

TANTRUM AUDIO

NEXUS

User Manual

Speaker processor and switcher

Firmware 0.0.23 · Omnissiah 0.1.5 · October 2026

Contents

Preface	3
1. Datasheet	5
2. Introduction	9
3. Quick start	11
4. Panels & connections	20
5. Installation & updates	27
6. Measuring & correcting	30
7. Routing & sources	35
8. Outputs & crossovers	39
9. Troubleshooting	43
Appendix A — Support & warranty	45

Preface

NEXUS speaker processor and switcher. This edition covers firmware 0.0.23 and Omnisiah 0.1.5.

About this manual

This manual covers the NEXUS hardware and the parts of the Omnisiah app that belong to NEXUS: connecting it, measuring your room, applying a correction, routing sources and setting up the outputs.

If you only read one chapter, read [Chapter 3 — Quick start](#). The quick start takes you from an unopened box to a corrected system, including where to put the microphone.

Omnisiah has its own manual at tantrumaudio.co.uk/usermanuals/omnisiah. Where a topic is the same for every Tantrum device (the EQ editor, reading results in depth, target curves, backups), this manual sends you there instead of repeating it.

Conventions

- **Bold** text is a label you will see on screen, such as **Calibrate** or **Apply to device**.
- **Settings** → **Audio** means: open Settings, then the Audio tab.
- "Output 1-2" and "Output 3" are the names printed on the rear panel and used in the app.

Note: Text marked **[TBC]** is a fact still being confirmed. The fact will be filled in before this manual is final.

Legal & safety

Copyright. © Tantrum Audio. All rights reserved. "NEXUS", "Omnisiah" and "Tantrum Audio" are names of Tantrum Audio and its products. All other trademarks are the property of their respective owners.

Disclaimer. This manual describes NEXUS at the firmware and app versions above. If the app and this manual disagree, the app is right. Please tell us ([Appendix A — Support & warranty](#)).

Warning: protect your hearing. Measurement plays pink noise through your speakers, and pink noise at full volume is loud enough to damage hearing and drivers. Turn your amplifier or speaker volume down before you start, and raise it only as far as the on-screen level meter asks. Never stand close to a speaker while test noise is playing. There is always a **Stop** button on screen.

Using NEXUS safely.

- Use NEXUS indoors, in a dry place. Keep liquids away from it.
- Power NEXUS only from a computer's USB-C port or a USB-C supply rated 5 V, 2 A.
- Leave space around the case for air. Do not cover it or stack hot equipment on it.
- There are no user-serviceable parts inside. Do not open the case.
- Turn your speakers or amplifier down before you connect or disconnect cables at NEXUS outputs. A plug going in can send a loud click to the speakers.

Compliance. [TBC: CE / UKCA declaration of conformity reference.]

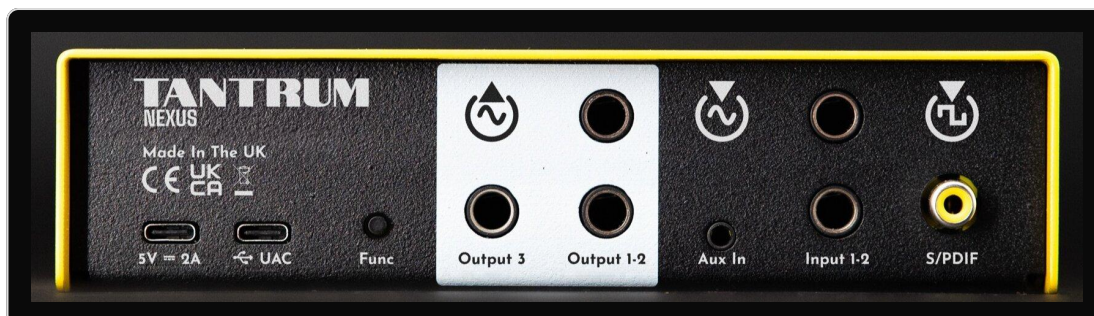
Disposal. The crossed-out bin symbol on the rear panel means NEXUS must not go in household waste. Take it to a collection point for electrical and electronic equipment.

1. Datasheet

NEXUS is a speaker processor and switcher with room correction: four sources in, three outputs, a room correction and crossover on every output, set up from the Omnisiah app and stored in the box.



NEXUS front panel



NEXUS rear panel

At a glance

Inputs	2 × balanced TRS line, 3.5 mm aux, coaxial S/PDIF, USB audio
Outputs	Output 1-2 stereo pair and Output 3 (sub, mono or utility), balanced TRS
Processing latency	0.85 ms, analogue in to analogue out
Noise floor	120 dB
Room correction	Measured and calculated by Omnisiah, stored in NEXUS
DSP per output	15 EQ filters, crossover, delay, gain, polarity, all-pass phase
Control	Omnissiah over USB-C; MIDI and OSC through Omnisiah
Power	USB-C: from the computer, or a 5 V 2 A supply without one
Size and weight	169.6 x 43 x 100 mm, 600 g
Warranty	2 years

Inputs

Input 1-2	2 channels, balanced TRS jack, +20 dBu maximum
Aux In	Stereo, 3.5 mm jack, line level
S/PDIF	2 channels, coaxial RCA, PCM up to 96 kHz
USB audio	2 channels playback over USB-C (UAC), class compliant, up to 96 kHz
Input impedance	[TBC]

Outputs

Output 1-2	2 channels, balanced TRS jack, +18 dBu maximum
Output 3	1 channel, balanced TRS jack, +18 dBu maximum
Output impedance	[TBC]

Performance

Processing latency, analogue in to analogue out	0.85 ms
Noise floor	120 dB
THD	0.0013% (converter datasheet figure)
Internal processing rate	48 kHz
Frequency response	[TBC]

DSP, per output

Filters	15 (parametric EQ and all-pass)
Crossover	High and low pass, 24 dB/octave Linkwitz-Riley or Butterworth
Delay	0 to 8.5 ms (410 samples at 48 kHz)
Other controls	Gain, polarity, mute

USB audio modes

NEXUS processes everything at 48 kHz. At any other USB rate, NEXUS converts inside the box.

Recording back to the computer is available in the two 16-bit duplex modes only. [Chapter 7 — Routing & sources](#) explains how to change mode.

Mode	Playback	Record to computer
44.1 kHz / 16-bit	Yes	Yes
48 kHz / 16-bit	Yes	Yes
48 kHz / 24-bit (default)	Yes	No
88.2 kHz / 16-bit	Yes	No
96 kHz / 16-bit	Yes	No
44.1 kHz / 24-bit	Yes, truncated to 16-bit	No

Control

Configuration	Omnissiah app, over USB-C
Remote control	MIDI and OSC, received by Omnissiah on the computer
Presets	Unlimited, stored and recalled by MIDI or OSC macro

Power

From a computer	USB-C (UAC port), bus powered
Without a computer	USB-C (5V port), 5 V supply rated 2 A
Power switch	None. NEXUS starts when power arrives

Physical

Dimensions (W x H x D)	169.6 x 43 x 100 mm
Weight	600 g
Front panel indicators	SIGNAL and STATUS LEDs
Operating temperature	[TBC]
Country of manufacture	United Kingdom
Warranty	2 years
EAN	5061088740030

2. Introduction

NEXUS sits between your sources and your speakers. NEXUS takes up to four sources, sends them to three outputs, and runs a room correction on every output. After reading this chapter you will know what NEXUS does, what came in the box, and what else you need before you start.

What NEXUS does

NEXUS corrects your speakers in your room. Omnisiah, the free app that sets up NEXUS, plays test noise through each speaker and records it with a measurement microphone at your listening position. From that recording Omnisiah calculates EQ, delay, level and phase settings for each output and writes them into NEXUS. The correction targets the low end, where room modes cause peaks and dips that acoustic treatment struggles to reach. The correction also time-aligns your speakers with each other and with a subwoofer.

NEXUS switches sources and speakers. Two analogue inputs, a 3.5 mm aux input, S/PDIF and USB audio all arrive at one routing matrix, and you choose what reaches each output. With a MIDI or OSC controller, one button press changes the source or the live speakers.

NEXUS runs without a computer. Every setting is stored in NEXUS. Once the correction is written, NEXUS keeps working with the computer asleep, switched off or disconnected, powered from any 5 V USB-C supply.

NEXUS adds 0.85 ms. The processing delay from analogue in to analogue out is 0.85 ms, so you can track and monitor through NEXUS.

What NEXUS does not do

Each item below is a limit of the design. Knowing the limits up front saves a wrong wiring plan.

- **Three outputs is the limit.** Output 1-2 is a stereo pair and Output 3 is one more channel: a subwoofer, a mono speaker or a utility feed. Two stereo pairs plus a sub is not a supported layout.
- **The measurement microphone never plugs into NEXUS.** A measurement mic is XLR and needs 48 V phantom power, so it connects to your computer through an audio interface.
- **NEXUS does not receive MIDI or OSC itself.** Omnisiah, running on the computer, receives the control messages and drives NEXUS. Controllers get nothing back: no levels, no status lights.
- **USB and S/PDIF share one input pair.** Each has its own level and mute, but they reach the outputs together as the **Digital** pair ([Chapter 7 — Routing & sources](#)).

In the box

- 1 × NEXUS
- 1 × USB-C cable, 1 m

If you bought NEXUS with a measurement microphone, the microphone comes in its own box.

What else you need

- **A computer to run Omnissiah.** Omnissiah runs on macOS 11 or later. Check tantrumaudio.co.uk/downloads/omnissiah for other platforms.
- **A measurement microphone.** Any measurement microphone works. If yours came with a calibration file, Omnissiah can load it ([Chapter 6 — Measuring & correcting](#)).
- **An audio interface with 48 V phantom power** for the microphone.
- **A mic stand**, so the microphone stays still at head height.
- **Cables** for your speakers: balanced TRS jack leads for Output 1-2 and Output 3.

3. Quick start

This chapter takes you from a new NEXUS to a corrected pair of speakers: wiring, placing the measurement microphone, setting levels, measuring, and applying the correction. Allow about 30 minutes, most of it for the first two steps.

The quick start covers a stereo pair on Output 1-2. If you have a subwoofer, finish the quick start with the pair first, then follow [Chapter 8 — Outputs & crossovers](#) to add the sub and measure again.

What you need

- NEXUS and the supplied USB-C cable.
- A computer with Omnisiah installed (step 1).
- An audio interface.
- A measurement microphone.
- About 15 minutes of quiet in the room.

