Neutron Quantum Speaker QS-G12M70-NDX
NDX Profile Pack for NAM

User Guide

Introduction

Neutron Quantum Speaker pack for Neural Amp Modeler

These profiles have been designed for use alongside other Neutron Core components, and recorded to deliver realistic results in modular signal chains.

Each speaker was captured with a range of microphones to allow faithful recreation of the real studio recording process and allow blending of mics to create limitless possibilities. The profiles in this pack are full quality NAM A1 Standard architecture compatible and should work in all plugins and devices that will load that format.

What you will need:

The Neural Amp Modeler plugin or standalone app, or a compatible device or plugin capable of loading standard architecture NAM A1 full quality files. The official NAM plugin for PC and MAC can be obtained for free at the following link: https://www.neuralampmodeler.com/

About

Welcome to Quantum Speaker – Speaker Simulation : Evolved

At Neutron Audio, we believe true innovation transforms your sound. Bringing decades of recording industry-proven expertise to your workflow, our recording and production experience is embedded in every product we make, allowing you to focus on making music.

Quantum Speaker represents the natural evolution of speaker and microphone simulation, advancing beyond the limitations of Impulse Responses (IRs) by capturing the full dynamic behaviour of real speakers and microphones. Rather than relying on static snapshots as an IR does, or augmenting them with algorithmic estimates, Quantum Speaker uses advanced non-linear profiling to authentically capture all the complex tonal behaviour, dynamics, and breakup that occurs across all volume levels, giving you a true-to-source sound that is staggeringly accurate to reality.

Unlike traditional IR packs that require hundreds or even thousands of files to approximate all the possible tonal shifts, Quantum Speaker offers the flexibility and control of a real recording environment with only a fraction of the number of files required. IRs cannot be blended freely or safely, as doing so can introduce phase issues and unwanted frequency shifts, yet some products encourage this. With Quantum Speaker, you CAN blend microphones seamlessly, just as you would in a physical recording environment.

Each Quantum Speaker pack is designed for playback with NAM (Neural Amp Modeler), a multi-platform solution compatible with multiple devices and plug-ins. The packs are each themed around a specific speaker and contain 27 discrete mic positions, distributed across 6 professional microphones (2x Dynamic, 2x Condenser and 2x Ribbon) and our proprietary Neutron Sub transducer for precise control of low frequencies. In addition, there are 5 quickstart files covering a broad range of pre-made mic blends so you can get a studio-ready sound instantly. Then, when

you're ready, dive into limitless possibilities with the full set of discrete mics to create your own signature sound.

As the first company to bring a true-to-source non-linear speaker/mic profile solution to the market, Neutron Audio is proud to lead this transformation in speaker simulation technology. This is not IR; it's a Quantum Shift in Speaker Simulation (you see what we did there).

We invite you to explore this next chapter in speaker simulation and experience how Quantum Speaker can transform your sound.

QS-G12M70-NDX

This pack is based on the The Celestion G12M-70, one of the defining British speakers of the late ’80s and early ’90s. Designed as a higher-power evolution of the classic G12M format, it became a standard fit in many Marshall combos and cabinets of the era. With its 70-watt rating and more robust construction, it was built to handle louder, higher-gain amplifiers while maintaining control and musicality.

Tonally, the G12M-70 is notably warmer and more even than many earlier Celestion designs. Its midrange is broad and balanced rather than aggressively forward, and the top end is smooth and controlled, making it particularly effective at taming overly bright or sharp-voiced amplifiers. The low end remains firm without excessive bloom, contributing to a composed and structured overall response.

In a closed-back 2×12 enclosure, these characteristics translate into a focused, punchy low end, a warm, cohesive midrange, and a rounded high-frequency response that keeps driven tones full without harshness. This configuration captures a very specific period-correct British voice — controlled, warm, and reliable — the sound of countless Marshall rigs from an era when higher gain and higher power demanded speakers that could deliver strength without stridency.

