NUAR
Universal Amp Rack

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NEXO

NEXO Universal Amp Rack

NEXO

Intelligent amplification
for all NEXO speaker systems.

The NEXO Universal Amp Rack (NUAR) provides NEXO users with a scalable, 'plug & play', amplified audio distribution solution of unrivalled power and flexibility. Systems of any size can be configured easily using channel by channel preset selection of any NEXO cabinet, and digital output patching.

The NUAR rack comprises a pair of NEXO NXAMP4X4 amplifiers, twin DMU digital input metering devices, a pair of DPU digital output patching devices and a choice of 110V, 220V or dual-voltage mains distribution boxes providing power to all the components in the rack.
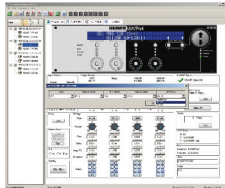
System configuration is simple, using either ESMonitor the new NEXO NeMo iPad® app. NEXO cabinet presets are selected on a channel by channel basis, with selected cabinet names displayed by the DPU for easy output patching.

Digital input metering is provided by the DMU, clearly indicating the presence and status of input signals, including network inputs.

ESMonitor now accommodates NXAMP's channel by channel preset selection.

An entirely new library of presets for every single cabinet in the NEXO range delivers linear phase across any system, making it possible to mix and match NEXO cabinets.

Increased efficiency and versatility is inherent in NUAR's mechanical design. The 14U chassis is suspended within a robust rack case, featuring two sliding doors and an integrated rigging system. This enables up to 3 racks to be flown using an optional bumper and the easy attaching/detaching of a wheelboard.

Each NUAR is fully configured and tested at NEXO to provide a truly versatile and tailored 'Plug & Play' amplification solution.

110V, 220V or dual-voltage power distribution

NUAR can be configured with a choice of 110V, 220V or dual-voltage power distribution boxes, allowing the user to achieve the optimum balance of versatility and cost efficiency.

Where necessary, the power distribution boxes feature colour-coding to assist power balancing when using three phase supplies. The colour-coding is also labelled on the rack case.

220V power box

110V power box

Dual-voltage power box

3

NEXO Universal Amp Rack

The complete integration
of power and control.

NXAMP4x4 Powered TDController

Among the most powerful amplifiers in the industry, the NXAMP4X4 integrates command, control, amplification and protection functions within a relatively light weight and space-saving 4U rack.

By combining realtime monitoring of temperature, voltage and current with powerful dual-DSP control, the NXAMP4X4 achieves exceptional performance with a high degree of protection for both amplifier and power supply, while simultaneously offering all control parameters required for the speakers.

The latest firmware load enables channel by channel preset selection for any speaker in the NEXO range. The result of a 2 year development programme, all presets have been revised using FIR filtering to ensure linear phase across any combination of NEXO cabinets, making it possible to mix and match cabinets in a single, coherent system. EtherSound™ and Dante™ digital networking cards can be installed.

Latest generation 24-bit audio converters provide enhanced dynamic range with low latency (500us analogue input to output in 'flat' mode), eliminating the need for external A/D conversion. Improved power efficiency and decreased heat generation comes courtesy of four separate Switch Mode Power Supplies, which ensure high power capacity with low load drive. NEXO amplification technology delivers maximum efficiency in drive performance and power, while providing the audio quality of traditional class AB amplifiers with the heat dissipation of class D amplifiers. This results in a 50% reduction in power consumption, contributing to outstanding sound quality. Converters operate synchronised in the opposite phase, thus cancelling noise.

The NXAMP4X4 delivers 4 x 4000W into 2 Ohm loads, and is available in 110V, 220V and dual-voltage versions.

Latest Firmware Features
- Set up selection per channel
- Linear phase on all set-ups
- All systems compatible 20Hz-20kHz
- Selectable crossover points for subs

NEXO

DIGITAL TD CONTROLLER **NXAMP**

NEXO Universal Amp Rack

DPU
Automated output patching

The DPU is designed to optimise use of the NXAMP's channel by channel preset selection by automatically routing its outputs to any of 6 output connectors on the DPU front panel. Cabinet names and bridging status are displayed alongside each output, making it easy to wire the system.

