

# **NEXT** proaudio

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## **N-RAK 20/40/80** **ONE RACK FITS ALL** **USER MANUAL**



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## INTRODUCTION

Thank you for purchasing a NEXT N-RAK. This manual will provide you with useful and important information about your NEXT N-RAK element. Please devote some time reading this manual and keep it at hand for future reference. NEXT-proaudio is concerned with your safety and well-being, so please follow all instructions and heed all warnings. Also, a better understanding of some specific features of the N-RAK element will help you to operate your system to its full potential. With a continuous evolution of techniques and standards, NEXT-proaudio, reserves the right to change the specifications of its products without early warning. For the most current data, please visit our website: [www.next-proaudio.com](http://www.next-proaudio.com)

## UNPACKING

Each NEXT N-RAK element is built in Europe (Portugal) by NEXT-proaudio, to the highest standard and thoroughly inspected before it leaves the factory. When unpacking the NEXT N-RAK, examine it carefully for any signs of possible transit damage and inform your dealer immediately if any such damage is found.

It is suggested that you retain the original packaging so that the system can be repacked in the future if necessary. Please note that NEXT-proaudio and its authorized distributors cannot accept any responsibility for damage to any returned product through the use of non-approved packaging.

## N-RAK OVERVIEW

NEXT-proaudio has developed a unified rack solution N-RAK, designed for optimum performance flexibility and setup simplicity. The new rack was configured to interface seamlessly allowing multiple configurations for the entire NEXT-proaudio's product range. Consisting in a family of 5 different models, N-RAK 6, N-RAK 12, N-RAK 20, N-RAK40, N-RAK80, all the N-RAKS are equipped with Powersoft amplifiers, featuring Dante™ audio networking functionality (optionally on N-RAK20, N-RAK40, N-RAK80).

N-RAK was created as a universal platform developed to facilitate cross-rental between NEXT-proaudio's Users worldwide and to ensure compatibility with the cabling standard of the systems. The N-RAK has Dante (optional on models 20, 40 and 80), AES3 and Analog inputs for multiple connections, making the setup process greatly simplified and much more efficient than the former LA Rack. With the Powersoft amplifiers already built in and no assembly required, it's an easy-to-configure, all-in-one amplifier solution that eliminates the process of building amp racks. The N-RAK touring rack offers an advanced rack solution for all NEXT-proaudio' systems covering signal and power distribution in a plug-and-play touring package.

The N-RAK versatility extends to delivery as well, since its dimensions were projected to allow easy shipment on European trucks, sea containers and other transportation modes. The fully equipped N-RAK module comprises a 4U Customized rack with 2 Powersoft T604 (N-RAK12) or 1 Powersoft T604 (N-RAK6) or a 6U Customized Rack with 2 Powersoft X8 (N-RAK80) or 1 Powersoft X8 (N-RAK40) or 1 Powersoft X4 (N-RAK20); 2U Audio Distribution Panel in the front; and 2U Power Distribution Panel in the back.

## SAFETY FIRST

It's important that professional systems are used in a safe manner. Please take some time to review the following points concerning safe use of the NEXT-proaudio's N-RAK.