Setup in six steps

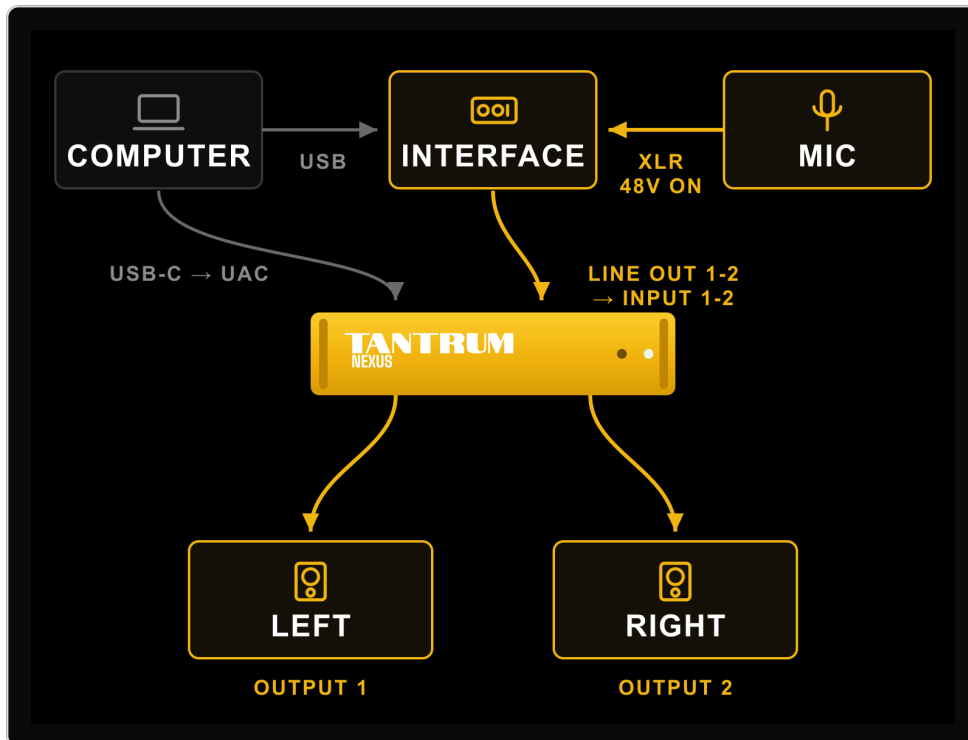
1. **Install Omnisiah.** From tantrumaudio.co.uk/downloads/omnisiah.
2. **Wire it up.** Speakers down first. Interface line outs to Input 1-2, Output 1-2 to the speakers, UAC to the computer.
3. **Plug in the mic.** Into your interface with 48 V on, never into NEXUS. Pick it in Settings > Audio.
4. **Place the mic.** Where your head goes when you listen, the same distance from each speaker.
5. **Measure.** Calibrate, Quick Measurement, Start. Raise the interface output until the meter holds green.
6. **Apply.** Compare Before and After, then Apply to device. To add a sub afterwards, see [Chapter 8 — Outputs & crossovers](#).

The sections below take each step in full.

1. Install Omnisiah

Download Omnisiah from tantrumaudio.co.uk/downloads/omnisiah and install it. Omnisiah measures the room and sets up NEXUS.

2. Wire everything up



Quick start wiring: interface line outs into NEXUS Input 1-2, NEXUS Output 1-2 to the speakers, mic into the interface, NEXUS UAC to the computer

1. Turn your speakers down, or off.
2. Connect NEXUS **Output 1-2** to your left and right speakers.
3. Connect your interface's line outputs 1 and 2 to NEXUS **Input 1-2**. During measurement, Omnisiah plays test noise out of the interface and into NEXUS, and the microphone records through the same interface.
4. Plug the measurement microphone into a mic input on the interface and switch on 48 V phantom power for that input. The microphone never plugs into NEXUS.
5. Connect the **UAC** port on NEXUS to your computer with the supplied USB-C cable. The one cable carries audio, control and power.

The STATUS LED on the front glows red for a few seconds while NEXUS starts, then turns white.

Note: A fresh NEXUS sends every input to every output, so your interface also reaches Output 3. With nothing connected to Output 3, that makes no difference.

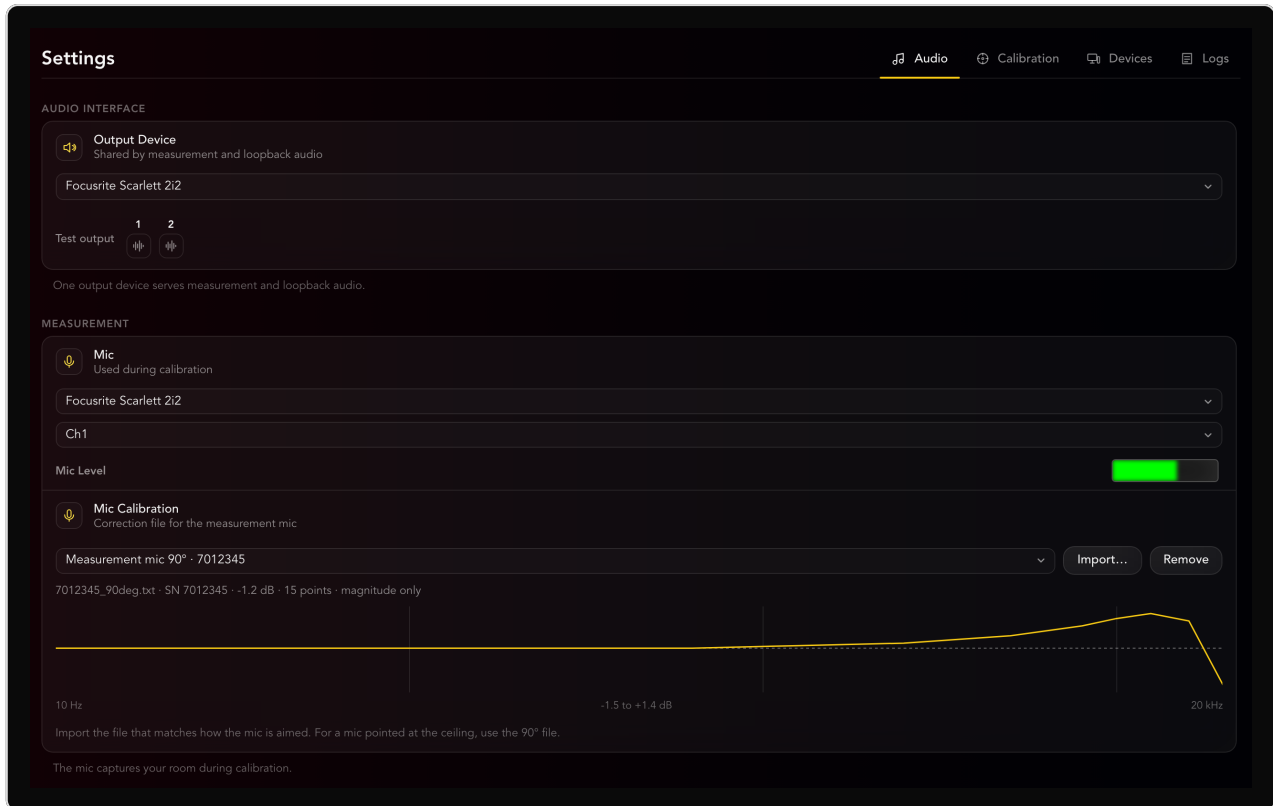
3. Check NEXUS in Omnisiah

1. Open Omnisiah. NEXUS appears in the sidebar under **Devices**.
2. If the device row shows a button **Update to v...**, a newer firmware is available. Turn your speakers off, click the button, then **Speakers are off, update**. Wait for **Update Complete** before you continue.

If NEXUS does not appear, see [Chapter 9 — Troubleshooting](#).

4. Choose your interface and microphone

The first time you click **Calibrate**, Omnisiah shows **Device Setup Required** with the same settings as **Settings** → **Audio**. Set them in either place.

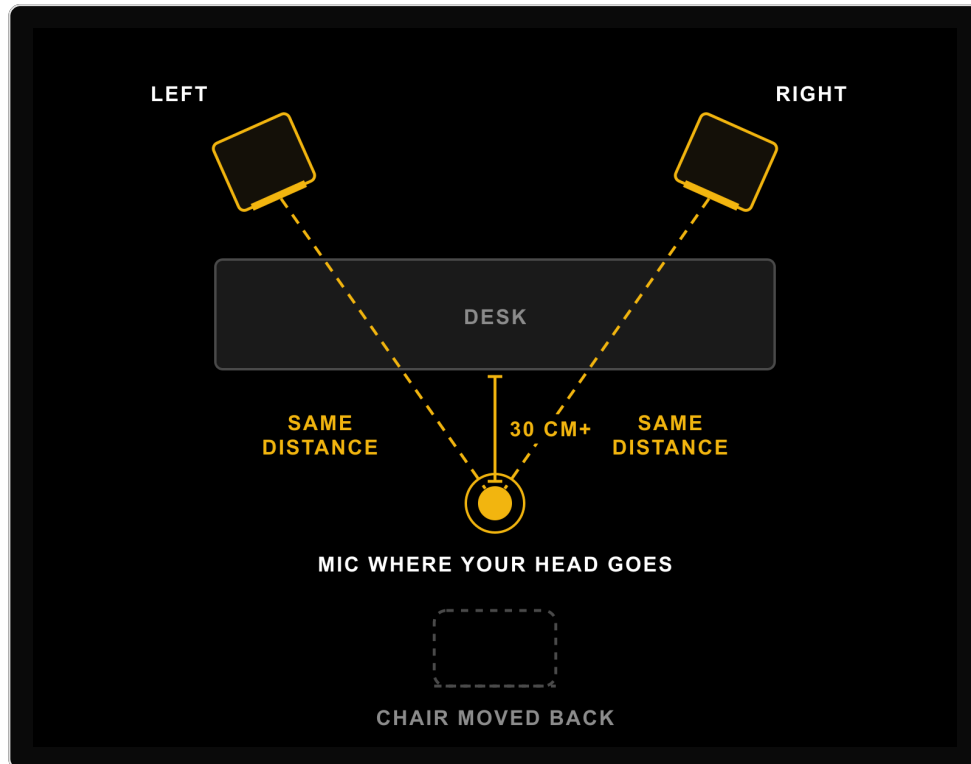


Settings → Audio: Output Device, Test output, Mic, Mic Level and Mic Calibration

1. Under **Audio Interface**, set **Output Device** to your audio interface.
2. Turn your speakers back up to a low listening level. Press and hold the **Test output** button for output 1: the left speaker should play noise. Hold output 2: the right speaker should play. If the wrong speaker plays, swap the leads at NEXUS **Input 1-2**.
3. Under **Measurement**, set **Mic** to your interface and choose the channel the microphone is plugged into. Speak near the microphone and watch the **Mic Level** meter move.
4. If your microphone came with a calibration file, click **Import...** next to **Mic Calibration** and choose the file. Most measurement mics come with two files, 0° and 90°. This quick start points the microphone at the ceiling, so import the **90°** file.
5. If Omnisiah showed **Device Setup Required**, click **Apply**.

