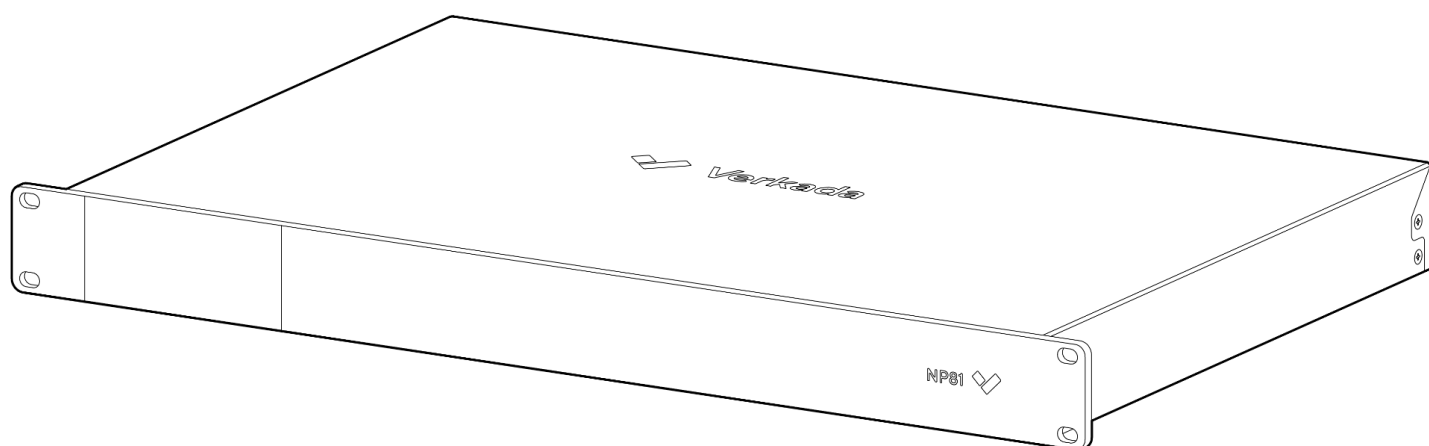


NP81 16-Channel Network Audio Player



Document Details

Version

v1.1 (20260916)

(V1.0 published 20251209)

Firmware

Firmware version can be verified on Verkada
Command command.verkada.com.

Product Models

This install guide pertains to models:

- NP81-HW

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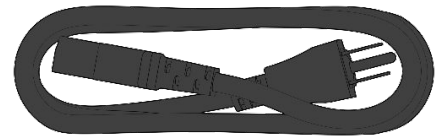
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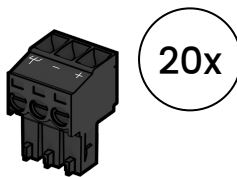
What's in the Box



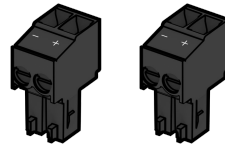
16-Channel Network Audio Player



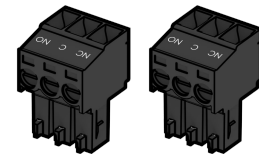
AC Cable



Line In/Line Out Terminal Block
(20 pcs)



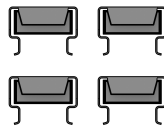
GPIO In Terminal Block
(2 pcs)



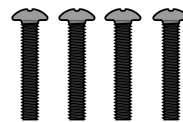
GPIO Out Terminal Block (2
pcs)



M5 Rack Mount Screws
(4 pcs)



M5 Cage Nuts
(4 pcs)



10-32 Mount Screws
(4 pcs)



Flat Washers
(4 pcs)

What you'll need

- A smartphone or laptop
- A #2 Phillips screwdriver
- A flat head screwdriver
- A Cat5 or Cat6 Ethernet cable with a 0.2-0.25 inch diameter (5-6.5mm)

Placement

Server rack with 1U space available

Connect

For easy registration and setup, scan the QR code on the product.

If you prefer to manually register your product, please proceed to:
verkada.com/start

Audio I/O Overview

There are 8 Line In, and 16 Line Out channels. These can be configured as individual mono channels or as stereo pairs.

Balanced Signal (Terminal Blocks)

The terminal blocks provide professional balanced line-level input/output (+4 dBu nominal).

Unbalanced Signal (RCA Ports)

The RCA ports provide consumer unbalanced line-level input/output (-10 dBV nominal).

Note: DO NOT use both the balanced (terminal blocks) and unbalanced (RCA) connections for the same Line Out channel simultaneously.