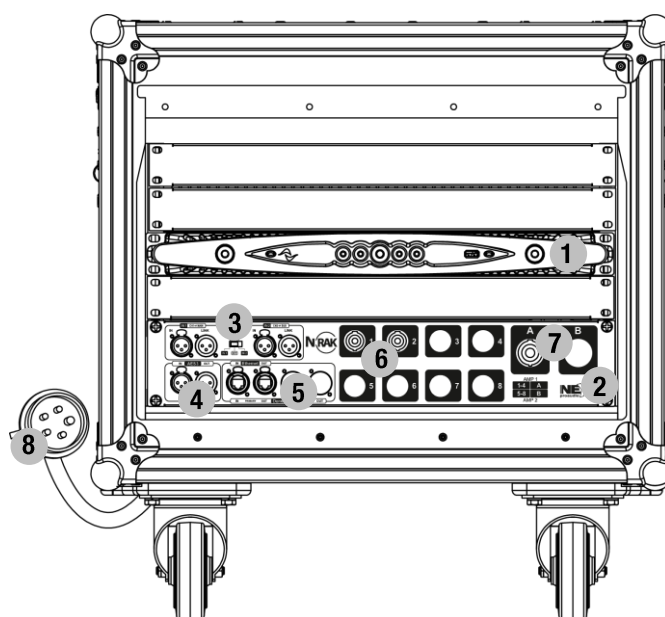


- Place cables in a way that they do not present a trip hazard.
- Always connect Earth wire.
- Do not attempt to move the rack while connected.
- Do not operate the N-RAK under heavy rain or moisture.
- Do not expose the rack to extreme heat or cold conditions to prevent component damage.
- Keep the N-RAK's doors open while operating.
- Ensure the minimum distance of 1m to any near surface to allow the air flow.
- If you find any damaged, corroded or deformed parts, do not use them, contact NEXT-proaudio' service immediately.
- NEXT N-RAK system installation should only be carried out by qualified personnel.
- Always use adequate protective clothing and equipment to prevent possible injuries.
- Only install the systems on solid, levelled ground and isolate the surrounding area during installation and operation, to prevent general public presence near the system.
- Be sure you understand all local and national regulations regarding equipment installation.
- Failure to comply with these instructions may result on injury or death.

## N-RAK20

The N-RAK20 has a total power of 20800W divided by 4 amplifier channels of 5200W each. On the front panel of the N-RAK20 there are two analog inputs and two links, two AES3 inputs and two links and one ETH input and one link. It is also possible to have DANTE version that will share the same ETH ports. For Dante redundancy please take the caps off, install the Neutrik NE8FDP connector and correctly install the RJ45 cables on the amplifier ports. Note: An external managed switch is mandatory.

### N-RAK20 FRONT PANEL LAYOUT:



- |                                    |                                   |
|------------------------------------|-----------------------------------|
| 1- Powersoft X4 Amplifier          | 5- Ethernet/DANTE RJ45 Input/Link |
| 2- NEXT Audio Distribution Panel I | 6- SpeakON NL4 Connectors         |
| 3- Analog Inputs/Links             | 7- SpeakON NL8 Connectors         |
| 4- AES3 Inputs/Links               | 8- 3P+N+E 32A Socket              |

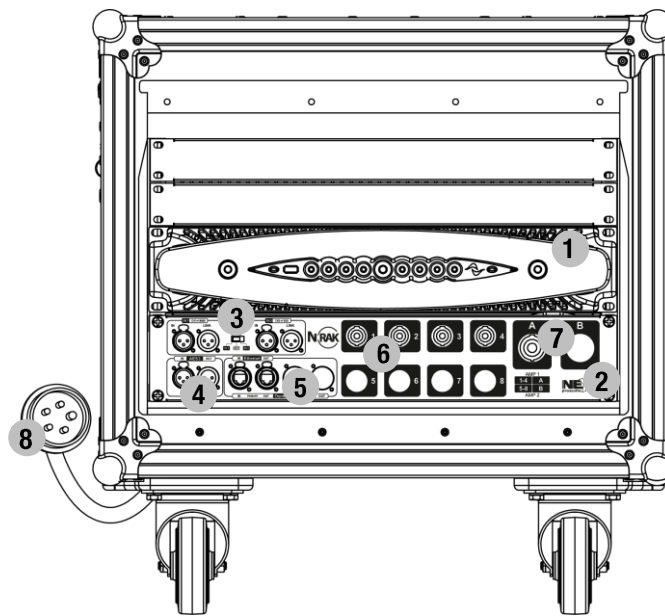
### N-RAK20 OUTPUTS PINOUT:

OUT 1 – 1+/1- parallel 2+/2- -> X4 Channel 1  
OUT 2 – 1+/1- parallel 2+/2- -> X4 Channel 2  
OUT A – 1+/1- -> X4 Channel 3  
OUT A – 2+/2- -> X4 Channel 4  
OUT A – 3+/3- Not Connected  
OUT A – 4+/4- Not Connected

## N-RAK40

The N-RAK40 has a total power of 41600W divided by 8 amplifier channels of 5200W each. On the front panel of the N-RAK40 there are two analog inputs and two links, two AES3 inputs and two links and one ETH input and one link. It is also possible to have DANTE version that will share the same ETH ports. For Dante redundancy please take the caps off, install the Neutrik NE8FDP connector and correctly install the RJ45 cables on the amplifier ports. Note: An external managed switch is mandatory.