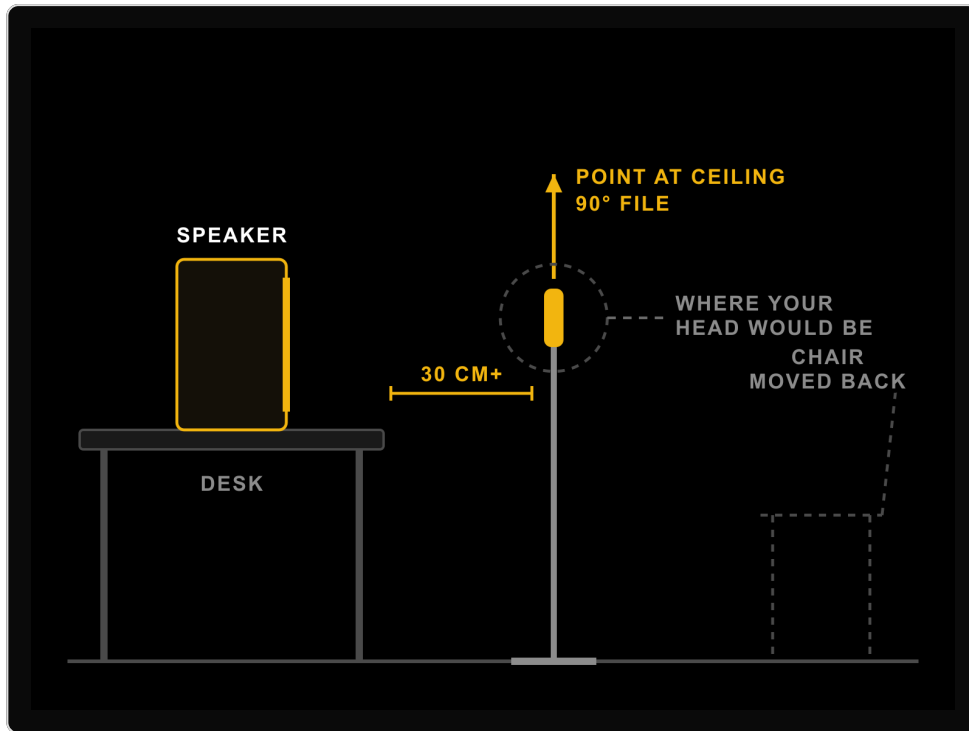
5. Place the microphone

Omnissiah calculates the correction for the exact spot where the microphone stands, so this step decides how good the result is. The microphone goes where your head is when you listen.



Top view: mic on a stand where your head would be, the same distance from each speaker, chair moved back

1. **Move your chair out of the way.** Put the mic stand where your head would be when you sit to listen or mix. A chair back right behind the microphone reflects sound into the measurement.
2. **Centre the microphone between the speakers.** Measure from the front of each speaker to the microphone. The two distances should match to within 1 cm. Omnissiah sets the delays so sound from both speakers arrives together at the microphone, so an off-centre microphone sets them for the wrong spot.
3. **Set the height to your ears.** Sit in your listening position, note the height of your ears from the floor, and set the microphone capsule to that height.
4. **Point the microphone at the ceiling,** straight up, to match the 90° calibration file. If you have only a 0° file, point the microphone forward instead, at a spot halfway between the two speakers.
5. **Keep it clear.** Leave at least 30 cm between the microphone and the desk surface, a wall or anything else large. Keep the stand and its cable out of the straight line from each speaker to the microphone.
6. **Fix it in place.** Tighten the stand. Once measuring starts, the microphone must not move until the app tells you to move it.

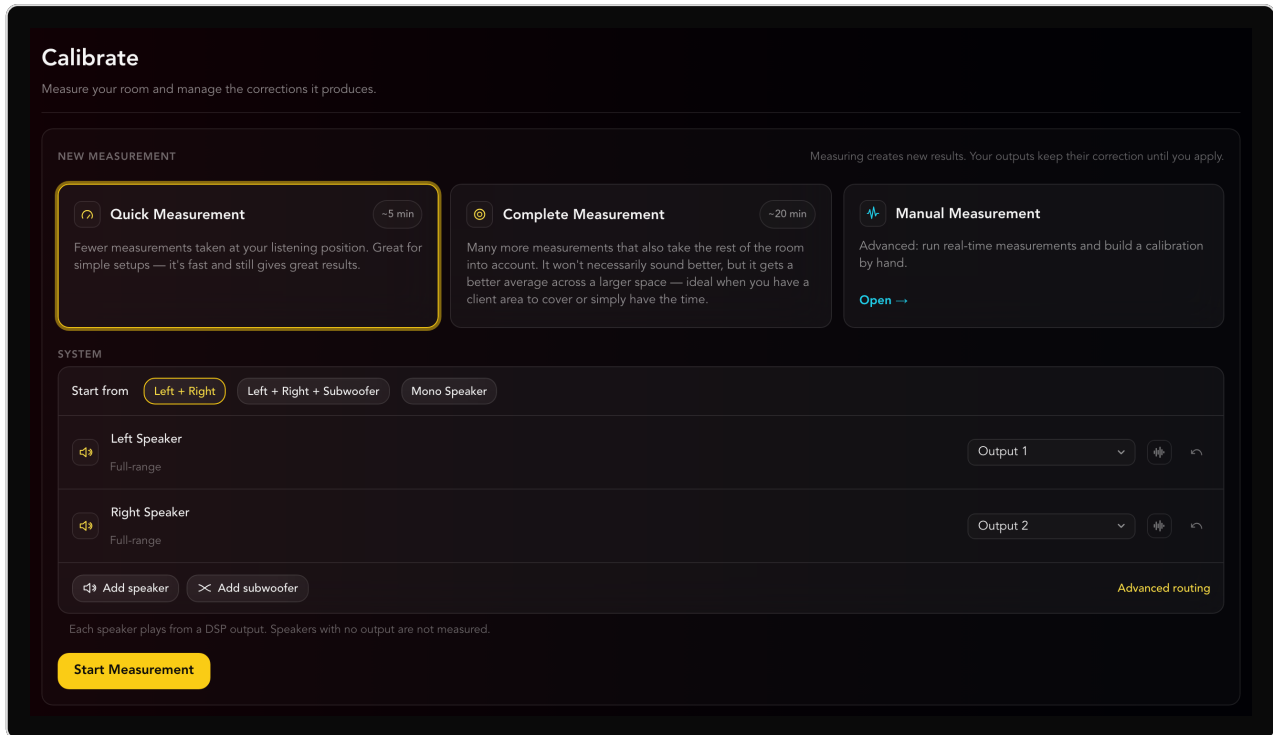


Side view: capsule at seated ear height, pointing at the ceiling, clear of the desk and chair

Tip: Before measuring, switch off fans, air conditioning and anything else that hums. Close the door. A quiet room gives a cleaner measurement in less time.

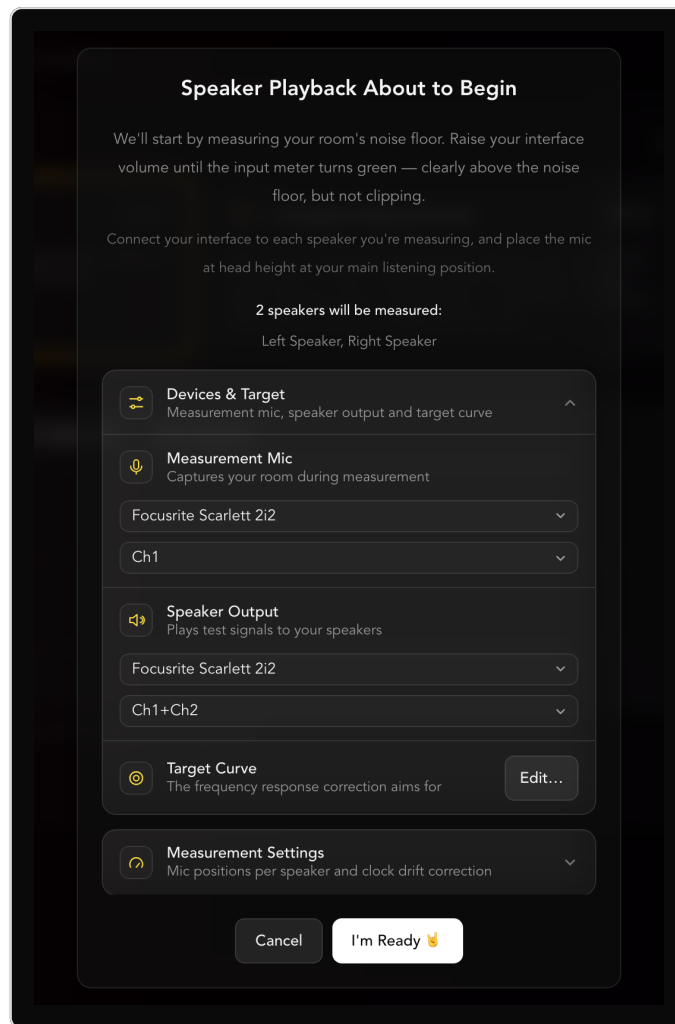
6. Set up the measurement

1. Click **Calibrate** in the sidebar.
2. Under **New measurement**, keep **Quick Measurement** selected.
3. Under **System**, choose **Start from: Left + Right**. Check that **Left Speaker** uses **Output 1** and **Right Speaker** uses **Output 2**.
4. Click **Start Measurement**.



Calibrate: Quick Measurement and the System list with Left Speaker on Output 1 and Right Speaker on Output 2

The **Speaker Playback About to Begin** dialog opens. Leave the settings inside it as they are for a first measurement: the target curve is **Tantrum Flat** and **Quick Positions** is 1.



Speaker Playback About to Begin

Warning: The next step plays pink noise through your speakers. Start with the speakers or interface output turned well down. You raise the level in the next step, only as far as the meter asks.

Then click **I'm Ready** 🙌.

7. Set your levels

OmniSiah mutes the outputs, listens to the background noise in the room, then plays noise through the left speaker and asks you to raise it.

Screenshot pending

screenshots/02-set-levels.png

Step 1 · Set levels: the meter turns green when the level is right

1. Raise your interface output volume slowly while you watch the meter.

2. Stop when the meter turns green and shows **Level set — hold it steady**. The level has to stay green for 5 seconds.
3. Omnisiah moves on to the right speaker. The interface volume feeds both speakers, so the right speaker is usually green straight away. Leave the volume alone from here on.
4. If the meter turns red and shows **Too hot — lower your mic preamp gain**, turn down the microphone gain on your interface, not the speaker level.
5. When asked **Happy with the levels in the room?**, click **Yes, continue**.

Green means the noise is clearly louder than the background noise in the room, and loud enough at the microphone to measure well. The level is usually comfortable listening volume.

8. Measure

Screenshot pending

screenshots/02-measuring.png

Step 2 · Measure: each speaker plays in turn

1. Stay still and quiet, out of the line between the speakers and the microphone. Behind the mic stand works well.
2. Omnisiah plays noise through each speaker in turn, a few seconds each, and records it. With **Quick Positions** at 1, measuring runs straight through without asking you to move the microphone.
3. **Confirm your speaker setup** lists each speaker with its measured range. Click **Calculate**.
4. Omnisiah shows **Calculating room correction** while it works out the EQ, delay and level for each output.

If a measurement keeps restarting, the room is too noisy or the level is too low. Click **Restart this measurement** after you have fixed the cause.

9. Review and apply

The **Calibration results** page opens when the calculation finishes.

Screenshot pending

screenshots/02-results.png

Calibration results: Before | After, the channel chips, Diagnostics and Apply to device

1. Click **Before** and **After** to compare each speaker's response before and after correction. The chips **Ch 1 Output 1** and **Ch 2 Output 2** switch between speakers.