Security is assured by fully redundant power supplies and dual switching. When connecting DPU to the NXAMP, a routine first checks that the power from the amplifier is coming from the correct channel. If communication is lost with the NXAMP, the DPU retains its configuration until contact is resumed.

Key Features
- Intelligent output patch panel offering digital communication with NXAMPs.
- Provides automatic output speakons wiring regarding the configuration of the NXAMP.
- Four individual LCD displays for easy labelling of the output speakons.
- Fully redundant design for maximum safety, including dual power socket and dual universal power supplies.
- Plug and play operation, entirely driven by the host NXAMP.

DMU
Intelligent input patching and metering

DMU is the ultimate tool for the easy monitoring of any activity on the NXAMP audio inputs. The DMU is totally driven by the host NXAMP, with signal and power supply coming from the NXAMP's GPIO port.

Front panel features include 4 analogue XLR inputs plus links, three RJ45 ports for digital audio networking and LED VU meters. Particular care has been taken to ensure minimum insertion losses in the analogue audio signal.

Key Features
- Intelligent input patch panel offering digital communication with NXAMPs.
- Provides input level meters on all analogue and network inputs.
- Fully passive design on the audio and network paths.
- Powered through the host NXAMP, no need for mains supply.

Digital audio networking

NUAR racks can be pre-configured with EtherSound™ or Dante™ digital audio networking capabilities, enabling users to monitor and control the NXAMPs.

NXES104
EtherSound™ Network Card

NXDT104
Dante™ Network Card

Key Features

• Extracts 4 audio streams (24 bits / 48 KHz) among the 2 x 64 channels of a ES100 Ethersound™ stream.
• IN and OUT port for simple daisy chain without any need for an external switch.
• 3rd Ethernet port for remote control of the whole network from any NXES104 card and ASIO streaming.

Key Features

• Receives 4 audio streams (24 bits / 48 KHz) in Dante™ format.
• Unique 3-port design can be used:
  - As an integrated 3 port gigabit switch
  - As two Dante™ redundant port plus an optional 3rd port for additional remote control
• Direct connection to PC using the ASIO format.

NeMo
Remote Monitoring App

Available free for iPad® and iPhone®, NEXO's NeMo Remote Monitoring app provides remote control over a NXAMP network from anywhere in the venue.

Key Features

• Visualise the NXAMP network on a 2D map
• Monitor and control the parameters of one or more devices, including:
  - input levels
  - output levels
  - patching between outputs and inputs
  - output parameters such as volume, gain, delay, array-EQ and headroom
  - device and channel mute and solo
  - setups
  - scenes

NEXO Universal Amp Rack

NUAR power illustrations

Central to the concept of the NUAR rack is the versatility to configure and power any combination of NEXO cabinets.
Here are just a few systems that serve to illustrate the sheer power of NUAR.

32 x GEO S12 cabinets powered by a single NUAR rack.
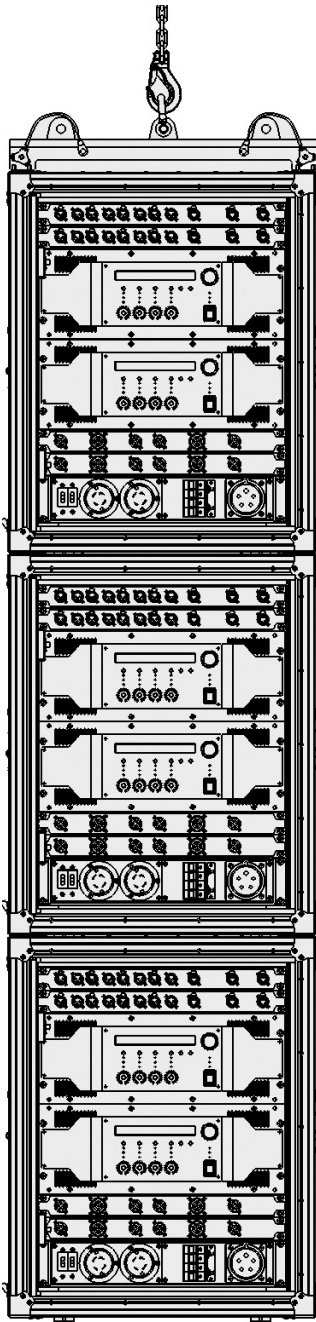
24 x 45°N12 monitors powered by a single NUAR rack.