### N-RAK40 FRONT PANEL LAYOUT:



- |                                     |                                   |
|-------------------------------------|-----------------------------------|
| 1- Powersoft X8 Amplifier           | 5- Ethernet/DANTE RJ45 Input/Link |
| 2- NEXT Audio Distribution Panel II | 6- SpeakON NL4 Connectors         |
| 3- Analog Inputs/Links              | 7- SpeakON NL8 Connectors         |
| 4- AES3 Inputs/Links                | 8- 3P+N+E 32A Socket              |

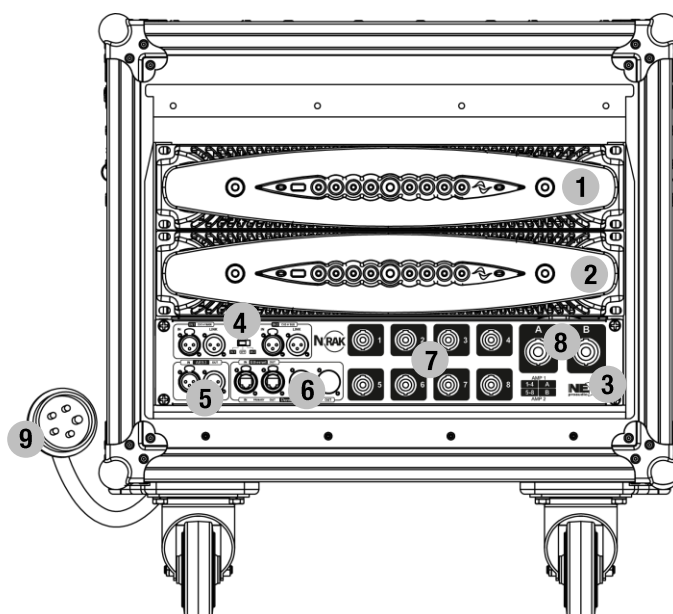
### N-RAK40 OUTPUTS PINOUT:

OUT 1 – 1+/1- parallel 2+/2- -> X8 Channel 1  
OUT 2 – 1+/1- parallel 2+/2- -> X8 Channel 2  
OUT 3 – 1+/1- parallel 2+/2- -> X8 Channel 3  
OUT 4 – 1+/1- parallel 2+/2- -> X8 Channel 4  
OUT A – 1+/1- -> X8 Channel 5  
OUT A – 2+/2- -> X8 Channel 6  
OUT A – 3+/3- -> X8 Channel 7  
OUT A – 4+/4- -> X8 Channel 8

## N-RAK80

The N-RAK80 has a total power of 83200W divided by 16 amplifier channels of 5200W each. On the front panel of the N-RAK80 there are two analog inputs and two links, two AES3 inputs and two links and one ETH input and one link. It is also possible to have DANTE version that will share the same ETH ports. For Dante redundancy please take the caps off, install the Neutrik NE8FDP connector and correctly install the RJ45 cables on the amplifier ports. Note: An external managed switch is mandatory.

