242 to easily manage multiple NEXO cabinets across each product range.
- Comprehensive 16x2 character backlit LCD display, indicators and controls.
- Optional Remote Control, additional 100MIPS DSP and memory resources and link to the EtherSound Network (4in/4out) via the NXtension-ES4 expander Board.
- 4x NX242's processed (digital) audio outputs to 64x uncompressed channels of 24bit/48kHz of audio transmission over Ethernet.
- Updateable Flash EPROM (Firmware) Upgrades.
- Remote Control software is WIN2000/XP OS compliant.
- Optional remote Control on WINCAL protocol, additional 100MIPS & memory resources.



ETHERSOUND INTERFACE

The EtherSound interface for the NEXO NXtension-ES4 for NX242 TDcontroller provides 4x digital inputs and outputs (enabled for NEXO protocol compliant EtherSound amplifier) with audio digital distribution over Ethernet and ultimate low propagation delay allowing its use for the most demanding live audio applications. NXtension-ES4 also enables network remote installation survey, thanks to its native integrated networked status report capability.

NXTENSION KEY FEATURES

- Doubles DSP-ES resources & Setup Memory of the NX242 TDcontrollers.
- Remote Control potentials via WLAN and Internet, 100% Ethernet and TCP/IP compatible.
- NX242 TDcontroller full Remote Control including Input/Output meters & protection monitoring.
- 4x Digital audio inputs from 64x uncompressed audio channels at 24bit/48kHz over Ethernet.
- 4x Digital NX242's processed audio outputs to 64x uncompressed channels of 24bit/48kHz of audio transmission over Ethernet.

NX242-SPECIFIC FUNCTIONS

(when equipped with the NXtension board)

- Controls unlimited numbers of NX242 and other EtherSound compliant devices via the EtherSound Network.
- Enables NEXO-compliant ES-ready amplifiers.
- Controls all NX242 TDcontroller functions
- Advanced Patching operation
- Provides Group operation
- Provides hardware security lock (via NX242)
- Provides protection monitoring (coming soon)

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NEXO is one of the world's leading sound reinforcement loudspeaker manufacturers. Founded in 1979, the company is dedicated to crafting practical solutions with solid engineering. Each new design begins with a proprietary sophisticated computer simulation process that allows every parameter to be extensively modeled and simulated, leading to breakthrough cost and performance gains. NEXO's comprehensive product line includes loudspeakers, analogue and digital control electronics and amplification; all designed to deliver consistent sound quality and long term reliability for a broad range of applications.

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NEXO

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NX242 PRODUCT SPECIFICATIONS

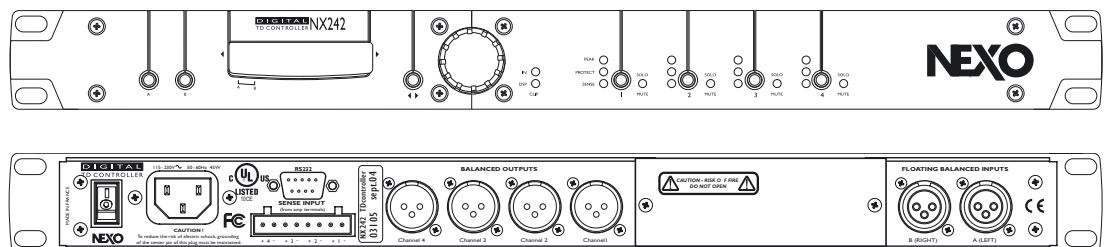
Output Level	+28dBu Max into 600Ω.
Dynamic Range	All Channels = 110dB.
THD+N Output	Typ 0.005% @ 1000Hz @ 27dBu.
Latency Time	2.2ms flat set-up
Output Level	110-220V, 50-60Hz continuous operation (Operating range 90-264V)
Audio Inputs	2x L&R Heavy Duty Audio inputs, 24bit converters; Electronically balanced and floating, 20kΩ. CMMR=80dB. 2x XLR 3 connectors.
Sense Inputs	4x Amplifier Sense-Inputs, 18bit converters; Floating 150kΩ. 8-Pole Removable Strip Terminal.
Audio Outputs	4x audio outputs, 24bit converters, Electronically balanced, 50Ω. 3x XLR-3M connectors.
Processing	24bit data with 48bit accumulator. 100MIPS.
Front panel	Menu A and Menu B buttons. 16 x 2 character backlit LCD Display. Select Wheel and Enter Button; Four MUTE/SOLO Buttons.
Indicators	4x Speaker Protect YELLOW LEDs; 4x GREEN Amp Sense LEDs. 4x RED Peak LEDs. 4x RED Mute LEDs; 2x RED LEDs; Input CLIP and DSP CLIP.
Rear panel	On/Off Mains switch; mains IEC socket; RS232 serial communications connector; Expansion slot for processor extension card;
Flash/EPROM	Software upgrades and new cabinet set-ups are available from nexo-sa.com.
Dimensions	1RU(19in) Width, 230mm(9in) Depth
Weight	3.8kg(8.8lbs) net