Terminal Blocks



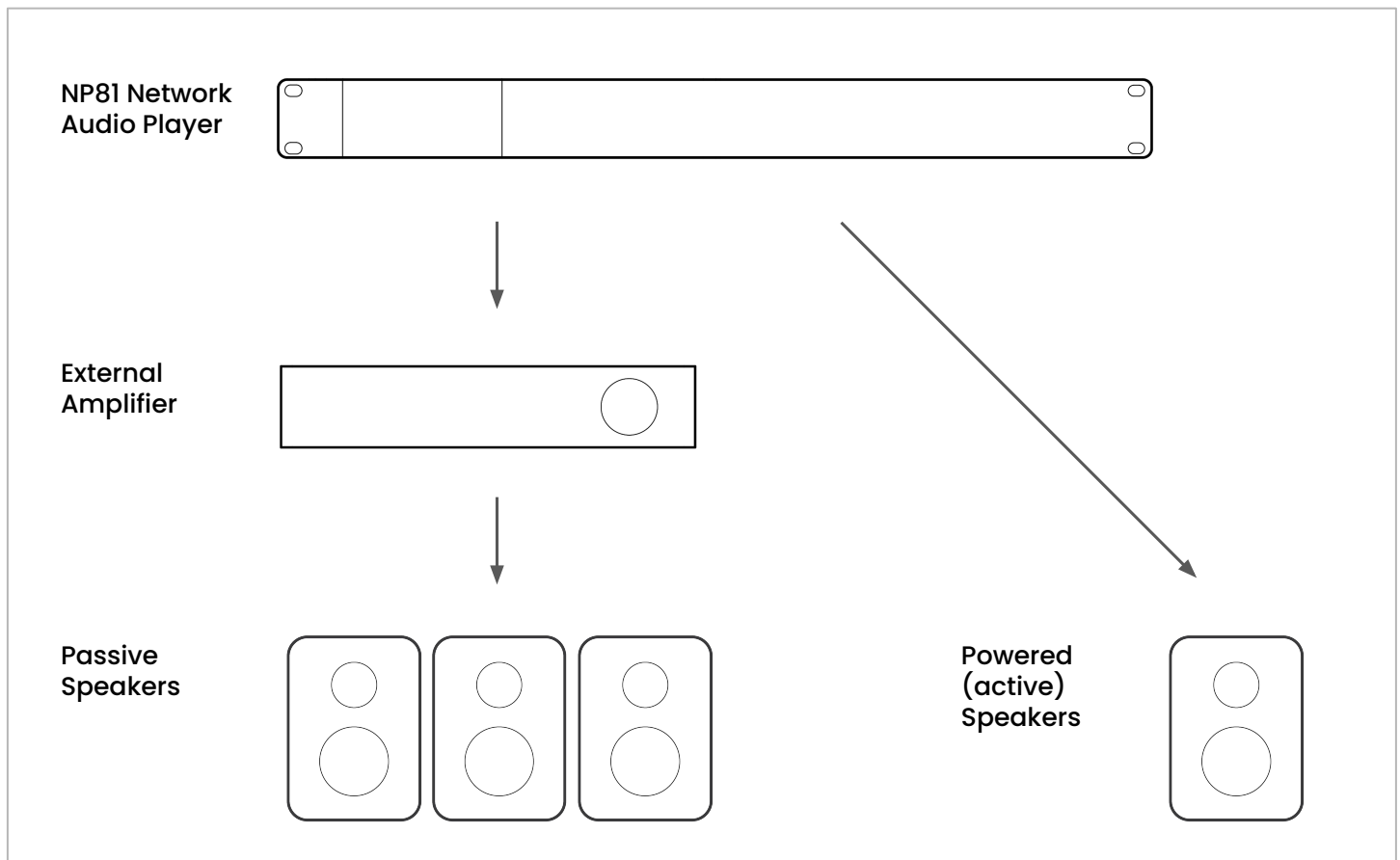
RCA Ports



Amplification Required for Passive Speakers

The Audio Player is a line-level device, not an amplifier. It cannot power passive speakers directly.

You must connect Audio Outputs to an **external amplifier** OR **powered (active) speakers**.



Technical Specifications

Input Power	AC (Recommended): 100–240V ~, 0.63–0.31A, 50/60Hz PoE+: 42–57V $\overline{\text{DC}}$ 0.59–0.44A (802.3at PoE Class 4) Max power consumption: 25W
Audio Inputs & Outputs	Frequency Range: 20 – 20,000 Hz +/- 3 dB Signal-to-Noise-Ratio: 100 dB Line Level Nominal: +4 dBu (balanced terminal), -10 dBV (unbalanced RCA) Max: +24 dBu, 12.3V (balanced terminal), +10 dBV, 3.16V (unbalanced RCA) Inputs: 4x balanced terminal + 4x unbalanced RCA (8-channels total) Outputs: 16x balanced terminal + 16x unbalanced RCA (16-channels total)
HDMI	2x HDMI Output, 8-channels (16-channels total)
USB	1x USB3.2, Type-A, 5VDC @ 1A 1x USB-C, 5VDC @ 1A
Connectivity	Ethernet: 100/1000Mbps RJ45 for network connection.
Dimensions	482mm (W) x 311.4mm (L) x 43mm (H) / 19" (W) x 12.2" (L) x H1.7" (H)
Weight	3.0kg
Operating Temp. & Humidity	-10 – 50C 0–90% RH non-condensing
Compliance	Please refer to https://www.verkada.com/compliance/