2. Read the **Diagnostics** cards. Each card explains something the correction found, such as a dip it chose not to fill, and what you can do about it.
3. Click **Apply to device**. In the **Apply calibration results** dialog, check that Channel 1 goes to Output 1 and Channel 2 to Output 2, then click **Apply to device**.

Omnissiah writes the correction into NEXUS and opens the **Applied Correction** page: "Correction applied — it's now active on your outputs." NEXUS keeps the correction when you close Omnisiah, restart the computer or unplug it.

Screenshot pending

screenshots/02-applied.png

Applied Correction: Bypass all compares corrected and uncorrected sound

Hear the difference. Play some music you know well. Click **Bypass all** to hear your speakers without the correction, then **Enable all** to switch it back on.

10. Back up

Save your settings, so you can return to them after experimenting. At the bottom of the **Settings** page click **Back up...** and choose where to save the file.

What next

- **Add a subwoofer:** [Chapter 8 — Outputs & crossovers](#) sets the crossover on NEXUS, then you measure again with **Left + Right + Subwoofer**.
- **Measure more positions** for a correction that holds up as you move your head: [Chapter 6 — Measuring & correcting](#).
- **Switch sources** between your interface, S/PDIF, USB and the aux input: [Chapter 7 — Routing & sources](#).

4. Panels & connections

Every connector is on the rear panel and the front panel carries two LEDs. This chapter names each one, says what plugs into it, and shows four common ways to wire NEXUS.

Front panel



NEXUS front panel: SIGNAL and STATUS LEDs on the right

The front panel has no controls. Everything is set from Omnisiah, or from a MIDI or OSC controller through Omnisiah.

STATUS LED

STATUS	Meaning
Red	NEXUS is starting up. Normal for a few seconds after power is applied.
White	Ready. NEXUS is running and passing audio.
Yellow	A fault during start-up. See Chapter 9 — Troubleshooting .
Red, and never turns white	Start-up failed. NEXUS returns to its previous firmware and restarts.
Three quick flashes	Omnisiah's Identify button, so you can see which unit the app is talking to.

SIGNAL LED

The SIGNAL LED flashes green with the audio leaving NEXUS, whichever source it comes from. The LED stays dark when the output is below -60 dBFS, which covers silence and very quiet passages. The LED turns **red while an output is clipping**. If you see red, turn the source down or reduce the gain on that output ([Chapter 8 — Outputs & crossovers](#)).

Rear panel



NEXUS rear panel, left to right: 5V 2A, UAC, Func, Output 3, Output 1-2, Aux In, Input 1-2, S/PDIF

From left to right:

Label	Connector	What it is for
5V = 2A	USB-C	Power only. Use it when NEXUS runs without a computer: any USB-C supply rated 5 V, 2 A.
UAC	USB-C	The computer connection. One cable carries audio, control and power.
Func	Button	[TBC: user function, if any.]
Output 3	6.35 mm TRS jack, balanced	One channel: a subwoofer, a mono speaker or a utility feed. +18 dBu maximum.
Output 1-2	Two 6.35 mm TRS jacks, balanced	The stereo pair, normally your left and right monitors. +18 dBu maximum.
Aux In	3.5 mm stereo jack	Line level, for a phone or a portable player.
Input 1-2	Two 6.35 mm TRS jacks, balanced	Two analogue line inputs. +20 dBu maximum.
S/PDIF	RCA (coaxial)	Digital input, up to 96 kHz.

In each stacked pair, [TBC: whether the upper jack is 1 or 2].

[TBC: whether unbalanced TS jack leads are safe on the outputs.]

Powering NEXUS

- **With a computer:** connect the **UAC** port to the computer with the supplied USB-C cable. The computer powers NEXUS, and nothing goes in the 5V port.
- **Without a computer:** after setup, plug a USB-C supply rated 5 V, 2 A into the **5V = 2A** port. NEXUS keeps every setting, including the room correction.

NEXUS starts whenever power arrives. NEXUS has no power switch.

Inputs

- **Input 1-2** takes balanced line level, up to +20 dBu: a mixer, an audio interface's line outputs, a synth, a streamer's analogue outputs.
- **Aux In** takes a consumer stereo source on a 3.5 mm jack.
- **S/PDIF** takes PCM stereo from a CD transport, streamer, TV or interface at up to 96 kHz. NEXUS mutes the S/PDIF input while it has no lock or when the source sends compressed surround (Dolby or DTS), so set the source to PCM or stereo output.
- **USB audio** arrives over the UAC cable. NEXUS appears on the computer as an audio device called **Tantrum Nexus**, with no driver to install.

The USB and S/PDIF inputs reach the routing matrix together as one pair, called **Digital**. Each has its own level and mute. [Chapter 7 — Routing & sources](#) covers the matrix.

Outputs

Connect powered monitors, or a power amplifier, directly to the outputs.

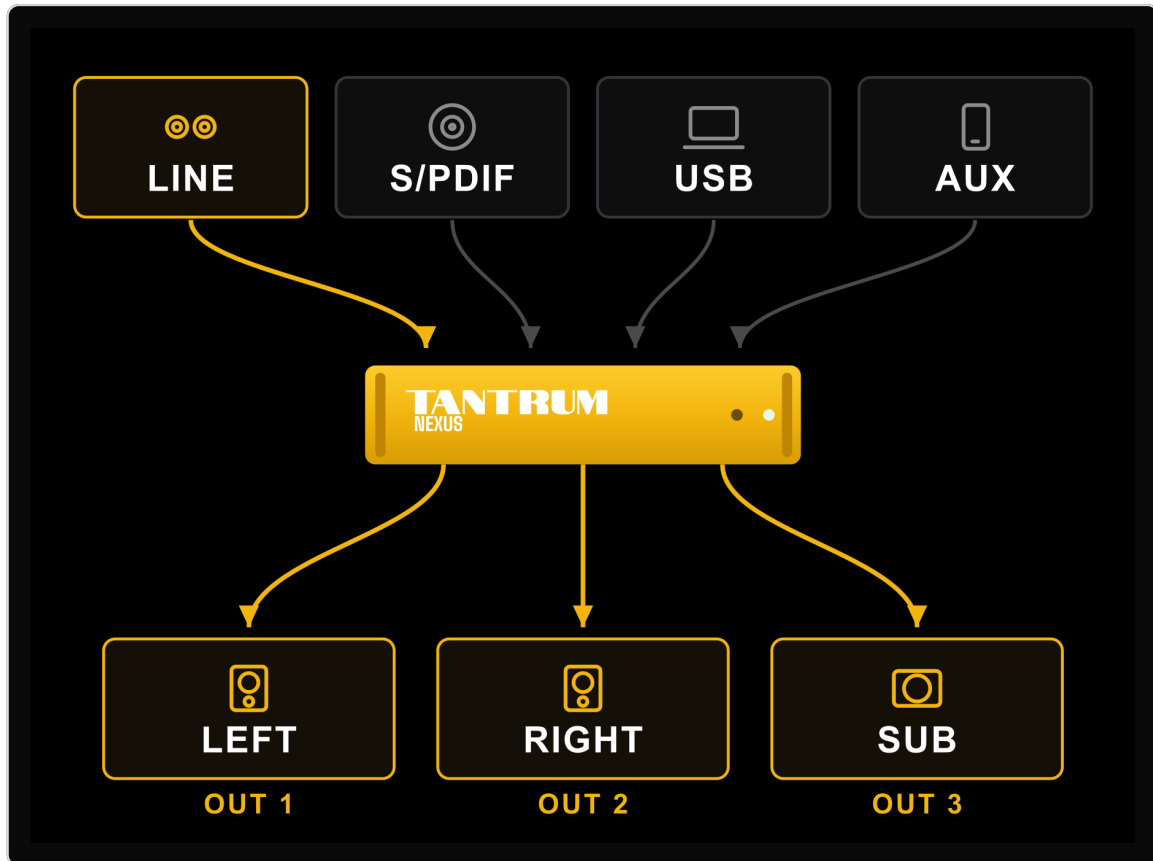
- **Output 1-2**: left and right speakers.
- **Output 3**: a subwoofer. Without a sub, Output 3 can feed a mono speaker for mono checks, or any other single-channel destination.

 **Warning:** Turn your speakers or amplifier down before connecting or disconnecting an output lead. A plug going into a live output sends a loud click to the speaker.

Wiring examples

Source switching with a subwoofer

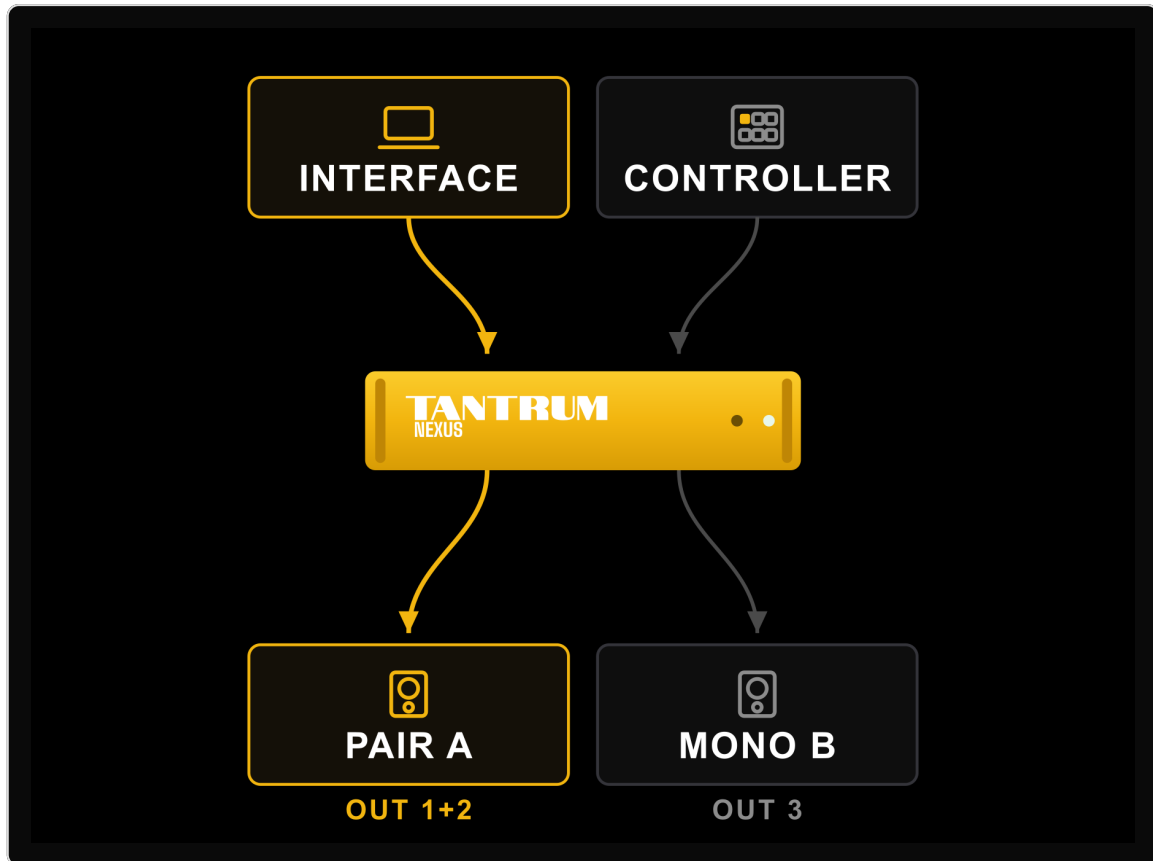
Four sources in, a stereo pair on Output 1-2 and a sub on Output 3. One source is live at a time.