Thank you for purchasing this Neutron Quantum Speaker NDX Profile Pack. QS-G12M70-NDX aims to faithfully recreate the sound and behaviour of the Celestion G12M-70 guitar speaker in a 2x12 closed--backed cabinet, recorded with various different mics, in profiles you can load into the Neural Amp Modeller plugin (NAM). The pack also includes 6 “console filter” IR files and 5 Quickstart profiles of pre-combined mics to let you hit the ground running and try things out. The following is some info to help you get started using this pack. More information will be made available in your user area of the Neutron Website, be sure to check back often! We also have a quickstart and a series of deep dive videos on our YouTube channel if you want to learn more or hear some examples of the sounds being played. Check that out here:

https://www.youtube.com/@neutron_audio

And if you want to ask questions directly to the team, join our facebook user group here:

https://www.facebook.com/groups/1712386306166179

What's Included:

27 NDX NAM A1 standard architecture compatible profiles recreating the discrete mic positions of a studio recording session

5 additional Quickstart profiles of pre-combined blends of mics

6 console filter IRs to shape the sound further

Getting Started

Download and Install NAM:

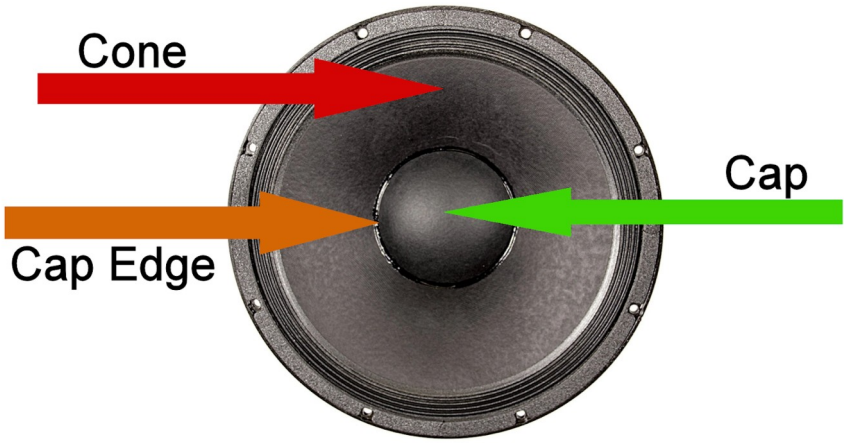
Visit the NAM website, download the plugin for your operating system, and follow the installation instructions, or copy the profiles to your device.

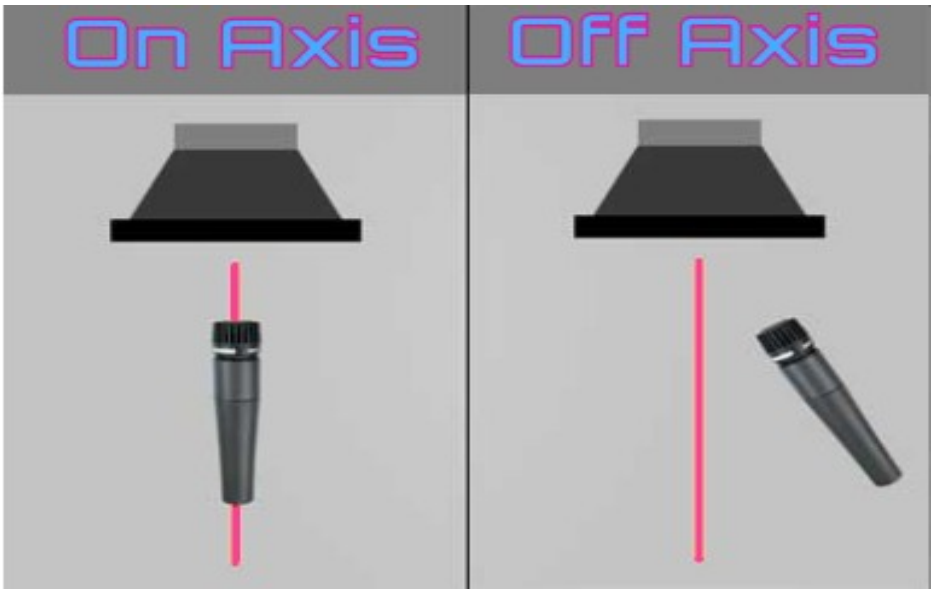
Load Neutron Quantum Speaker Profiles:

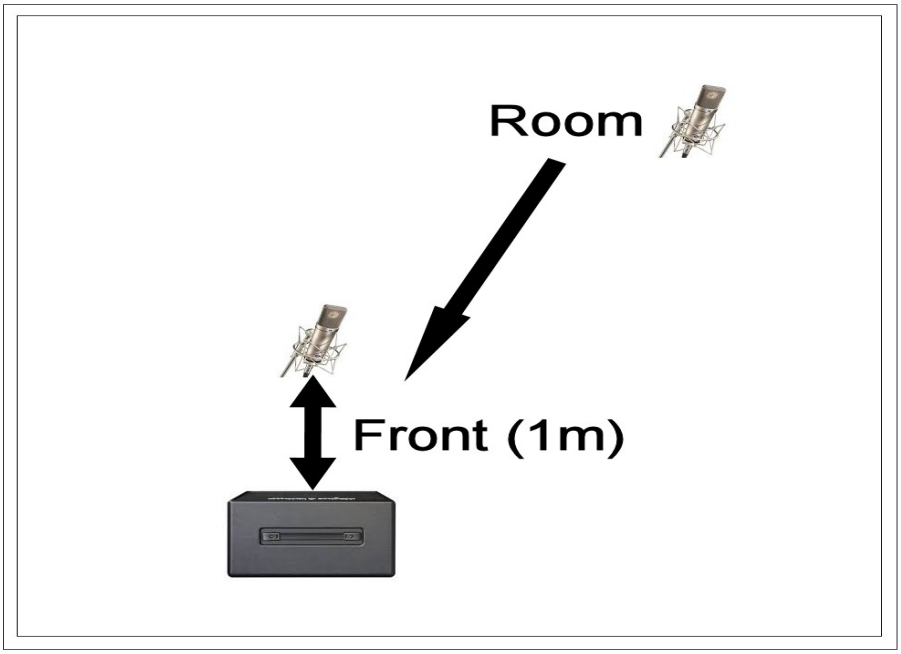
Open your DAW and insert NAM as a plugin on your guitar track.

Load the Neutron Quantum Speaker profiles into NAM, or load the profile you want to use on your device.

Mic Position Key:







Using Neutron Quantum Speaker Profiles

Quick Start Profiles

The Quick Start Profiles are designed for ease of use, providing immediate access to high-quality studio-ready sounds. These profiles combine multiple mic positions and settings into a single load-and-go profile and are designed to be an all-in-one speaker simulation. Quickstarts are great for tracking to save on CPU power while you nail the perfect performance, or live when you want to bring the world of non-linear speaker simulation to the stage.

Discrete Profiles

Once you have checked out the Quickstart profiles, the real fun can begin with the discrete mic profiles, these 27 detailed profiles of individual mics allow for granular control over the sound. They are extremely accurate to the sound of a real mic on the cabinet, such that you can effectively use them to create a virtual recording session that will closely resemble the experience of recording a cabinet in a pro studio with trained professionals setting it all up for you. Our profiles have not been post-processed or "sweetened" in any way as is common practice with many IRs currently on the market. You can trust that we have made sure these will mimic as closely as is technically possible the raw sound of the mic and cabinet in order for you to be able to work with them as an absolute proxy for the real studio experience. This pack was created with the following mic choices:

Microphones types Included in this Neutron Quantum Speaker Pack

Dynamic 1 (D1): Cardioid, clear midrange, smooth high-end, tight low-end.

Dynamic 2 (D2): Cardioid, warm, vintage sound with a sweet midrange.

Condenser 1 (C1): Cardioid, flat frequency response, low noise performance.

Condenser 2 (C2): Cardioid, Bright, clear, open sound.

Ribbon 1 (R1): Figure-8, natural high-end with extended low-end.

Ribbon 2 (R2): Figure-8, warm and vintage sound with a midrange focus.

Neutron Sub: Proprietary transducer, captures sub-bass frequencies.