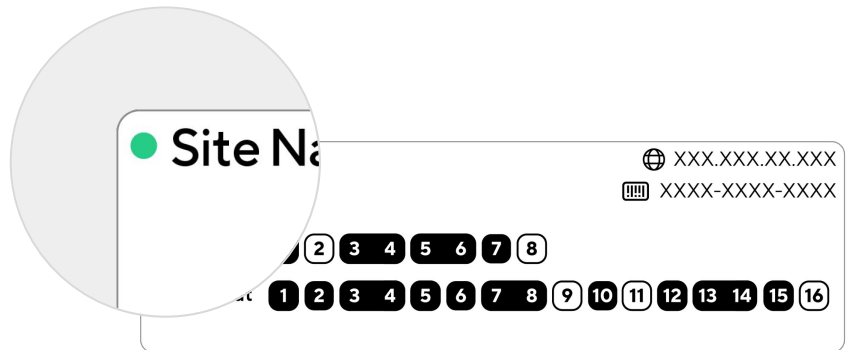
Display Behavior

The display shows the device status, including states like boot up, firmware updating, port status, and potential network errors.



Regular Operation

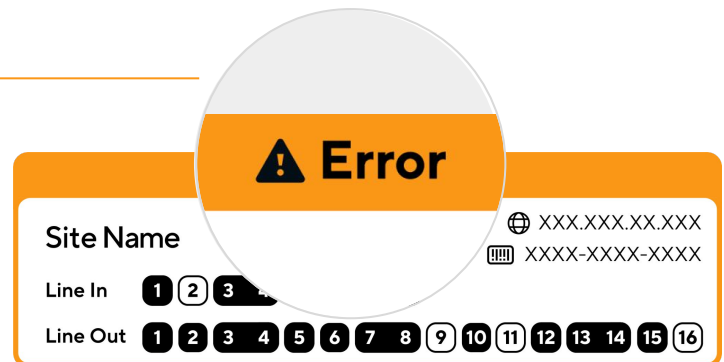
A green dot in the top left corner of the display indicates that the Audio Player is connected and operating normally.



Network Errors

If the device encounters a network error, an orange bar will appear at the top edge of the display.

The specific error state will be shown on the display:



No IP Address

Device has not received an IP address.

Duplicate IP

Device has detected duplicate IP addresses on the LAN.

No Gateway

Device is not able to reach the configured Gateway.

No Switch

Device is connected with PoE, but unable to connect to the Switch.

DNS error

Device is not able to resolve Verkada hostnames.

NTP Error

Device is not able to receive a response from the NTP Server.

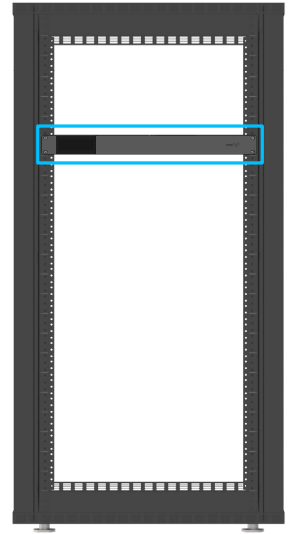
Not Connected to Command

Verkada endpoints are not reachable after boot up.

Introduction

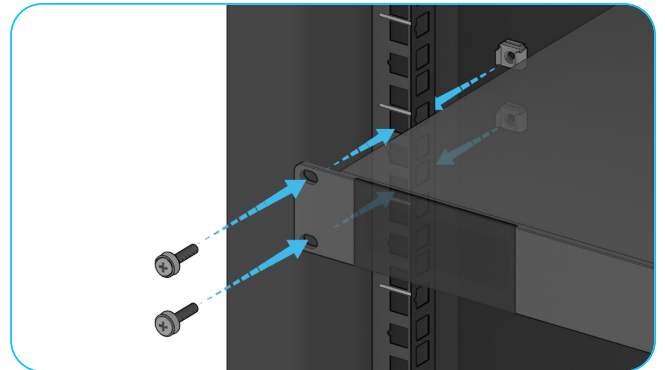
Server Rack Mounting

NP81 can be mounted in a standard server rack with 1U space available.