Source switching: four sources in, monitors and sub out

A/B between two sets of speakers

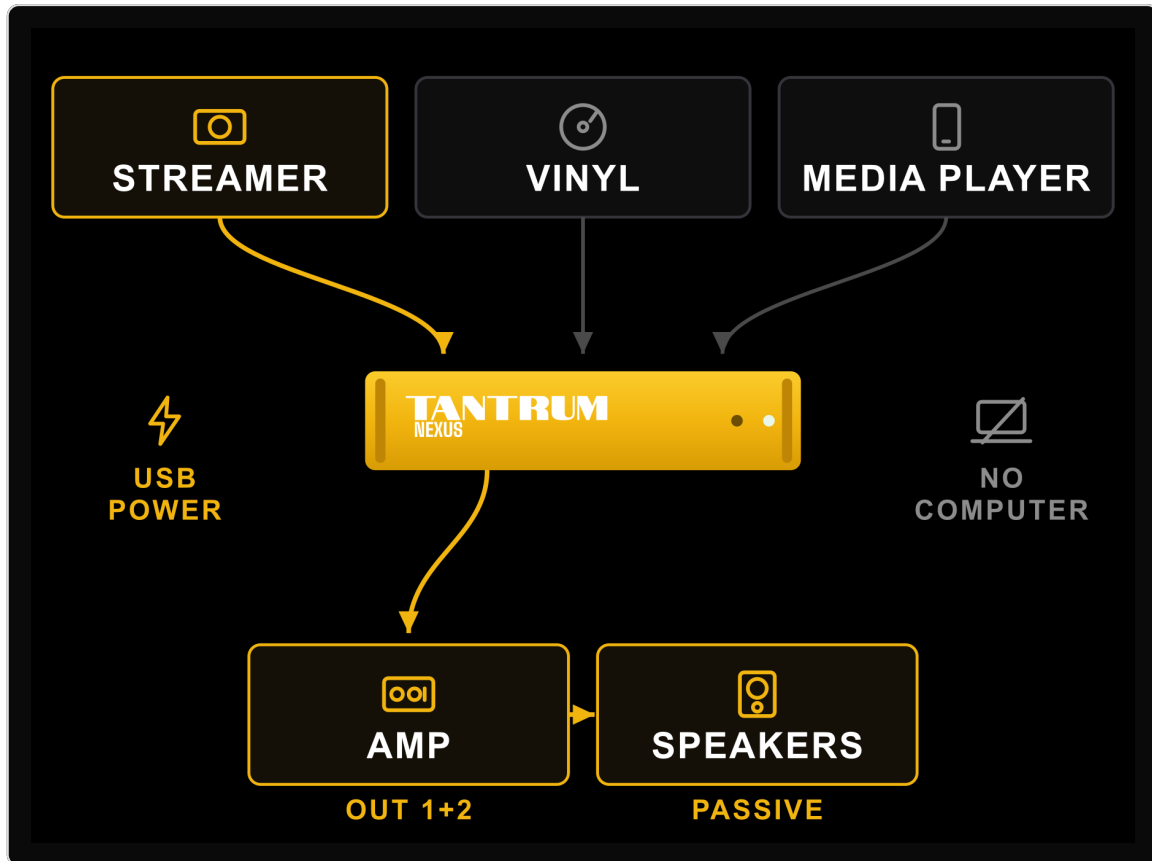
Your main pair on Output 1-2, a mono reference speaker on Output 3, and a MIDI or OSC button pad switching between them through Omnisiah.



A/B monitoring: main pair and a mono reference

Hi-fi without a computer

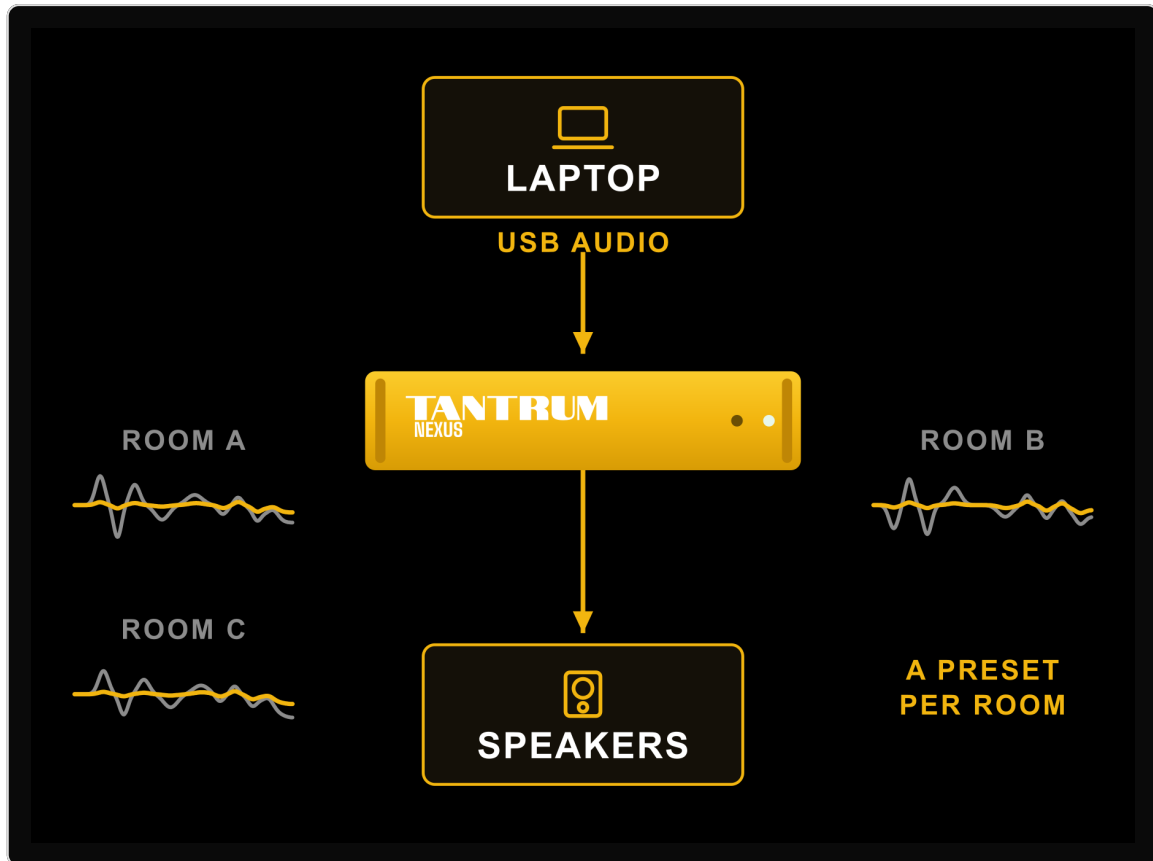
Streamer, turntable preamp and phone in, power amplifier out, powered from a USB-C charger. The laptop is only needed for setup.



Standalone hi-fi: sources in, power amp out, USB-C charger for power

Travel rig

A laptop playing over USB audio into NEXUS, powered from the same cable, with a stored correction for each room you work in.



Travel rig: laptop over USB-C, portable speakers

5. Installation & updates

This chapter covers installing Omnissiah, connecting NEXUS for the first time, the device page, firmware updates, restarting and factory reset.

Install Omnissiah

Download Omnissiah from tantrumaudio.co.uk/downloads/omnissiah. The Installation chapter of the Omnissiah manual (tantrumaudio.co.uk/usermanuals/omnissiah) walks through installing it and granting microphone access.

Connect NEXUS

Connect the **UAC** port to your computer with the supplied USB-C cable. NEXUS takes its power from the same cable, so no other supply is needed.

- The STATUS LED turns red, then white once NEXUS is ready.
- Omnissiah lists NEXUS in the sidebar under **Devices**, with its outputs folded underneath.
- The computer also sees an audio device called **Tantrum Nexus**. NEXUS is class compliant, so there is no driver to install.

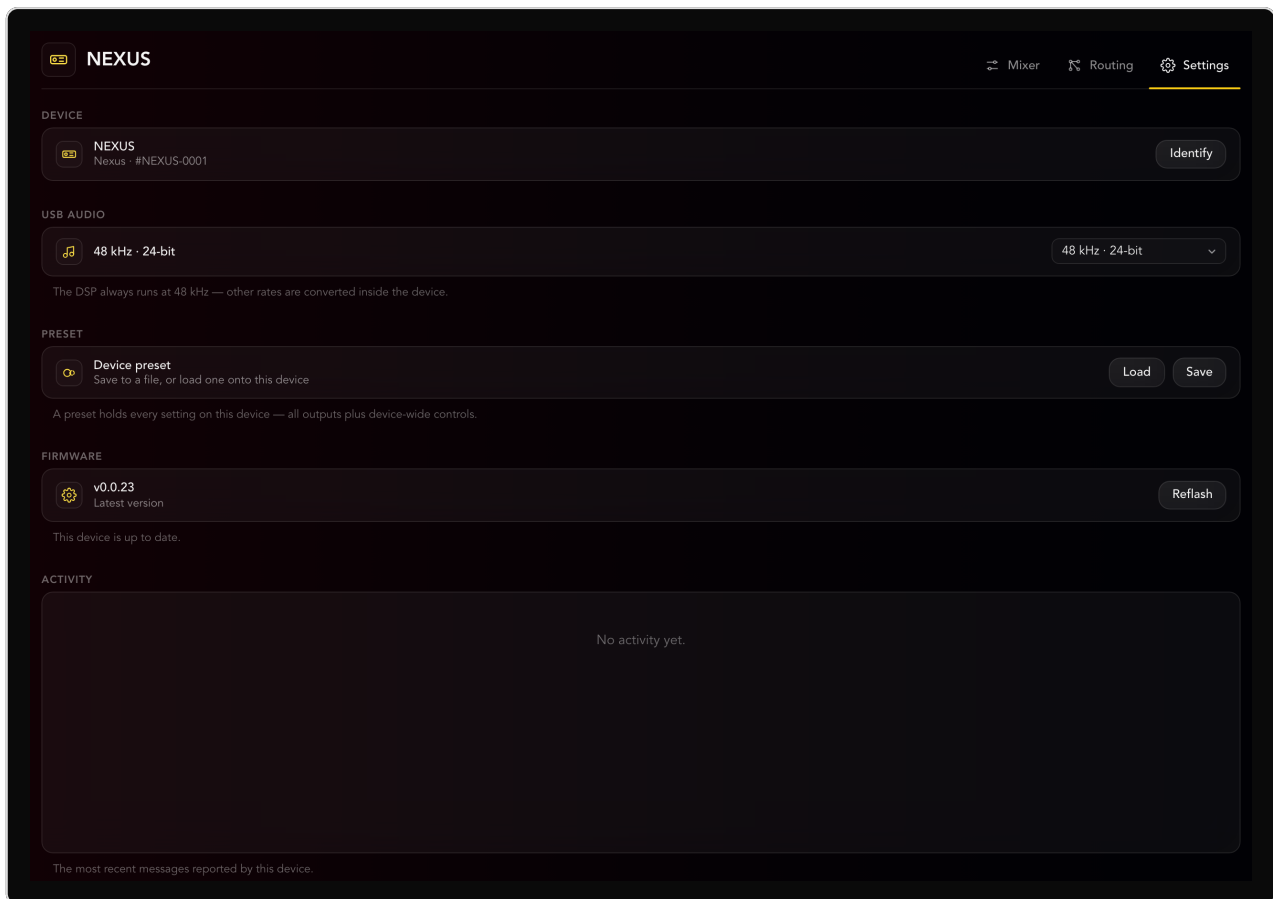
Click the device in the sidebar to open the device page. The device page has three tabs:

Tab	What it holds
Mixer	One strip per output plus a Master strip with the overall volume
Routing	Which inputs reach which outputs (Chapter 7 — Routing & sources)
Settings	Identify, rename, firmware, USB audio mode, presets, restart and factory reset

To rename NEXUS, click its name at the top of the device page and type a new one. The name helps when you own more than one Tantrum device.