12 x M46 main and 12 x B112 bass STM cabinets
powered by a pair of NUAR racks.

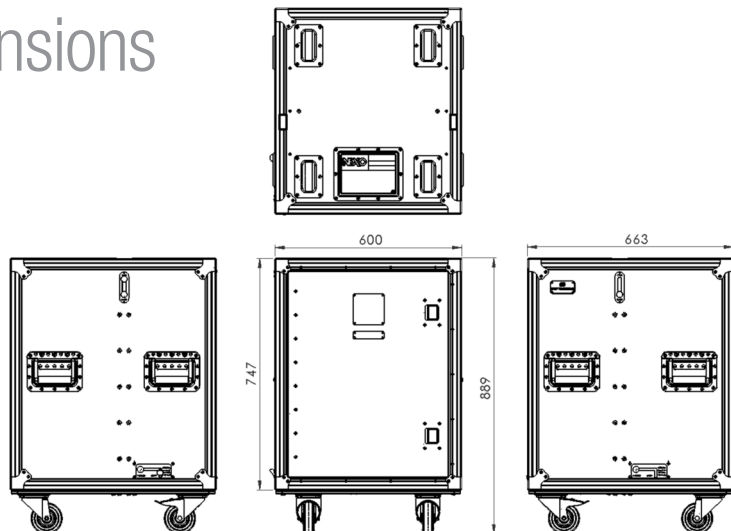# NUAR accessories

NUAR Bumper

NUAR incorporates an integral rigging system. Up to three racks can be flown using the optional bumper.

NUAR Wheelboard

Each NUAR rack is supplied with a wheelboard which can be attached and detached using NUAR's integral rigging system.

Dimensions

600

747

889

663

NEXO Universal Amp Rack

NUAR - Packing List

EACH NUAR RACK COMPRISES:

1 X ASD14U + removable wheelboard
2 x NXAMP4x4 Power Amplifier (110V, 220V or 110V/220V)
2 x DMU Digital Meter Unit
2 x DPU Digital Patching Unit
1 x Power Box (110V, 220V or 110V/220V)
2 x 4U NEXO perforated panels
3 x 2U NEXO perforated panels
2 x DB25 cords
2 x DB9 cords
4 x SPEAKONS 4*2.5mm² power cords
8 x XLR/XLR cords
4 x 250V/10A power cords
6 x RJ45 cords
Optional Digital Audio Networking Cards
2 x EtherSound™ cards or
2 x DANTE™ cards
Optional Rigging Bumper includes:
1 x NUAR_BUMP
2 x 10 x 60mm heavy duty ball lock with + retaining cables
1 x 5/8" shackle

MECHANICAL DATA

NUAR
Dimensions (H D W with board Wheel): 889mm (14U) x 663mm x 600mm
Weight (all devices + board wheels): 133kg (293.2 lbs)
Finish: Heavy duty black 900 vinyl cover

NUAR_BUMP
Dimensions (H D W): 60mm x 150mm x 600mm
Features: includes 1 x 5/8'' shackle, 2 x 10 x 60mm Ball Locks with cables
Weight: 6kg (13.2 lbs)
Finish: Black 900, sanded paint
Max Load: 450Kg up to 3 NUAR