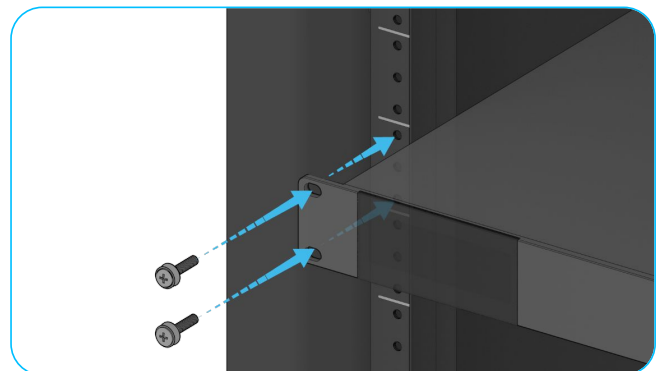
Non-threaded Rack

Install the M5 cage nuts in the rack, then use the M5 rack screws to mount the NP81.



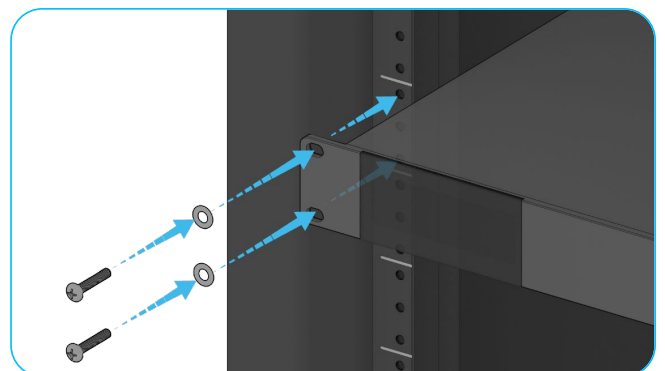
M5 Threaded Rack

Use the M5 rack mount screws or 10-32 mount screws to mount the NP81 directly.



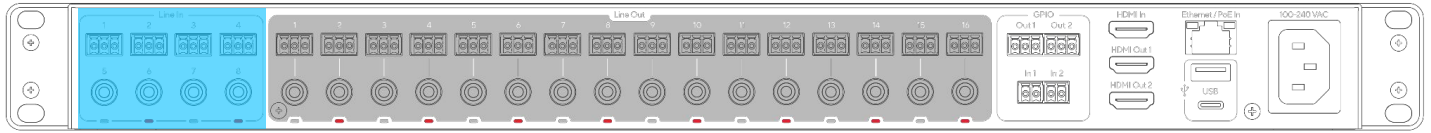
10-32 Threaded Rack

Use the 10-32 mount screws and washers to mount the NP81 directly.



Installation

Audio Inputs 1/2 (Optional)

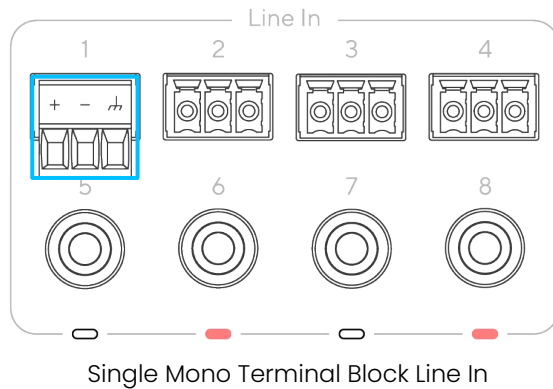


Line Input Configuration

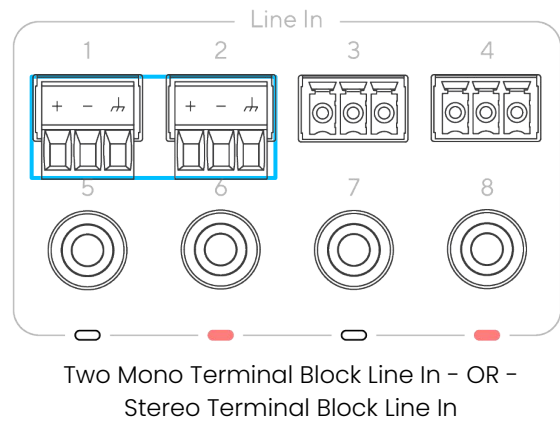
The NP81 Network Audio Player features eight Line In channels. This can be configured as eight individual mono channels or four stereo pairs.

Balanced Line In 1 - 4

The terminal blocks provide professional balanced line-level input (+4 dBu).



Single Mono Terminal Block Line In

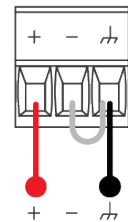


Two Mono Terminal Block Line In - OR -
Stereo Terminal Block Line In

Recommended Wiring: Use 20–22 AWG, 2-conductor shielded wire.