### N-RAK80 FRONT PANEL LAYOUT:



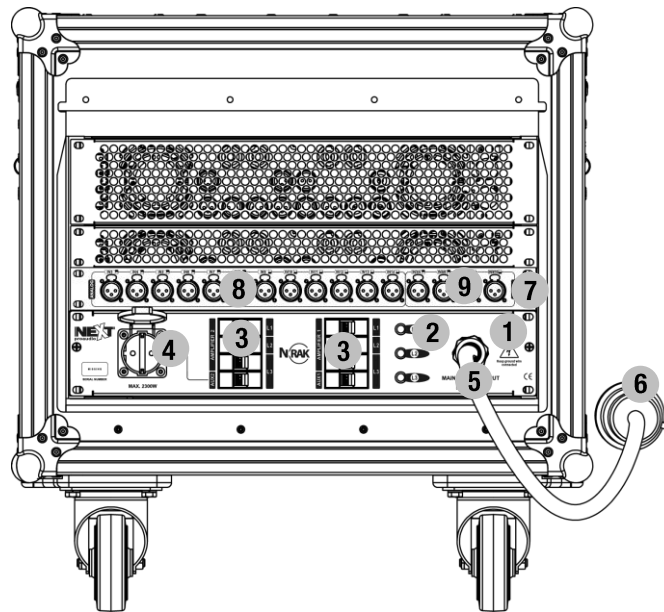
- |                                     |                                   |
|-------------------------------------|-----------------------------------|
| 1- Powersoft X8[1] Amplifier        | 6- Ethernet/DANTE RJ45 Input/Link |
| 2- Powersoft X8[2] Amplifier        | 7- SpeakON NL4 Connectors         |
| 3- NEXT Audio Distribution Panel IV | 8- SpeakON NL8 Connectors         |
| 4- Analog Inputs/Links              | 9- 3P+N+E 32A Socket              |
| 5- AES3 Inputs/Links                |                                   |

### N-RAK80 OUTPUTS PINOUT:

- |   |                                  |
|---|----------------------------------|
| OUT 1 – 1+/1- parallel 2+/2- -> X8[1] Channel 1 | OUT A – 1+/1- -> X8[1] Channel 5 |
| OUT 2 – 1+/1- parallel 2+/2- -> X8[1] Channel 2 | OUT A – 2+/2- -> X8[1] Channel 6 |
| OUT 3 – 1+/1- parallel 2+/2- -> X8[1] Channel 3 | OUT A – 3+/3- -> X8[1] Channel 7 |
| OUT 4 – 1+/1- parallel 2+/2- -> X8[1] Channel 4 | OUT A – 4+/4- -> X8[1] Channel 8 |
| OUT 5 – 1+/1- parallel 2+/2- -> X8[2] Channel 1 | OUT B – 1+/1- -> X8[2] Channel 5 |
| OUT 6 – 1+/1- parallel 2+/2- -> X8[2] Channel 2 | OUT B – 2+/2- -> X8[2] Channel 6 |
| OUT 7 – 1+/1- parallel 2+/2- -> X8[2] Channel 3 | OUT B – 3+/3- -> X8[2] Channel 7 |
| OUT 8 – 1+/1- parallel 2+/2- -> X8[2] Channel 4 | OUT B – 4+/4- -> X8[2] Channel 8 |



## N-RAK BACK PANEL LAYOUT

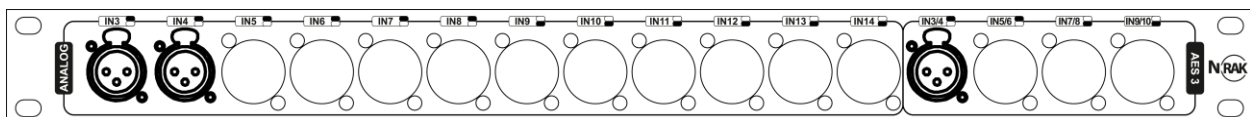


- |   |   |
|---|---|
| 1- NEXT Power Distribution Panel I / II | 6- 3P+N+E 32A Socket                              |
| 2- Phase Indicator Lamps                | 7- NEXT Signal Input Panel I / II / IV (Optional) |
| 3- Circuit Breaker 16A                  | 8- Analog Inputs                                  |
| 4- 230V Auxiliary EU Socket             | 9- AES3 Inputs                                    |
| 5- 2m 5x4mm2 Mains Cable                |   |

## NEXT SIGNAL INPUT PANEL

The NEXT Signal Input Panel is available as an accessory that can be ordered already installed on the rack or can be easily installed by the end user. This panel provides extra inputs besides the ones installed on the front panel of the rack. There are 3 models available with different number of inputs (Analog + AES3). The SIGNAL INPUT PANEL I must be installed on N-RAK20, the INPUT PANEL II on the N-RAK40 and the INPUT PANEL IV is meant to be installed on the N-RAK80.