Specifications - NXAMP4x4

POWER SPECIFICATIONS FOR NXAMP4x4

Number of channels	4x amplifiers channels, 2 by 2 bridgeable
Max. output voltage (no load)	4x 200 Volts
Max. output power (4 channels mode /8 Ohms load per channel)	4x 1900 Watts
Max. output power (4 channels mode /4 Ohms load per channel)	4x 3400 Watts
Max. output power (4 channels mode /2 Ohms load per channel)	4x 4000 Watts
Max. output power (2 channels mode /8 Ohms load per channel)	2x 6800 Watts
Max. output power (2 channels mode /4 Ohms load per channel)	2x 8000 Watts
Power consumption (Standby)	20 Watts
Power consumption (Idle)	120 Watts

INPUT TO POWER OUT SPECIFICATIONS

Frequency response	+0.5 dB from 10 Hz to 20 KHz
Input impedance / Max. level	20 K / +28 dBU
Dynamic range / TDH + N	105 dB unweighted / Typical 0.1% on a flat setup
Latency	500 us on a flat setup
A to D Converters	Audio and current/voltage sense lines : 24 bits @ 48 KHz
Processing	Two dual-core 24 bits fixed point DSP with 56 bits accumulator

BACK PANEL FEATURES

Analog audio inputs	4x balanced analogue inputs on XLR3 with a second XLR3 for link
Power outputs	4x Neutrik Speakon NL-4 outputs
RS232 port	1x DB-9 connector for firmware upgrade and accessories connection
GPIO port	1x DB-25 connector with 5x Global Purpose Inputs and 8x Global Purpose Outputs
Expansion slot	For networking audio cards, 4x digital audio inputs and remote control
Mains sockets	2x Neutrik Powercon NAC3 (2x 16 A) or NAC3-HC (2x 32 A) depending on model

USER INTERFACE AND CONTROLS

Front panel buttons and knobs	On/Off Mains switch, Select Wheel, 2x Menus buttons, 4x Select and 4x Mute buttons
Display	40 characters by 2 lines LCD display with LED backlight.
Global status display	Power, Standby and Amp Protect LEDs.
Speakers/Amp status display	Per channel, output current sensing, speaker protection and channel soft clip.

DIMENSIONS AND CERTIFICATIONS

Dimensions	4U 19" Rack - 457 mm (18") Depth
Weight	24.5 Kg (49 lbs) net
Electrical Safety Certification	cETLus, CB (CE)
EMC Certification	CE, FCC
Green status	Compliant with ROHS directive

Specifications - Power Distribution Boxes

TECHNICAL DATA

MD1, 110V POWERBOX
Dimensions (H D W): 80mm (2U) x 350mm x 482mm
Input: 2 x 30A L14-30 NEMA Connectors
Weight: 7.8Kg (17.1lbs)
Outputs
4 x 4" Tails 14 cable, terminating with NA3FCA POWERCON
4 x IEC 10A + locks for auxiliary
Finish: Heavy duty black 900 sanded paint
Protection: 2 x 10A circuit breakers for Auxiliary Output

MD2, 220V POWERBOX
Dimensions (H D W): 80mm (2U) x 380mm x 482mm
Weight: 6.9Kg (15.2lbs)
Input: 32A P17, 3P + N +G
Outputs
4 x 4"Tails cable, terminating with NA3FC-HC POWERCON
4 x IEC 10A + locks for auxiliary
Finish: heavy duty black 900 sanded paint
Protection
4 x 16A breakers C type for POWERCON Output
2 x 5A circuit breakers for Auxiliary Output