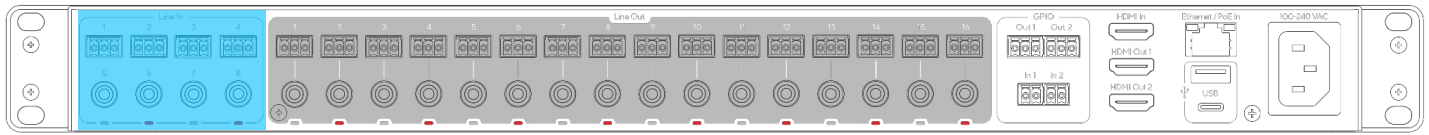
Note: To input an unbalanced signal from the terminals, install a jumper wire between the Ground (GND) and Negative (-) pins.

Unbalanced



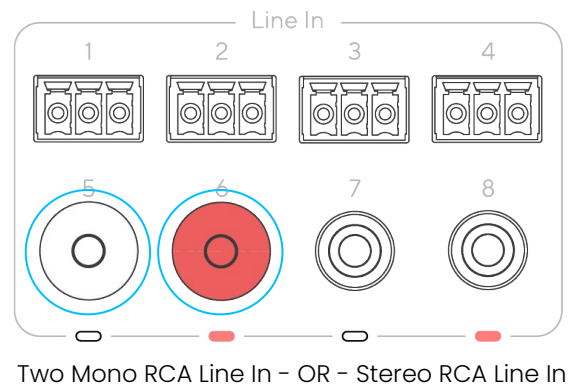
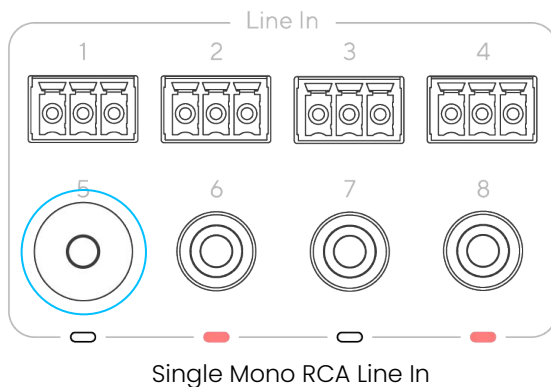
Installation

Audio Inputs 2/2 (Optional)



Unbalanced Line In 5 - 8

The Standard RCA inputs provide consumer unbalanced line-level input (-10 dBV) which supports RCA Line level source devices (such as media players).

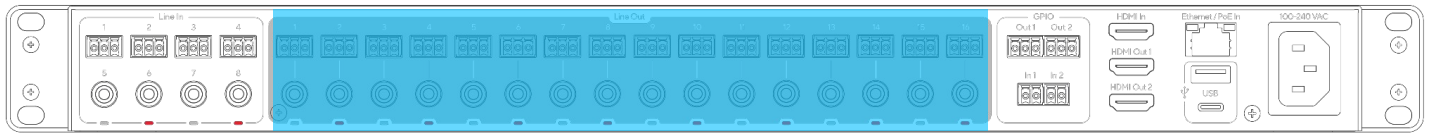


Recommended Wiring: Pre-made RCA cables.

Stereo Configuration: Always use adjacent odd/even channel pairs (e.g., Channels 1 & 2 or 15 & 16). The odd channel is always the Left channel, and the even channel is always the Right channel. Both terminal block and RCA support stereo.

Installation

Audio Outputs – Mono

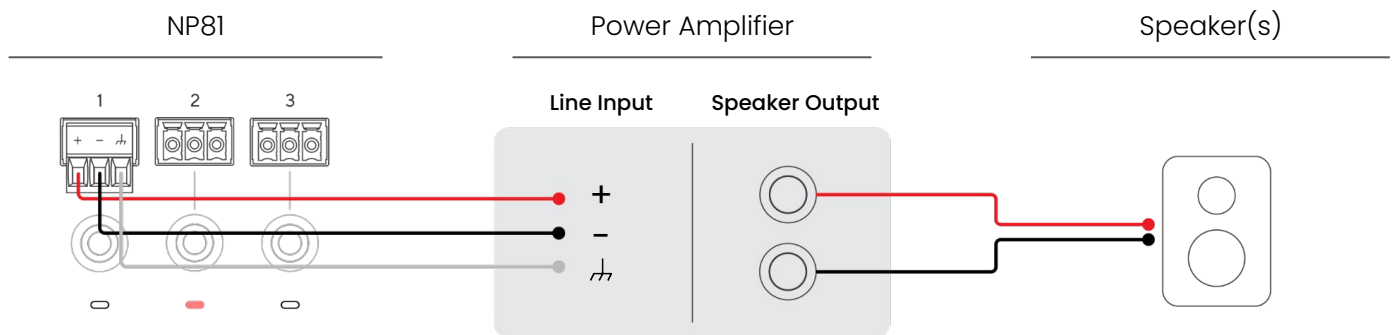


Line Output Configuration

The NP81 Network Audio Player features 16 Line Out channels. This means up to 16 individual mono channels or up to 8 stereo pairs can be configured.