Find which unit is which

On the device page **Settings** tab, click **Identify**. The STATUS LED on that unit flashes three times.



The device Settings tab

Update the firmware

Omnissiah carries the latest NEXUS firmware with it, so updating needs no internet connection. When a newer version is available, the device row in the sidebar shows a button **Update to v...**, and the firmware row on the device **Settings** tab shows **v... available**.

1. Turn your speakers off. NEXUS restarts at the end of the update, and the outputs can click.
2. Click **Update to v...**. The dialog warns **TURN YOUR SPEAKERS OFF FIRST**.
3. Click **Speakers are off, update**.
4. Keep NEXUS connected until the dialog shows **Update Complete**. NEXUS restarts on the new firmware.

Warning: Do not unplug NEXUS while **Update Progress** is showing. If an update is interrupted, NEXUS starts on its previous firmware. Connect it again and repeat the update.

The firmware row also offers **Reflash**, which writes the current firmware again. Use it only when asked to by support.

Restart

The device **Settings** tab has two restart buttons:

- **Restart Control** restarts the part of NEXUS that talks to the computer. Audio keeps playing. Use it if Omnisiah stops responding to NEXUS.
- **Restart DSP Core** restarts the audio processor. Audio stops briefly and the speakers can pop, so turn them down first.

Unplugging the USB-C cable and plugging it back in restarts everything.

Factory reset

Factory reset on the device **Settings** tab erases every setting stored on NEXUS: routing, output settings and the room correction. Your backups and saved presets on the computer are not affected.

1. Back up first if you might want the current settings again (Settings → **Back up...**).
2. Click **Reset**, then confirm.
3. NEXUS restarts with factory settings: every output unlinked, every crossover bypassed, and the factory routing described in [Chapter 7 — Routing & sources](#).

[TBC: whether NEXUS has a hardware reset, for example by holding **Func** at power-on.]

Device presets

Device preset on the **Settings** tab saves and loads a complete set of NEXUS settings: **Save** stores the current settings, **Load** restores a saved set. Presets are useful for switching between setups, such as two rooms or two speaker pairs. For a backup of everything Omnisiah knows, including other devices, use Settings → **Back up....**

6. Measuring & correcting

[Chapter 3 — Quick start](#) gets you a working correction from one microphone position. This chapter explains the choices behind each step: the microphone and its calibration file, measuring more than one position, the test-noise path, what the results page shows, and how to bypass, compare and remove a correction.

What the correction does

Omnissiah plays noise through each speaker, records it at the microphone, and compares the result with a target curve. Omnisiah then writes four things into each NEXUS output:

- **EQ**, which cuts the peaks the room adds, mostly in the low end;
- **delay**, so sound from every speaker arrives at the listening position together;
- **gain**, so every speaker plays at the same level there;
- **polarity and phase**, so speakers that share frequencies (a sub and the main pair) add up instead of cancelling.

The correction does not fill deep dips. A dip caused by sound cancelling at the microphone stays a dip however much power goes in, so Omnisiah leaves it and says so on a Diagnostics card. Acoustic treatment or moving the speakers or the listening position fixes those.

The microphone

Any measurement microphone works. The microphone connects to an audio interface with 48 V phantom power, never to NEXUS.

Calibration files

A calibration file lists the small errors in one particular microphone's response, so Omnisiah can remove them from the measurement. Omnisiah reads calibration files in the REW text format that most microphone makers supply.

In **Settings** → **Audio**, next to **Mic Calibration**, click **Import...** and choose the file. The plot shows the correction the file applies. **Remove** deletes an imported file.

Many microphones come with two files:

File	Point the microphone	Use when
90°	Straight up, at the ceiling	Measuring several speakers from one spot. Recommended for NEXUS.
0°	Straight at the speaker	Measuring a single speaker.

The 90° file lets the microphone stay pointing up for every speaker, so nothing moves between the left speaker, the right speaker and the sub.

If your microphone has no calibration file, leave **Mic Calibration** on **None**. The measurement then includes the microphone's own small response errors, which in a measurement microphone sit mostly in the high frequencies, away from the low end where rooms cause most problems.

The test-noise path

During measurement Omnisiah plays noise out of the **Output Device** chosen in **Settings** → **Audio** and records the microphone on the **Mic** input. For accurate delays, both should be the same audio interface, so they run from one clock. The quick start does this: interface line outputs into NEXUS **Input 1-2**, microphone into the same interface.

You can instead choose **Tantrum Nexus** as the Output Device, so test noise goes to NEXUS over USB. The microphone is then on a different clock. In that case open the **Speaker Playback About to Begin** dialog, expand **Measurement Settings**, and set **Clock Drift Correction** to **Enable**.

Placing the microphone

The rules from [Chapter 3 — Quick start](#), step 5, apply to every measurement:

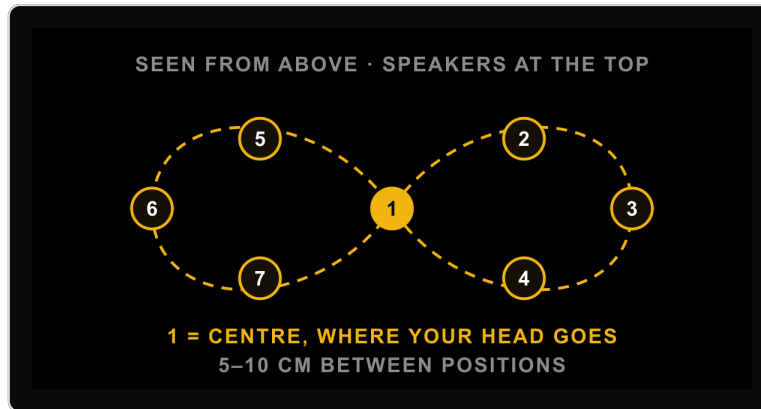
- the microphone goes where your head is when you listen, with the chair moved away;
- the same distance from the left and right speakers;
- the capsule at seated ear height;
- pointing at the ceiling with the 90° file;
- at least 30 cm from the desk, walls and other large surfaces;
- fixed on a stand, and still until the app asks you to move it.

More than one position

One position corrects the sound for one point in space. Moving your head a few centimetres changes the low end a little, so a correction built from several nearby positions holds up better as you move.

In the **Speaker Playback About to Begin** dialog, expand **Measurement Settings** and set **Quick Positions** to 3, 5 or 7. Omnisiah measures every speaker from each position and pauses between positions with **Position N of M** and a **Continue** button.

The first position is the centre, placed exactly as above. For the others, the app asks you to move the microphone along an infinity (∞) pattern around the centre: about 5–10 cm from the previous spot, varying the height a little (head height, slightly above, slightly below), and keeping clear of seat backs, headrests and walls.



Moving the microphone along the infinity pattern

Redo Last Position repeats the last position if something disturbed it, such as a noise or a knocked stand.

Complete Measurement, the second card on the Calibrate page, measures a wider listening area, such as a sofa or a control room with a producer's desk and a client couch. A Complete Measurement takes about 20 minutes. The Omnisiah manual covers it in its Room correction & calibration chapter.

Levels

Level-setting plays noise through one speaker at a time. The meter turns green when two conditions have held for 5 seconds: the noise is at least 6 dB above the room's background noise, and the microphone level is at least -35 dBFS.

Meter	Message	Do this
Teal	Too quiet — raise your speaker / interface output	Raise the interface output volume.
Green	Level set — hold it steady	Leave the volume alone.
Red	Too hot — lower your mic preamp gain	Turn down the mic gain on the interface.

"Low signal detected, please check your interface settings or microphone connection." means the microphone hears almost nothing: check that 48 V phantom power is on and that **Mic** is set to the right interface channel.

Before calculating

Confirm your speaker setup appears after the last measurement. The list shows each speaker with its measured and corrected frequency ranges, and offers three settings: **Crossover** (where the correction treats the sub and the main speakers as splitting), **Match the target down to**, and **Below that**. The defaults suit most systems. Click **Calculate** to continue.

Crossover here only shapes the correction. The crossover filters on NEXUS are set on the Output page ([Chapter 8 — Outputs & crossovers](#)).

The results page

Calibration results shows, for each output:

- **Before | After**: the measured response without and with the correction, against the target. The switch changes the chart only. To hear the difference, apply the correction and use **Bypass all** (below).
- Chips **Ch 1 Output 1**, **Ch 2 Output 2** and **Ch 3 Output 3** to switch between outputs.
- **Diagnostics**: plain-language cards on anything the correction found or chose not to fix.
- **Calculate Again** reruns the calculation on the same measurements.
- **Export** saves the results to a file. **Send to team** saves them and opens a pre-filled email to us, for when you want help reading them.

The Omnisiah manual's Understanding & applying results chapter explains the charts and every diagnostic card.

Applying, bypassing and removing

Apply to device opens **Apply calibration results**, with one row per channel showing which NEXUS output receives it. Click **Apply to device** in the dialog to write the correction. NEXUS stores it and plays through it from then on, with or without the computer.

Screenshot pending

screenshots/02-applied.png

Applied Correction: one card per applied set, with Bypass all at the top

The **Applied Correction** page opens next. Each applied set has a card with an on/off switch, **Response**, **Details** and **Delete**.

- **Bypass all** switches every correction off, to hear your room without it. **Enable all** switches them back on.
- The **Applied** row on the Calibrate page has the same **Bypass/Enable** button and opens this page.
- **Delete** removes a correction: those outputs go back to playing uncorrected at 0 dB. The measurement stays in **History**.

Every measurement is kept under **History** on the Calibrate page, so you can go back to an earlier result and apply it again.

When to measure again

Measure again after anything that changes the sound at the listening position:

- you move the speakers, the subwoofer or the listening position;
- you add or move acoustic treatment or large furniture;
- you change a crossover on NEXUS;

- you add a subwoofer.