### NEXT SIGNAL INPUT PANEL I (N-RAK20) LAYOUT:

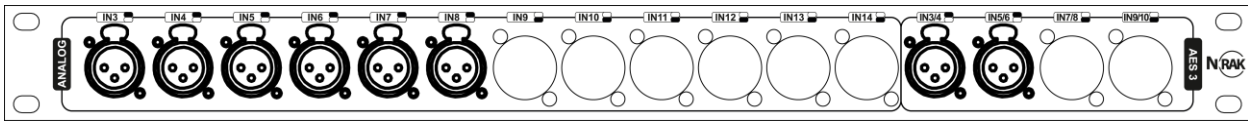


### NEXT SIGNAL INPUT PANEL I ROUTING:

IN 3 – X4 ANALOG IN 3  
 IN 4 – X4 ANALOG IN 4

IN 3/4 – X4 AES3 IN 3/4

## NEXT SIGNAL INPUT PANEL II (N-RAK40) LAYOUT:

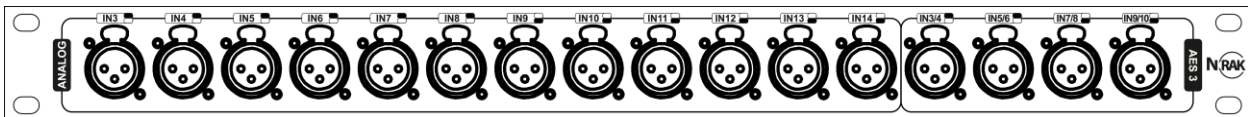


## NEXT SIGNAL INPUT PANEL II ROUTING:

IN 3 – X8 ANALOG IN 3  
IN 4 – X8 ANALOG IN 4  
IN 5 – X8 ANALOG IN 5  
IN 6 – X8 ANALOG IN 6

IN 7 – X8 ANALOG IN 7  
IN 8 – X8 ANALOG IN 8  
IN 3/4 – X8 AES3 IN 3/4  
IN 5/6 – X8 AES3 IN 5/6

## NEXT SIGNAL INPUT PANEL IV (N-RAK80) LAYOUT:



## NEXT SIGNAL INPUT PANEL IV ROUTING:

IN 3 – X8[1] ANALOG IN 3  
IN 4 – X8[1] ANALOG IN 4  
IN 5 – X8[1] ANALOG IN 5  
IN 6 – X8[1] ANALOG IN 6  
IN 7 – X8[1] ANALOG IN 7  
IN 8 – X8[1] ANALOG IN 8  
IN 9 – X8[2] ANALOG IN 3  
IN 10 – X8[2] ANALOG IN 4

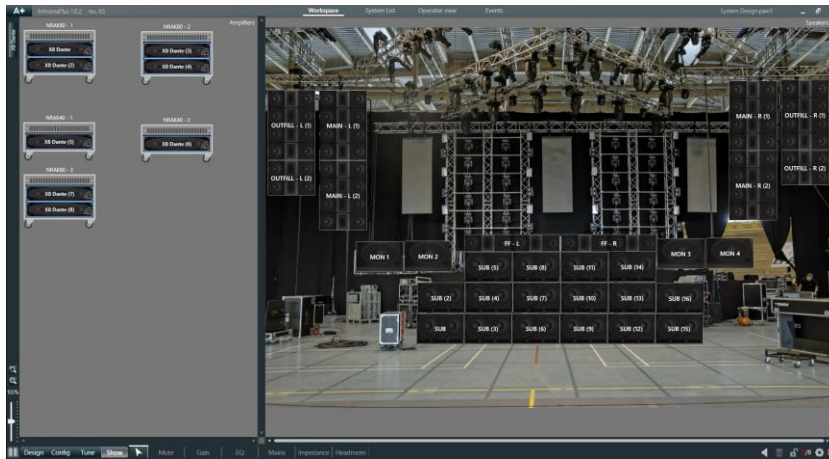
IN 11 – X8[2] ANALOG IN 5  
IN 12 – X8[2] ANALOG IN 6  
IN 13 – X8[2] ANALOG IN 7  
IN 14 – X8[2] ANALOG IN 8  
IN 3/4 – X8[1] AES3 IN 3/4  
IN 5/6 – X8[1] AES3 IN 5/6  
IN 7/8 – X8[2] AES3 IN 3/4  
IN 9/10 – X8[2] AES3 IN 5/6