Balanced Mono Output (Terminal Block Wiring)

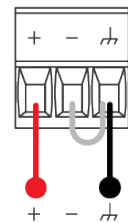
Make sure to maintain proper polarity. Use 20–22 AWG, 2-conductor shielded wire.



NOTE: DO NOT use both the balanced (terminal blocks) and unbalanced (RCA) connections for the same Line Out channel simultaneously.

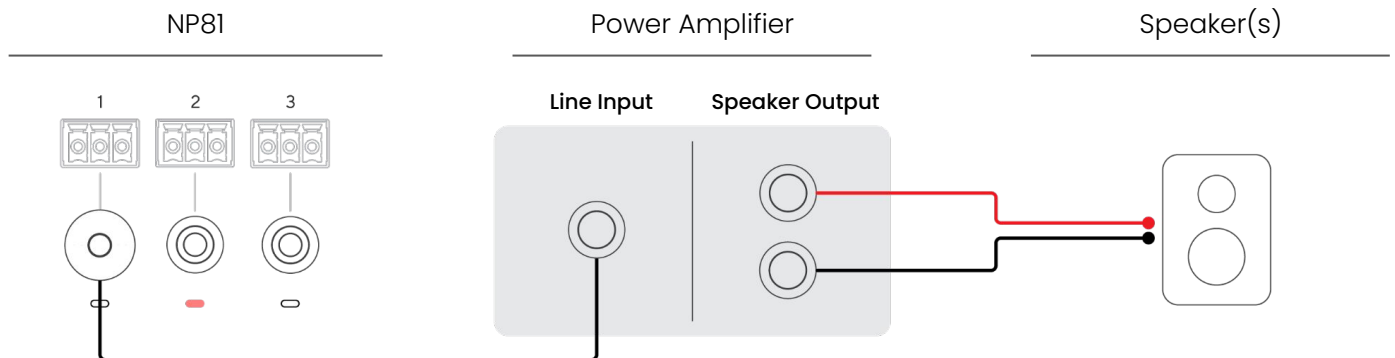
To output an unbalanced signal from the terminals, install a jumper wire between the Ground (GND) and Negative (-) pins.

Unbalanced



Unbalanced Mono Output (RCA Wiring)

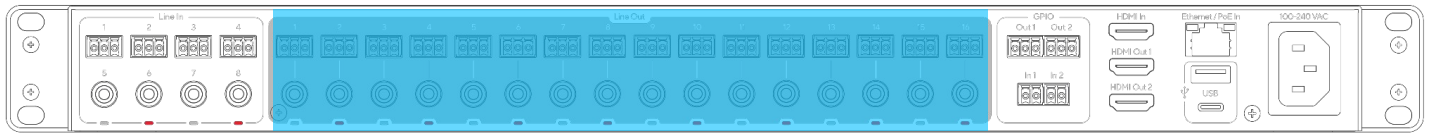
Use standard RCA cable.



Note: DO NOT use both the balanced (terminal blocks) and unbalanced (RCA) connections for the same Line Out channel simultaneously.