Dual-voltage POWERBOX
Dimensions (H D W): 80mm (2U) x 380mm x 482mm
Weight :14.7Kg (32.4lbs)
Input:
1x 32A P17 , 3P + N +G
2 x 30A L14-30 NEMA Connectors
Outputs
4 x 4" Tails cable, terminating with NA3FC-HC POWERCON
4 x IEC 10A + locks for auxiliary
4 x 4" Tails 14 cable, terminating with NA3FCA POWERCON
4 x IEC 10A + locks for auxiliary
Finish: heavy duty black 900 sanded paint
Protection
4 x 16A breakers C type for POWERCON Output
2 x 5A circuit breakers for Auxiliary Output
2 x 10A circuit breakers for Auxiliary Output

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Specifications -   NXES104 | NXDT104

NETWORK FORMAT

Compatible networks	Ethersound networks	Dante networks
Network type	Dedicated Ethernet 100 Mb	TCP/IP over Ethernet, 100 Mb or 1 Gb
Device addressing	Automatic, based on Mac address	Automatic, based on IP address with Zeroconf

AUDIO FORMAT

Number of channels	4 channels from network to NXAMP	4 channels from network to NXAMP
Resolution / Sample Rate	24 bits / 48 KHz	24 bits / 48 KHz
Latency	0.10 ms	0.15 ms to 5.0 ms (typical 1 ms)

FRONT PANEL FEATURES

Network inputs	2 shielded Neutrik Ethercon	2 shielded Neutrik Ethercon
Additional port	RJ45 for additional remote control	RJ45 for additional remote control
LEDs on network ports	Tx and Rx on each port	Link/Act and Speed on each port
LEDs on additional port	Link and activity	Link and activity

GENERAL SPECIFICATIONS

Power supply	+ 3.3 Volts, 5 W from NEXO slot	+ 3.3 Volts, 7 W from NEXO slot
Dimensions (W x D x H)	120 x 160 x 40 mm (NXAMP slot)	120 x 160 x 40 mm (NXAMP slot)
Weight	160 g	200 g
EMC certification	CE, FCC, ICES	CE, FCC, ICES
Green Status	ROHS and REACH	ROHS and REACH

Specifications - DPU

ROUTING FEATURES

Routing Matrix	Route any of the four input channels to one or several Speakon pins pairs on the front

FRONT PANEL FEATURES

Power outputs	4 Neutrik Speakon-4 and 2 Neutrik Speakon-8
LCD Displays	4 LCD displays, 2 x 8 characters

BACK PANEL FEATURES

NXAMP power inputs	2 Neutrik Speakon-4 for connecting the NXAMP Powered TDcontroller
NXAMP interface	RS232 interface for communication with the NXAMP Powered TDcontroller
Mains inputs	2 IEC connectors with security latch (V-Lock system)

GENERAL SPECIFICATIONS

Power supply	Fully redundant, dual universal 100 ~ 240 Volts, 50 or 60 Hz, 25 Watts
Dimensions	1U 19" Rack - 248 mm (10") Depth
Weight	4.7 Kg (10.4 lbs) net
Electrical Safety Certification	cETLus, CB (CE)
EMC Certification	CE, FCC
Green status	Compliant with ROHS directive

Specifications - DMU

METER FEATURES

Integrated VU-meters	8 channels of 8 levels VU-meters, one per input (4 x Analog and 4 x Network)
Network activity	2 LEDs per network input

FRONT PANEL FEATURES

Analog audio connectors	4 x Neutrik XLR-3 with parallel output link on XLR-3, named from A to D
Network connectors	3 x Neutrik Ethercon connectors, named from 1 to 3

BACK PANEL FEATURES

Analog audio connectors	4 x Neutrik XLR-3 passive connection to front panel XLR
Network connectors	3 x RJ45 connectors, routed to front panel through matched impedance pairs
GPIO connector	DB-25 for digital communication and power from host NXAMP

GENERAL SPECIFICATIONS

Power supply	From GPIO port, 5 Volts DC, 1Watts
Dimensions	1U 19" Rack - 50 mm (2") Depth
Weight	1.2 Kg (2.6 lbs) net.
Electrical Safety Certification	cETLus, CB (CE)
EMC Certification	CE, FCC
Green status	Compliant with ROHS directive

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