## ARMONIA SOFTWARE

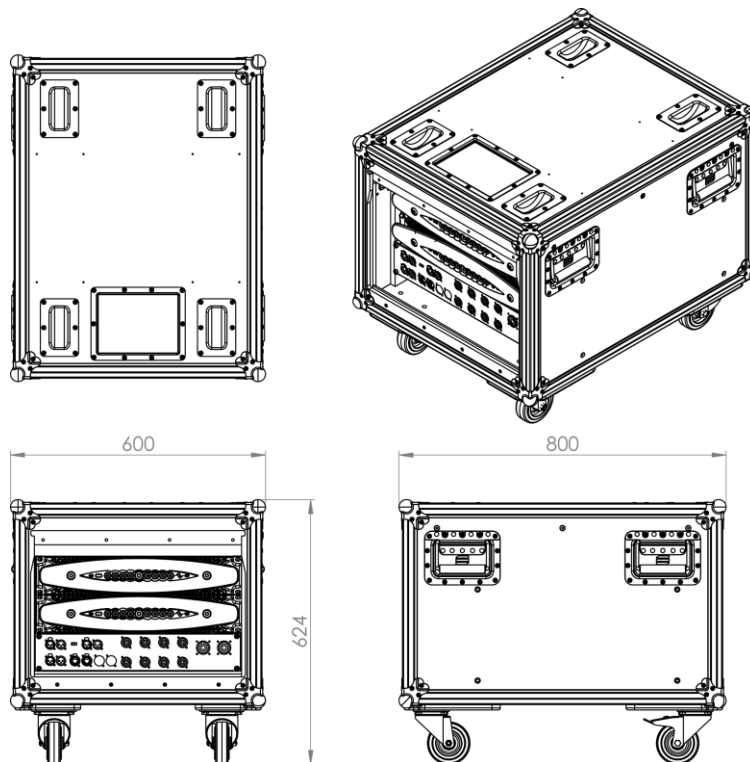
All the N-RAK's use the most advanced PC control software for DSP, ARMONIA PLUS, from Powersoft. There are several presets from NEXT-proaudio to be used along with this software determining the versatility of the racks. For the most current data please consult: [www.next-proaudio.com](http://www.next-proaudio.com)

The Armonia Plus can be downloaded from here:

<http://www.powersoft-audio.com/it/downloads/software/armoniaplus/1373-armoniaplus/file>



## DIMENSIONS



**WARRANTY**

NEXT-proaudio's products are warranted, by NEXT-proaudio, against manufacturing defects in materials or craftsmanship over a period of 5 years for the passive loudspeakers, and 2 years for all other products counting from the date of original purchase. The original receipt of purchase is mandatory for warranty validation purposes, and the product must have been bought from a NEXT-proaudio authorized dealer.

The warranty can be transferred to a subsequent owner during the warranty period; however, this cannot extend the warranty period beyond the original warranty period of five years from the original date of purchase stated on the NEXT-proaudio's invoice.

During the warranty period NEXT-proaudio will, at its own discretion, either repair or replace a product which prove to be defective provided that the product is returned in its original packaging, shipping prepaid, to an authorized NEXT-proaudio service agent or distributor.

NEXT-proaudio cannot be held responsible for defects caused by unauthorized modifications, improper use, negligence, exposure to inclement weather conditions, act of God or accident, or any use of this product that is not in accordance with the instructions provided by this manual and/or NEXT-proaudio. NEXT-proaudio is not liable for consequential damages.

This warranty is exclusive and no other warranty is expressed or implied. This warranty does not affect your statutory rights.

**NOTES**

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## **CONTACTS**

In case of any doubts or any information just:

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