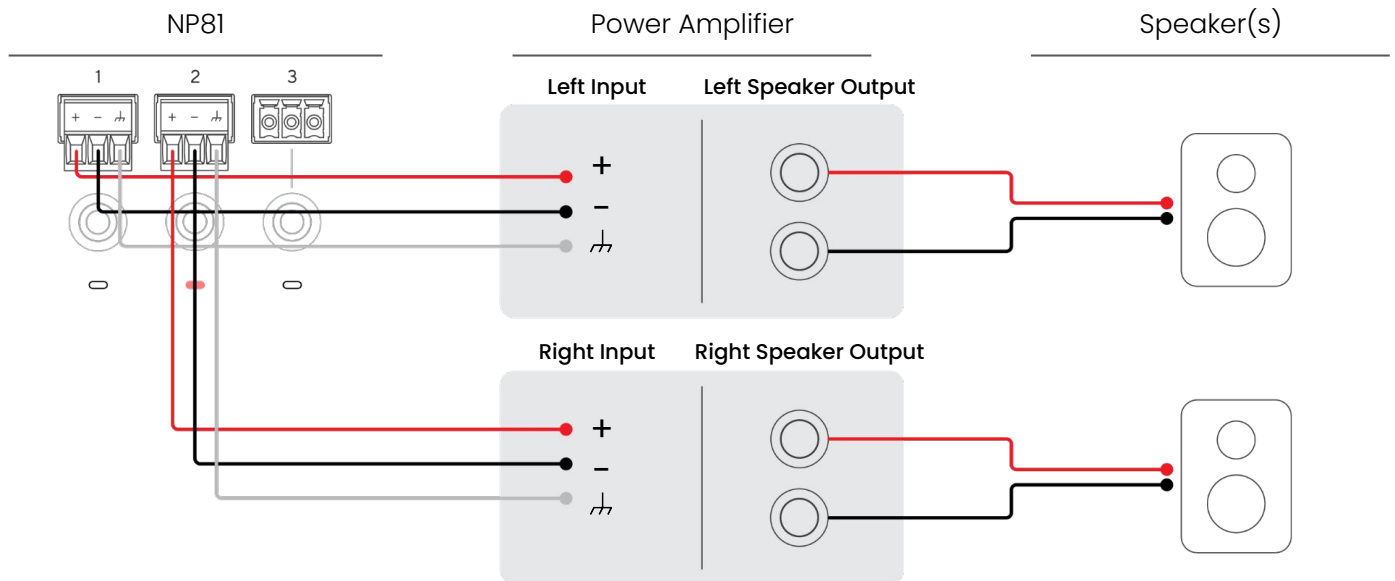
Installation

Audio Outputs – Stereo



Balanced Stereo Output (Terminal Block Wiring)

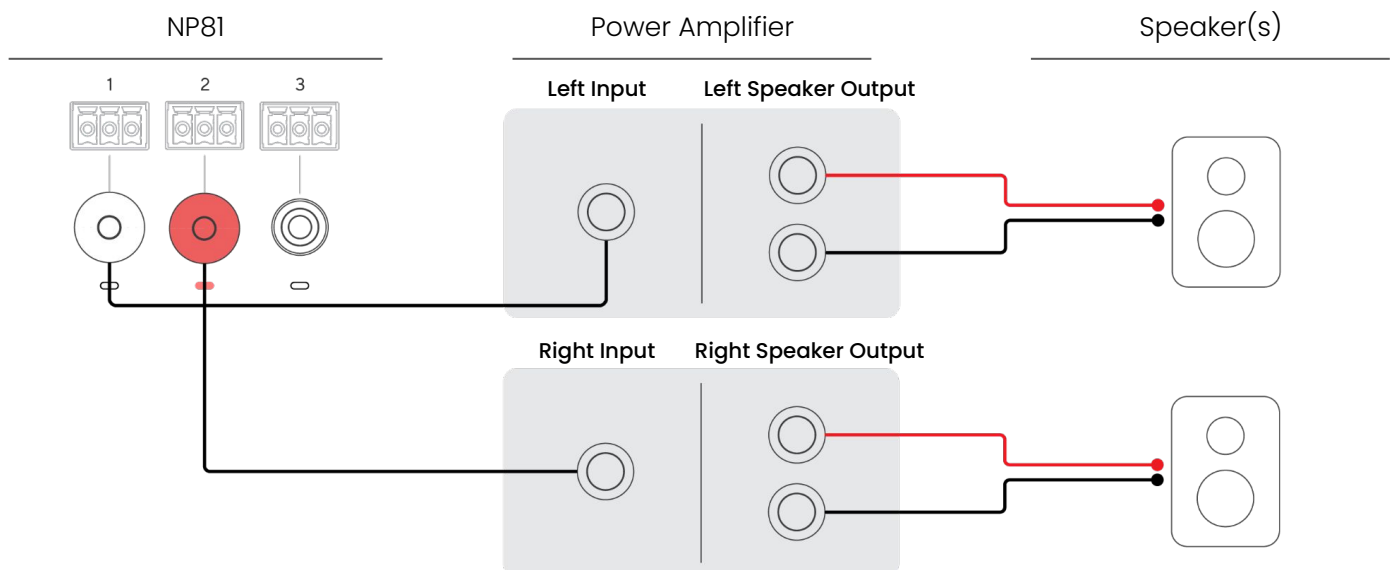
Always use adjacent odd/even channel pairs (e.g., Channels 1 & 2 or 15 & 16). The odd channel is always the Left channel, and the even channel is always the Right channel. Make sure to maintain proper polarity. Use 20–22 AWG, 2-conductor shielded wire.



Note: DO NOT use both the balanced (terminal blocks) and unbalanced (RCA) connections for the same Line Out channel simultaneously.

Unbalanced Stereo Output (RCA Wiring)

Use standard RCA cable.

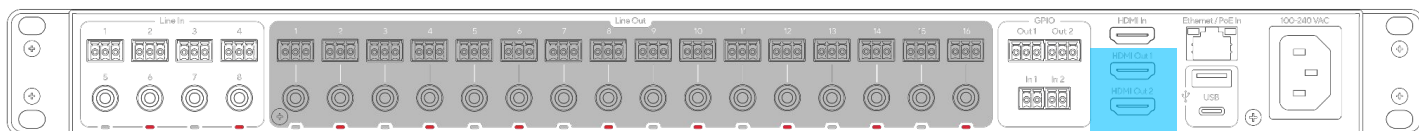


Note: DO NOT use both the balanced (terminal blocks) and unbalanced (RCA) connections for the same Line Out channel simultaneously.