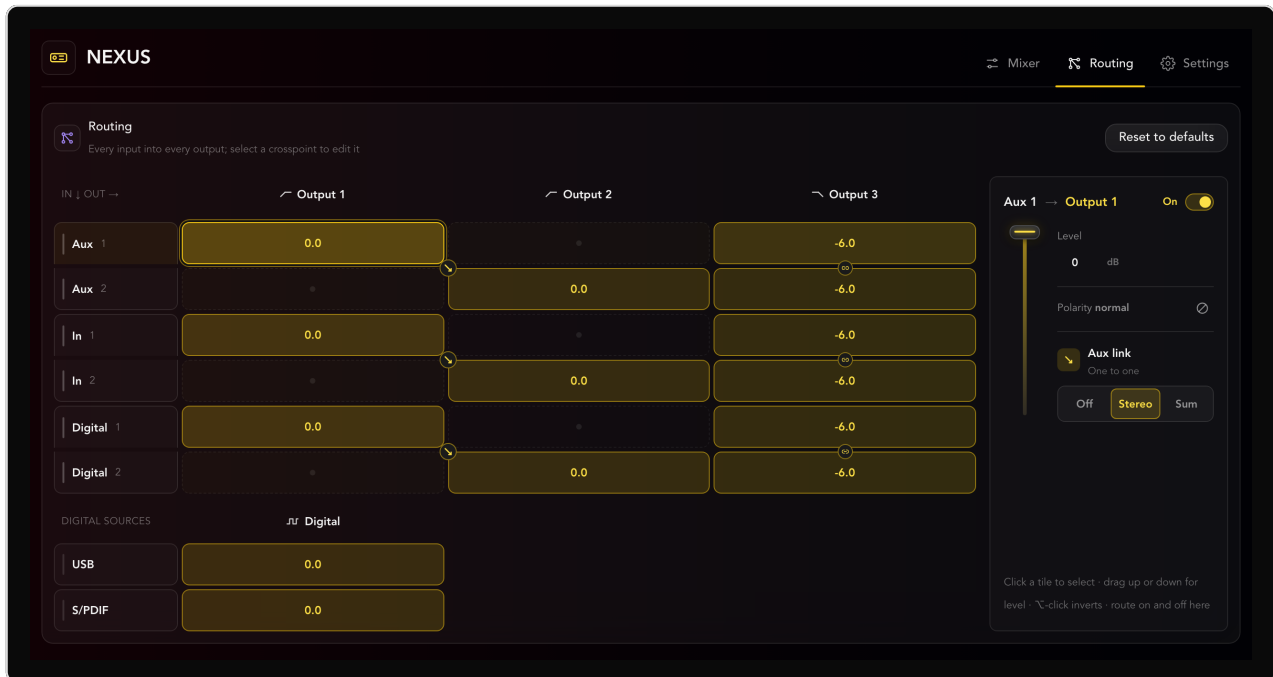
A new measurement does not change what NEXUS plays until you apply it.

7. Routing & sources

The routing matrix decides which inputs reach which outputs, and at what level. This chapter explains the matrix, the Digital pair, link modes, switching between sources, and the USB audio modes.

The routing matrix

Open the device page and click the **Routing** tab.



Routing: inputs down the side, outputs across the top, Digital sources below

Inputs run down the side in pairs: **Aux 1** and **2**, **In 1** and **2**, **Digital 1** and **2**. Outputs run across the top: **Output 1**, **Output 2** and **Output 3**, plus **Rec 1** and **Rec 2** when the USB mode records (see [USB audio modes](#) below).

Each tile is one route, a crosspoint from one input to one output. The tile shows the route's level in dB. A dot means the route is off, and $\emptyset$ means the route's polarity is inverted.

Editing a route

- **Click** a tile to select it. The tile's row and column are highlighted and the inspector below the matrix shows the route, for example "Aux 1 → Output 1".
- **Drag up or down** on a tile to change its level. Hold Shift for finer steps.
- **⌘-click** (Option-click) a tile to invert its polarity.
- In the inspector, the **On/Off** toggle switches the route, the **Level** box takes a typed value in dB, and **Polarity** switches between normal and inverted.

Routes can only cut. The level runs from -60 dB to 0 dB, and setting -60 dB switches the route off. A route that is switched off remembers its level, so switching it on again restores the level.

Reset to defaults at the top of the panel restores the factory routing.

Factory routing

A new NEXUS, or one after a factory reset, mixes every input at once:

Output	Receives
Output 1	Aux 1 + In 1 + Digital 1, each at 0 dB
Output 2	Aux 2 + In 2 + Digital 2, each at 0 dB
Output 3	All six inputs at -6 dB, a mono sum
Rec 1, Rec 2	The same as Output 1 and Output 2

Every connected source plays at once until you switch routes off. With one source connected, the factory routing plays it in stereo on Output 1-2 and in mono on Output 3.

The Digital pair: USB and S/PDIF

USB audio and the S/PDIF input share one input pair, **Digital 1** and 2. NEXUS adds the two together before the matrix, so the Digital routes carry both.

The **Digital sources** grid under the matrix has a tile each for **USB** and **S/PDIF**. Select one to turn that source on or off and set its level. The level is applied before the two sources are added together, so it scales that source in every Digital route.

To hear only one of the two digital sources, switch the other one off here.

S/PDIF

- NEXUS accepts PCM stereo at up to 96 kHz on the coaxial input.
- NEXUS mutes the S/PDIF input until the signal has locked, and whenever the source sends compressed audio such as Dolby or DTS. Set the source to PCM or stereo output.
- Omnisiah shows no lock indicator. If S/PDIF stays silent, check the source's output format, then look in the device **Settings** tab under **Activity** for "SPDIF locked" or "SPDIF unlocked - muted".

Link modes

Inputs and outputs come in pairs, and a link mode makes a pair of routes move together. Select a tile and the inspector shows the pair's link control, for example **Aux link**, with three choices:

Mode	What it does
Off	Each route is set on its own.
Stereo	1 goes to Output 1 and 2 goes to Output 2, moving together. Choosing Stereo on a crossed tile (1 to Output 2) gives the crossed orientation, swapping left and right.
Sum	Both inputs of the pair go to the output together, as mono.

Into Output 1-2 all three modes are available. Into Output 3, which is a single channel, the choices are **Off** and **Sum**.

The defaults are **Stereo** into Output 1-2 and **Sum** into Output 3.

Note: Link modes are stored by Omnisiah on the computer, not in NEXUS. The routes themselves are stored in NEXUS.

Switching between sources

NEXUS has no input selector. To switch sources, switch routes on and off in the matrix, or switch USB and S/PDIF on and off in **Digital sources**.

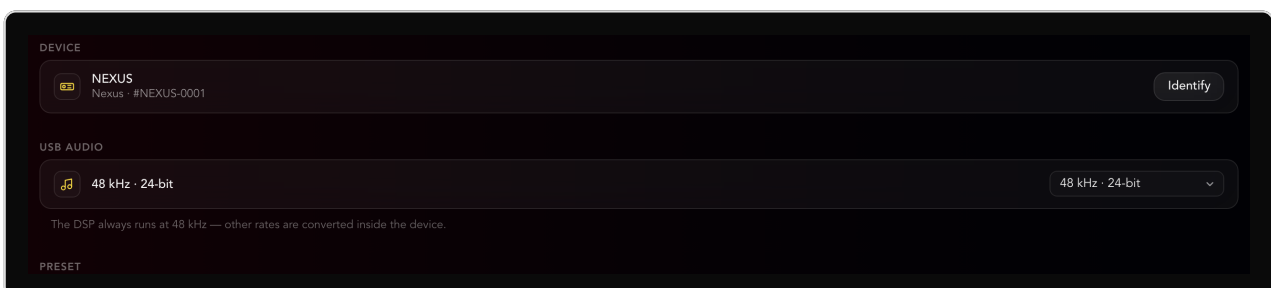
For one-press switching, record each routing as a macro and trigger the macros from a MIDI or OSC controller. A macro's **Capture** records the changes you make in the matrix. The Control macros chapter of the Omnisiah manual covers macros and controllers.

Example: interface or turntable. An interface on Input 1-2 and a turntable preamp on Aux. Macro "Interface" switches the In routes on and the Aux routes off. Macro "Vinyl" does the reverse.

USB audio modes

The USB audio mode sets the sample rate and bit depth NEXUS offers to the computer, and whether NEXUS can record back to the computer.

To change mode, open the device **Settings** tab and find **USB Audio**. Choose a mode, then confirm **Restart to switch USB mode?** with **Restart**. NEXUS restarts and audio stops for about 2 seconds.



USB Audio on the device Settings tab

Mode	Record to computer
44.1 kHz · 16-bit · duplex	Yes
48 kHz · 16-bit · duplex	Yes
48 kHz · 24-bit (default)	No
88.2 kHz · 16-bit	No
96 kHz · 16-bit	No
44.1 kHz · 24-bit	No

NEXUS processes everything at 48 kHz, and other rates are converted inside NEXUS. Pick the mode that matches your computer's project or playback rate, so the computer does not resample as well. In 44.1 kHz · 24-bit, NEXUS truncates the audio to 16-bit.

Recording through NEXUS

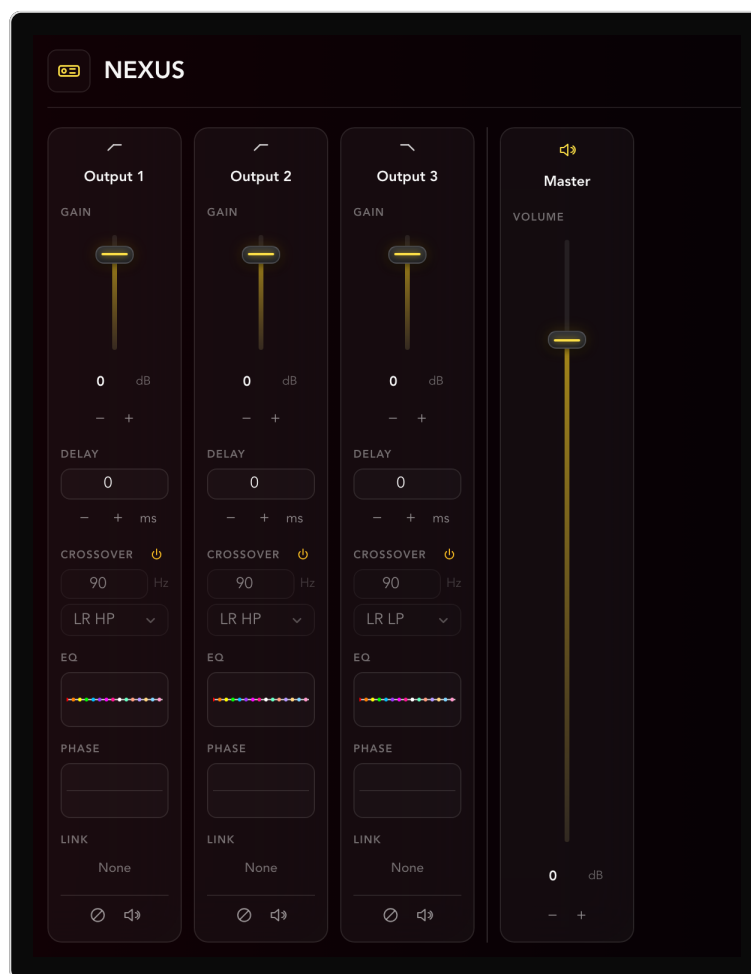
In the two **duplex** modes NEXUS appears to the computer as a two-channel input as well as an output, and the matrix gains **Rec 1** and **Rec 2** columns. Route any input to Rec 1 and Rec 2 to record it on the computer, for example a turntable on Aux or an S/PDIF source.