******** *Some of you may be wondering why the exact make and model of each microphone is not specified in the packs.. This is a subject dear to our hearts at Neutron Audio: We believe that too many people make choices regarding sound with their* ***eyes*** *instead of their* ***ears.*** *It is our goal to make your music sound the* ***best it possibly can,*** *and to that end we have not labelled the mic makes and models so you can instead* ***trust your own ears,*** *we make no apology for this decision, your music will sound better as a result. Many companies will try to sell you their products purely based on the prestige and reputation of other brands of gear that they have profiled or captured, but we prefer instead to earn the trust of our customers by delivering professional quality results. We invite you to join us in this ethos, listen and* ***trust your ears,*** *the results may surprise you…*

Combining Profiles

To achieve complex and unique tones, you can combine multiple profiles. This involves routing your guitar signal to parallel channels, each with its NAM instance loaded with a different profile. Here's how to do it in various DAWs:

Logic Pro

Create Aux Tracks: In the mixer, create as many aux tracks as needed for the profiles.

Insert NAM: On each aux track, insert NAM and load a different Neutron Quantum Speaker profile.

Send Signals: On the guitar track, use the send function to route the signal to the aux tracks.

Mute Original: Mute the output of the guitar track to avoid blending with the dry signal.

Ableton Live

Create Return Tracks: In the mixer, create return tracks for each profile.

Insert NAM: Insert NAM on each return track and load a different profile.

Send Signals: On the guitar track, adjust the send levels to route the signal to the return tracks.

Mute Original: Mute the output of the guitar track.

Pro Tools

Create Aux Tracks: Create aux tracks for each profile.

Insert NAM: Insert NAM on each aux track with different profiles.

Send Signals: Use bus sends to route the guitar signal to the aux tracks.

Mute Original: Mute the master output of the guitar track.

Cubase

Create Group Channels: Create group channels for each profile.

Insert NAM: Insert NAM on each group channel.

Send Signals: Route the guitar track output to the group channels.

Mute Original: Mute the original tracks master output.

Reaper

Create Tracks: Create additional tracks for each profile.

Insert NAM: Insert NAM on each additional track.

Send Signals: Route the guitar track to the additional tracks.

Mute Original: Mute the original tracks master output.

CPU Management with Freeze Function

If running multiple NAM instances strains your CPU, use your DAW’s freeze function:

Record Tracks: Record your guitar performance.

Insert NAM: Load the profiles on separate tracks.

Freeze Tracks: Freeze the tracks to save CPU.

Note: Freeze function is not compatible with live playback.

Input Level Matching:

Since a guitar speaker is powered by an amplifier, level calibration is not required for input levels with Quantum Speaker. They are calibrated to a return level of 6dbU = 0dbFS. The Input level on NAM represents the volume that the speaker is at, so there is no “calibrated” level for that, simply adjust it to the level you want the speaker to be for the sound you are trying to achieve. We recommend you set input calibration to off and output mode to Normalized.

NAM Input Meter: Avoiding Clipping

To maintain the most accurate and authentic reproduction of the captured gear, monitor your input levels carefully in NAM.

- **Keep levels below 0 dBFS** at all times
- Avoid clipping — it can cause unnatural behaviour or distortion
- If chaining NAM instances, adjust the output of one to avoid overdriving the next

Mix & Match Ecosystem: Combining Profiles for Maximum Flexibility

The Neutron Core system, like all Neutron products, is designed as a highly versatile, modular platform that allows you to mix and match profiles to suit your creative needs.

Core pedal and amp packs scale from simple setups — a single AIO profile with pedal, amp and speaker in one profile — to full modular chains that rival the realism of multi-instance plugin rigs or complex studio workflows.

Neutron Core profiles are built to combine seamlessly in both serial and parallel configurations, enabling users to recreate real-world recording setups with natural, believable results.

Combining Profile Types

1. **Pedal Profiles:**
   Place at the front of the signal chain to add compression or gain shaping before the amp stage.