Installation

HDMI (Optional)

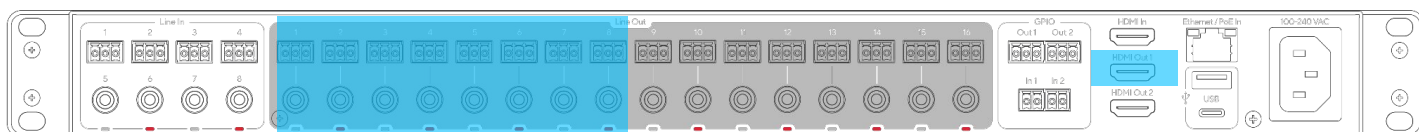


HDMI Output

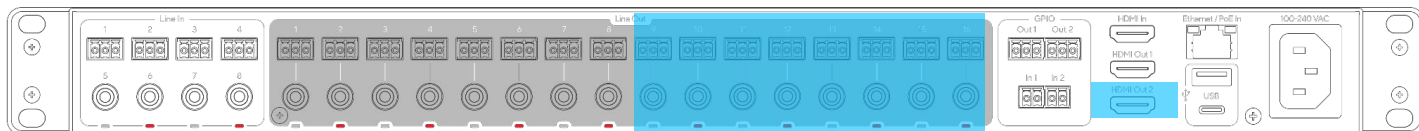
The two HDMI output ports allow you to digitally output audio that would otherwise be routed through the analog connections (RCA or terminal block).

Port Mapping

HDMI Out 1 corresponds to Line Out ports 1-8.



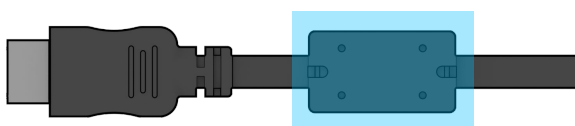
HDMI Out 2 corresponds to Line Out ports 9-16.



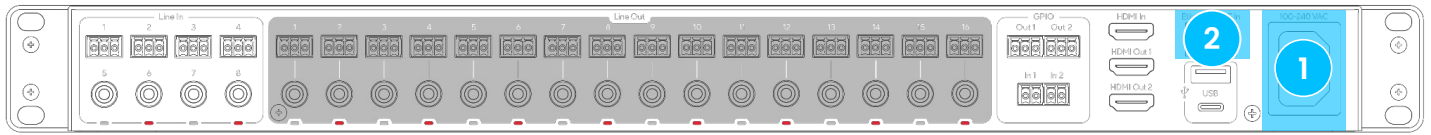
In Verkada Command, configure your desired line out ports (e.g., line out 1-8). Connect your destination device to the corresponding HDMI output port on the NP81. The configured ports will be available as digital audio channels via the HDMI output – no RCA or terminal block connections required.

Note: HDMI output ports mirror the line output configuration set in Command. Ensure ports are configured in Command before connecting via HDMI.

Recommended Wiring: HDMI cables with integrated ferrite cores (molded chokes near each connector) for both input and output connections for better EMI noise suppression.



Power Options



Note: Connecting both AC and Ethernet is recommended to provide a secure earth ground for the device.

To power the NP81, connect a PoE-capable Ethernet cable or connect to a standard power outlet (100–240VAC) using the provided AC power cable.

Connect the NP81 to your network using the Ethernet port.

- 1 AC Input (100–240 VAC)**
AC Power, using C14 AC Power Cable (Included)
- 2 PoE In**
PoE Power, using Ethernet (RJ45) Cable

Appendix

Compliance

FCC Compliance	This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense. FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.
IC statement	This device complies with ISED's licence-exempt RSSs. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. Le présent appareil est conforme aux CNR d'ISED applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) le dispositif ne doit pas produire de brouillage préjudiciable, et (2) ce dispositif doit accepter tout brouillage reçu, y compris un brouillage susceptible de provoquer un fonctionnement indésirable.
Spotify	Use your phone, tablet or computer as a remote control for Spotify. Go to spotify.com/connect to learn how The Spotify Software is subject to third party licenses found here: https://www.spotify.com/connect/third-party-licenses.
HDMI	The Adopted Trademarks HDMI, HDMI High-Definition Multimedia Interface, HDMI trade dress and the HDMI Logos are trademarks or registered trademarks of HDMI Licensing Administrator, Inc. in the United States and other countries



Appendix

Support

Thank you for purchasing this Verkada product. If for any reason you're experiencing issues or need assistance, please contact our 24/7 Technical Support Team immediately.

Sincerely,
The Verkada Team
verkada.com/support