SAMPLE USER CONTROL SPECIFICATIONS

System Selection	Allows control of all NEXO ranges.
System Set-up	Within the selected range, allows the cabinet to be set for passive or active mode, aux, mono or stereo subs, wedge or FOH operations depending on system selected. Up to 80x factory pre-sets.
Protection	Peak Limiter, Displacement and Temperature protection on every channel; Physio control of the Protection limiter & compressors Soft Clip Automatic tracking of amplifier clip point.
Delay	Up to 150m(465ft.) of delay in 10cm(.4in) steps; on Sub channel, Main channels or Sub + Main linked.
Input Sensitivity	Level From 6dB to +12dB in 3dB steps.
Output Level	Global and inter-channel gain 6dB in 0.5dB steps.
Amplifier Gain Reading	Allows amplifier gain checking with program material.
Mute/Solo	Changes front panel buttons from Channel Mute to Solo.
Save/Recall	Set-up Stores up to 10 user set-ups; On- the-fly recall, without mute or glitches for instant comparison.
Array EQ	LF or HF shelving filter to compensate ground or stacking effects, +/-6dB
Security Mode	Password protected in Read-Only Mode.

SHIPPING & ORDERING SPECIFICATIONS

Packaging	NX242s are sold as single items and multiples thereof.
Shipping Weight & Volume	1 x NX242 = 4kg(8.8lbs) 0.02cu m(0.71cu ft)
Complying with the safety objectives of 73/23/EEC & 89/336/EEC directives. (EN 60065-1998, EN55103-1996) UL Certification: UL60065 Seventh Edition, dated June 30, 2003 category AZSQ, E241312. CB test certificate DK-8371 based on IEC60065-2001 7nd ed. with all national deviations.	



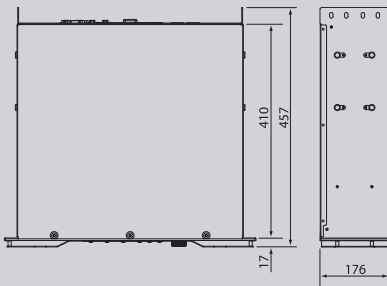
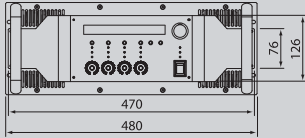
LIMITED WARRANTY

NEXO loudspeakers and electronics are covered against defects in workmanship or materials for a period of two (2) years from the original date of purchase. At the option of NEXO the defective item will be repaired/replaced with no charge for materials/labour. The item is to be adequately packaged and dispatched, pre-paid, to a NEXO authorised distributor/service centre. Unauthorised repair shall void the warranty. The NEXO warranty does not cover cosmetics or finish and does not apply to any items which in NEXO's opinion have failed due to used abuse, accidents, modifications or any type of misuse. All images and text herein are the property of NEXO SA, and deemed accurate, although specifications are subject to change without notice.

NXAMP 4x1 & 4x4 Powered TDcontrollers

NEXO

DIGITAL NXAMP TD CONTROLLER



NX AMP Advantages

- NXAMP 4x4 is among the industry's most powerful amplifiers
- Cost effective integration of command, control, protection and amplification of all NEXO loudspeaker systems
- Lighter and requires less rack space than conventional amplifier-processor systems
- Eliminates unnecessary A/D conversion
- Optional EtherSound Networking

NX AMP Advantages

- Power-on protection (smooth start-up with in-rush limitation)
- Power-off protection (clean shut-down procedure)
- Peak Voltage limiter (clip limiting)
- Peak Current limiter
- VHF protection
- Integrate current limiter
- DC offset protection
- Short circuit protection
- Fan speed control
- Power Amp overheat protection
- SMPS overheat protection
- SMPS fault protection
- Power cable monitoring



NXAMP technology is far more complex than a bundled power amplifier and loudspeaker controller. More than two years of research yielded significant DSP innovations which allow multiple voltage/current/temperature sense lines, from the amplifier's output, to protect both the amplifier and power supply.

Robust, Rugged Power Supplies

NXAMP power supplies are full resonance types with half bridge converters. This exceptional design minimizes noise is via (Zero Current Switch (ZCS) technology. NXAMP4x4 employs four times the structure of a monaural amplifier to present very high power with low load drive.

This requires four converters, four transformers and of course four power supplies. In addition, on both NXAMP models, two converters work synchronize the opposite phase, thus cancelling noise. The benefits include unrivalled sonic performance and low EMC.