8. Outputs & crossovers

Each of the three outputs has its own gain, mute, polarity, delay, crossover, EQ and phase settings. This chapter covers what each one does on NEXUS, how to link Output 1 and Output 2, and how to add a subwoofer.

The Mixer

The **Mixer** tab on the device page has one strip per output and a **Master** strip. **Volume** on the Master strip sets the level of all three outputs at once.



Mixer: one strip per output and the Master strip

The Output page

Click an output under NEXUS in the sidebar to open its page. The tabs are **Controls**, **EQ**, **Phase**, **Crossover** and **Settings**. To rename an output, click its name at the top of the page.

Setting	Range	Factory setting
Gain	-90 to +24 dB (the fader shows -60 to +12 dB; type a value for the full range)	0 dB
Mute	On or off	Off
Polarity	Normal or inverted	Normal
Delay	0 to 8.5 ms	0 ms
Crossover	20 to 200 Hz, high pass or low pass, 24 dB/octave	Bypassed
EQ	15 parametric bands: ± 24 dB, Q 0.1 to 10, 20 Hz to 20 kHz	Flat
Phase	6 all-pass stages	Bypassed

The delay value can be shown in ms, metres, samples, centimetres, inches or feet. Click the unit to cycle through them. For gain, delay, polarity and EQ in depth, see the Shaping sound chapter of the Omnisiah manual.

Note: Measuring resets gain, delay, polarity and EQ on every output being measured, and applying a correction writes new values. Make hand adjustments after applying a correction, not before measuring. Measuring and applying never change the crossover.

Crossovers

A crossover splits the frequency range between speakers: a high pass on the main speakers removes the deep bass, and a low pass on the subwoofer removes everything above it. NEXUS ships with every crossover bypassed, so all three outputs play the full range until you set one.



The Crossover tab

On an output's **Crossover** tab:

- The type list offers **BW HP**, **LR HP**, **BW LP** and **LR LP**: Butterworth or Linkwitz-Riley, high pass or low pass. The slope is fixed at 24 dB/octave.

- The frequency runs from 20 Hz to 200 Hz. **Reset crossover** returns the crossover to 90 Hz.
- **Bypass** switches the crossover off; the button reads **Bypassed** while it is off.

Use Linkwitz-Riley (**LR**) for a sub and main speakers. A Linkwitz-Riley high pass and low pass at the same frequency add back to a flat response through the crossover region.

Adding a subwoofer

Finish [Chapter 3 — Quick start](#) with your main pair first. Then:

1. Turn the subwoofer down. Connect NEXUS **Output 3** to the subwoofer's input.
2. On the subwoofer itself, turn its own low-pass filter to its highest setting, or switch it off (often labelled LFE or bypass). NEXUS does the crossover, and two low-pass filters in a row would cut too much.
3. Open **Output 1**, then the **Crossover** tab. Choose **LR HP**, set the frequency and click **Bypassed** so the crossover is active. Do the same on **Output 2**.
4. Open **Output 3**, then **Crossover**. Choose **LR LP** at the same frequency and make it active.
5. Bring the subwoofer volume up to roughly match the main speakers by ear.
6. Measure again: **Calibrate** → **Start from: Left + Right + Subwoofer**. Check that **Left Speaker** uses **Output 1**, **Right Speaker** uses **Output 2** and **Subwoofer** uses **Output 3**, then follow steps 6 to 9 of the quick start.

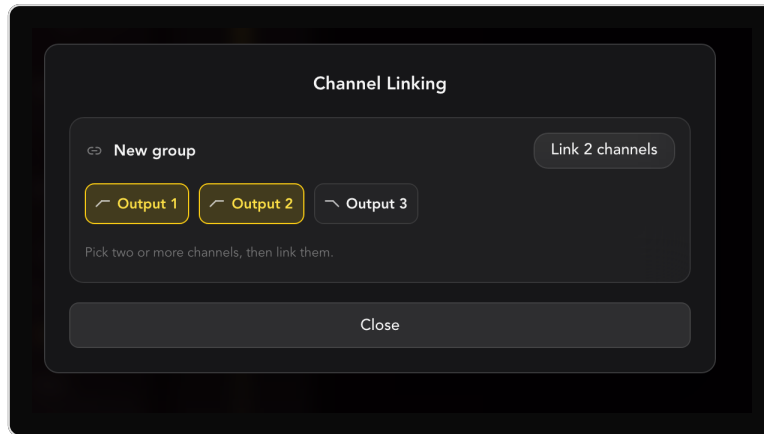
Which frequency. Start at 80 Hz. If your main speakers roll off above 80 Hz, set the crossover close to the frequency where their low end starts to fall, which their specification lists. The measurement sets the sub's level, delay and polarity so the sub and the main speakers add up at the listening position.

Output 3 receives a mono sum of every input in the factory routing, which is the right feed for a subwoofer ([Chapter 7 — Routing & sources](#)).

Linking Output 1 and Output 2

Linked outputs mirror each other's settings, so one change sets both speakers of a pair. Outputs ship unlinked.

1. On the Output page **Settings** tab, click **Link...** next to "Not linked". The **Link** card on **Controls** and the **Link** section on the Mixer strip open the same dialog.
2. In **Channel Linking**, pick Output 1 and Output 2 and click **Link 2 channels**.
3. Under **Shares**, choose which settings the group shares: Mute, Gain, Delay, Polarity, EQ and Crossover.

*Channel Linking*

To undo, open the dialog again with **Manage...** and click **Unlink all**.

Room correction measures and corrects each output on its own, linked or not, because each speaker sits in a different part of the room.

9. Troubleshooting

Find the symptom, then work down its list. If nothing here fixes the problem, message us ([Appendix A — Support & warranty](#)).

NEXUS does not appear in Omnisiah

- Check the cable is in the **UAC** port. The **5V = 2A** port supplies power only and carries no data.
- Use the supplied cable, or another USB-C cable that carries data. Some USB-C cables only charge.
- Look at the STATUS LED. Dark means no power: try another USB port on the computer. Red that never turns white, or yellow, means NEXUS did not start properly (below).
- Plug NEXUS straight into the computer rather than through a hub.
- Quit Omnisiah and open it again.

The STATUS LED stays red or turns yellow

Something failed while NEXUS was starting. Unplug the USB-C cable, wait five seconds and plug it back in. If the LED stays red or turns yellow again, message us and say which colour you see.

No sound from the speakers

Work from the source towards the speakers:

1. **Is the source playing into NEXUS?** For USB audio, set the computer's sound output to **Tantrum Nexus**. For S/PDIF, see below.
2. **Does the SIGNAL LED flash green?** If it does, NEXUS is passing audio, so check the speaker cables, the speakers' power and their volume.
3. **Is the input routed?** On the **Routing** tab, check that the source's routes to Output 1 and Output 2 are on. USB and S/PDIF also need their tiles on under **Digital sources**.
4. **Is an output muted or turned down?** On the **Mixer** tab, check each output's mute and the **Master** volume.
5. **Is a crossover set wrongly?** A high pass at 200 Hz on a small speaker, or a low pass on the main pair, removes most of the sound. Check each output's **Crossover** tab.

S/PDIF is silent

- NEXUS plays PCM stereo only. Set the source (TV, streamer, console) to PCM or stereo output, not Dolby, DTS or "bitstream".
- Check the source's sample rate is 96 kHz or lower.
- Check **S/PDIF** is on under **Digital sources**, and the Digital routes are on.
- On the device **Settings** tab, **Activity** shows "SPDIF locked" when NEXUS receives a valid signal and "SPDIF unlocked - muted" when it loses it.

Sound on Output 3 that you did not route

The factory routing sends a mono sum of every input to Output 3. Switch off the Output 3 routes you do not want on the **Routing** tab.

The SIGNAL LED turns red

An output is clipping. Turn the source down, or lower that output's gain. A large EQ boost added by hand can also push an output into clipping.

Hum or buzz

- Use balanced TRS leads for the inputs and outputs.
- Plug the computer, the interface and the powered speakers into the same mains socket or strip.
- If the hum stops when you unplug the USB-C cable, the computer's ground is the cause. Run the computer from its battery while listening, or after setup power NEXUS from a USB-C supply in the 5V port instead.

Measuring

The level meter never turns green.

- Check 48 V phantom power is on for the microphone input.
- Check **Mic** in **Settings** → **Audio** is the right interface and channel.
- Check **Output Device** is the interface wired into NEXUS **Input 1-2**, and that the interface's output volume is up.
- Hold the **Test output** buttons in **Settings** → **Audio** to confirm each speaker plays.

The meter turns red. Lower the microphone gain on the interface, not the speaker level.

The wrong speaker plays. Swap the leads at NEXUS **Input 1-2**, or check that **Left Speaker** uses **Output 1** and **Right Speaker** uses **Output 2** in the **System** list.

A measurement keeps restarting. The reading is unstable. Quieten the room, switch off fans, keep still, and check the microphone stand is not touching the desk. Then click **Restart this measurement**.

The corrected sound is worse. The microphone was probably not where your head is, or it moved during measurement. Check the placement in [Chapter 3 — Quick start](#), step 5, and measure again. **Bypass all** on the Applied Correction page returns to the uncorrected sound in the meantime.

Recording

The computer cannot record from NEXUS. Recording works only in the two duplex USB modes. On the device **Settings** tab, set **USB Audio** to **48 kHz · 16-bit · duplex** or **44.1 kHz · 16-bit · duplex**, then route the inputs you want to **Rec 1** and **Rec 2** ([Chapter 7 — Routing & sources](#)).

Appendix A — Support & warranty

How to get help, make a warranty claim, register NEXUS and dispose of it.

Getting help

Message us at tantrumaudio.co.uk/support. If your enquiry is urgent, we'll get back to you within 24 hours.

[Chapter 9 — Troubleshooting](#) covers the common problems first, and most of them have a fix you can do in a minute.

What to include

- What happened, and what you expected instead.
- Your Omnisiah version (shown at the bottom of **Settings**) and your computer's operating system version.
- The NEXUS firmware version, from the device **Settings** tab.
- The STATUS LED colour.
- For a measurement or correction problem: the results file. On the **Calibration results** page, **Send to team** saves it and opens a pre-filled email. The Getting help appendix of the Omnisiah manual describes the full feedback steps.

Warranty

NEXUS carries a 2-year warranty from the date of purchase. [TBC: warranty terms link, and whether registration is needed.]

To make a warranty claim, message us at tantrumaudio.co.uk/support with your order number or proof of purchase and a description of the fault.

Registering your NEXUS

[TBC: registration route. The in-box card points to tantrumaudio.co.uk/nexus/register.]

Disposal

Do not put NEXUS in household waste. Take it to a collection point for electrical and electronic equipment, as the crossed-out bin symbol on the rear panel shows.