2. **Preamp Profiles:**
   Found in Neutron Core amp packs. Combine with PowerPack profiles and Quantum Speaker captures to recreate rich, realistic behaviour and gain extra control of the sound.
3. **Power Amp Profiles:**
   (Sold separately via Neutron PowerPack.) These simulate output stage saturation and speaker interaction, completing modular rigs.
4. **Quantum Speaker (QS) Profiles:**
   - **QuickStart Profiles:** Ready-to-use blends of classic mic placements.
   - **Discrete Mic Profiles:** Combine individual mics in parallel for custom blends.

Signal Chain Examples

- **Series:** Pedal → Preamp → Power Amp → Quantum Speaker
- **Parallel:** Combine multiple Discrete Mic profiles for realistic mic mixing

What Is Neutron Core?

Neutron Core is the foundation layer of Neutron Audio's profiling ecosystem. It provides highly accurate, modular profiles of individual components in the signal chain — including amplifiers, pedals, power stages, and more — all captured with an emphasis on preserving both detail and musical responsiveness.

Neutron Core profiles are fully compatible with the standard NAM format plugin and hardware ecosystem. They are designed to be mixed and matched: a user may choose a single All-In-One (AIO) profile for simplicity, or build a modular rig using multiple components — including pedals, preamps, power amps, and cabinets. Profiles are captured at consistent operating levels and behave predictably when combined, allowing for flexible signal routing without correction or compensation.

Each Neutron Core pack is the result of a process that combines **technical precision with recording industry expertise**. The capture process is **true to the source**, delivering an accurate representation of the gear's **sound, behaviour, and character**. The result also reflects the decisions made by experienced engineers — gain staging, signal flow, mic selection, balance, and response — shaped using high-end equipment and decades of professional studio knowledge.

The goal is to provide users with an **authentic, recorded guitar sound** — the kind of result they would expect if they walked into a professional studio and worked with skilled engineers using the best available gear. Every profile reflects Neutron Audio's core philosophy: **truth to the source**, and the belief that **technology fused with recording industry expertise** creates exceptional results.

What Is NDX?

NAM was already the most accurate profiling solution available in terms of frequency content. NDX (Neutron dyNAMix) is Neutron Audio's bespoke NAM training process — a combination of software, hardware and expertise developed by us to include an additional, deeper layer of time-based dynamic realism. In short, it adds more Dynamics to NAM profiles.. hence the name "dy NAM ix" or NDX for short. The easiest way to hear this clearly in action is by checking out our compressor packs where you will clearly hear extreme, long time-domain compression in action. That was previously not possible with the standard NAM trainer or architecture, NDX adds this extra information to all of our profiles made with it.

NDX allows the authentic profiling of more complex compression, transient recovery, saturation bloom, and time-based level-dependent changes — these are the time-based responses which affect how real gear feels and reacts, not just how it sounds in the frequency domain. NDX also helps to reduce some of the aliasing-like artifacts you can often find in high-gain NAM profiles, as the increased time-domain information reduces frequency averaging for a more natural result; increasing both realism and fidelity across the board.

Historically, this has only been achievable using custom architectures with increased CPU demands and limited compatibility. NDX encodes this extra time-based dynamic information directly into standard format NAM profiles. They will work on any plugin or hardware that natively loads full NAM profiles.
It applies equally to compressor, pedal, amplifier, poweramp, and speaker profiles — allowing all of them to behave more like reality and increasing overall fidelity in all cases.

All profiles in this pack are created using the **NDX Gen2 system**.

Support

If you need support or have questions about the Neutron Core Pack, you can:

- **Submit a request on our website**: https://www.neutronstudios.com/
- **Join our dedicated Facebook customer group**: https://www.facebook.com/groups/1712386306166179

Our Facebook group is the ideal place to ask questions, get updates on all our products, and connect with other Neutron Audio users.

We are on YouTube!

This manual aims to cover all aspects of using the Neutron Quantum Speaker profiles comprehensively, however we have also made a series of 3 deep-dive videos that demonstrate the many ways this pack can be used. When you are ready to truly unlock the full potential of Quantum Speaker, we invite you to watch those videos on our youtube channel at:

https://www.youtube.com/@neutron_audio

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Neutron Audio – True to the source, Technology Fused with Expertise.