Clean and Cool EEEngine

Both NXAMP amplifiers employ YAMAHA's EEEngine technology. This technology offers the sonic purity of conventional class AB, but with a heat dissipation equaling class D technology. In fact, NXAMP rails constantly follow the output signal needs, minimizing the required headroom (and wasted energy).

Ferocious Final Stage (with Protection)

NXAMP's final stage output transistor is customized for these devices via thin chip technology, with minimized thermal resistance, to reach 300 Volts. NXAMP4x4's final stage uses nine such transistors in parallel, to supply 135Amp output current capacity.

Even though DSP protection is already used on both NXAMP models, an Area of Safety Operation (ASO) limiter circuit is also included. ASO limiting is done in analog, as the limiter attack required is too fast for digital protection and converter latency.

NEXO

www.nexo.fr

NXAMP 4x1 & 4x4 Powered TDcontrollers

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DIGITAL TD CONTROLLER NXAMP



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POWER SPECIFICATIONS FOR NXAMP4x1

POWER SPECIFICATIONS FOR NXAMP4x4

Number of amplifiers channels	4x channels, 2 by 2 bridgeable	4x channels, 2 by 2 bridgeable
Max. output voltage (no load)	4 x 105Volts	4 x 200Volts
Max. output power (8Ω)	4 x 600W	4 x 1900W
Max. output power (4Ω)	4 x 900W	4 x 3300W
Max. output power (2Ω)	4 x 1300W	4 x 4000W
Power consumption (Standby)	10W	20W
Power consumption (Idle)	100W	150W
Power consumption (1/8 Power)	1100W	3000W

COMMON NXAMP SPECIFICATIONS FROM ANALOG IN TO POWER OUT

Analog Inputs channels	4x channels, analogue inputs on XLR 3 with a second XLR 3 for linking
Frequency response	±0.5dB from 10Hz to 20KHz
Input Impedance	20KΩ
Max Input Level	+28dBu
Dynamic Range	All Channels = 105dB unweighted
THD + Noise	Typical 0.1% flat setup
Latency time	500us on a flat setup
Power Supply	Dedicated version for 100 ~ 120Volts or 220 ~ 240Volts

COMMON NXAMP FEATURES

Audio Inputs	<ul style="list-style-type: none"> • 4x balanced analogue inputs on XLR3 with a second XLR3 for linking, using 24bit converters. • 4x digital inputs via the optional network card slot at the back.
Power Outputs	4x Speakon outputs using internal power relay for automatic output assignment regarding setup.
RS232 port	Allow firmware upgrade for software improvement and new cabinet setups.
GPIO port	5x Global Purpose Inputs and 8x Global Purpose Outputs for simple remote control and monitoring.
Processing	Two DSPs, 24bit data with 48bit accumulator. 700MIPS.
Front Panel	On/Off Mains switch, Select Wheel, Menu A and Menu B buttons, 40 characters by 2 lines display. Amp protect, Stand-by and power LED's. Then for each channel: volume indicator (15x LEDs), Individual Mute buttons and red LED, output current signal green led, Speaker Protection yellow LED, Amp. Peak red LED.
Rear Panel	1 (NXAMP4x1) or 2 (NXAMP4x4) mains socket; RS232 serial communications connector; GPIO port, Expansion slot for networking audio extension card, 4 XLR inputs with link and 4 Speakon 4 outputs.
Dimensions & Weight	NXAMP4x1: 3U 19" Rack - 457 mm (18") Depth - 16.5kg (33lbs) net NXAMP4x4: 4U 19" Rack - 457 mm (18") Depth - 24.5kg (49lbs) net

NXAMP USER CONTROLS

System Selection	Allows control across all NEXO ranges.
System Set-up	Within the selected range, if possible, allows cabinets to be set for passive or active mode, wideband or crossover mode, choose among available crossover point, cardioid or supercardioid mode.
Protection	Multiple Peak Limiters fitted for both selected cabinet and amplifier. Multiple Acceleration, Displacement and Temperature protections on every channel. Inter-channel regulation.
Delay	Up to 150m (330 ft.) of delay in 10cm (.4in) steps
Input Patching	Allows any of the 4x analogue (or digital) inputs combination to be routed on each output.
Output Gain	Global and inter-channel gain ±6dB in 0.5dB steps.
Volume control	Each channel with 16x steps from - inf dB to 0dB.
Save/Recall	Set-up Stores up to 40x user set-ups; On- the-fly recall, without mute or glitches for instant comparison.
Array EQ	LF or HF shelving filters to compensate ground or stacking effects, ±6dB, frequency factory tuned.
Security Mode	Password protected for Read-Only or Remote-Only Mode.
Remote control	Full remote control via the Ethersound protocol and ESmonitor software.
Certification	UL, SEMKO (CE), CCC, KOREA, TSS, PSE
Green status	Compliant with ROHS and WEEE directive

As part of a policy of continual improvement, NEXO reserves the right to change specifications without notice.

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