

NEUTRON



**Neutron PowerPack NDX Profile pack for
NAM**

PP-AC30TB-NDX

User Manual

Introduction

Neutron Core PowerPack 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 power stage was captured across a range of settings to allow faithful recreation of the sound and behaviour of the original hardware. 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

Neutron PowerPack is the dedicated output-stage layer of the Neutron ecosystem.

Where Neutron Core amplifier packs capture complete amplifier systems — including AIO, DI, PRE and matched Quantum Speaker QuickStarts — PowerPack products isolate and deliver the behaviour of a specific amplifier's **power amplifier stage**, captured independently and accurately using the NDX training process.

PP-AC30TB-NDX contains the output stage of the Vox AC30 Top Boost, presented in three operational formats:

- Isolated Power Amp profiles
- Integrated Quantum Reactor profiles (Power Amp + Speaker)
- Matched Quantum Speaker QuickStarts

This allows the AC30 output stage to be used:

- In fully modular builds
- In hybrid configurations with other Neutron preamps
- In streamlined single-instance setups

The AC30TB Output Stage

The Rose-Morris era 1978 Vox AC30 Top Boost output stage is a cathode-biased quad-EL84 push–pull design with no global negative feedback loop. This architecture is central to the AC30’s immediacy and harmonic character. Without global feedback tightening the response, the power section interacts more directly with the output transformer and speaker load, producing a fast, harmonically rich transition from clean headroom into compression and overdrive.

The quad EL84 configuration delivers strong upper-mid articulation and chime, while the cathode biasing introduces natural compression and dynamic sag as the amplifier is driven harder. The absence of negative feedback means the response remains open and reactive, with a slightly looser low end compared to feedback-controlled British designs, and a distinctive high-frequency shimmer that blooms under load.

In this particular specification, this power stage retains the immediacy and clarity associated with the AC30 platform while exhibiting a slightly firmer low-end structure and improved stability compared to earlier JMI examples. The result is a dynamically expressive output section that moves from clean, three-dimensional chime to harmonically complex power-stage saturation with exceptional touch sensitivity.

What’s Included

PP-AC30TB-NDX contains 39 NAM Profiles in total:

- 22 Power Amp Only profiles
- 12 Quantum Reactor profiles (Poweramp+Speaker) 4 states with 3 speaker options
- 5 Quantum Speaker QuickStarts (Celestion Alnico Blue)

6 High/Low pass filter IR files (3 with and 3 without a Pultec EQ curve)

Power Amp Only Profiles

These are the isolated captures of the AC30TB output stage.

Each profile is defined by:

- **V** — Volume level
- **C** — Treble Cut Knob Position

Operating Levels

V-LOW

Lower volume operating region. Increased headroom and cleaner output behaviour. Use these profiles when you want a cleaner sound with minimal power saturation and distortion.

V-HIGH

Higher volume operating region. Increased output-stage compression, saturation and harmonic bloom. Use these profiles when you want prominent power saturation and distortion.

Treble Cut (0-10)

The AC30 Top boost features a treble cut knob, located in the power stage, which, as it says, cuts high frequencies from the signal. This control is not linear, so it does very little until higher values are reached, with a subtle effect until 7-8 on the knob, and then drastic treble cut from there.

Quantum Reactor Profiles

Quantum Reactor profiles integrate:

- Power Amp
- Reactive behaviour
- Cabinet interaction, Speakers and Microphones.

Each of the four power-stage states is rendered through three cabinet types with 2 different Treble Cut settings each:

+CABLUE

Matched Celestion Alnico Blue

The authentic AC30TB configuration.

+GB

Marshall 1960TV cabinet loaded with vintage-voiced 80s Greenbacks.

Represents the Vintage cabinet reference — balanced, woody and suited to 60s/70s material.

+V30

V30 4×12 cabinet.

Brighter, more focused and more aggressive. Represents the Modern cabinet reference.

Matched Quantum Speaker QuickStarts

Five Celestion Alnico Blue QuickStart profiles are included:

- Balanced
- Clear
- Deep
- ITR
- Warm

These are pre-blended microphone configurations designed for immediate, load and play use.

Expanding Beyond the Included Cabinets

For users who wish to explore additional speaker types:

- A **free Quantum Speaker QuickStart pack** and **free Quantum Speaker Mini Blend pack** are available for auditioning alternative cabinet flavours. You can get those from the Neutron website here: <https://www.neutronstudios.com/> in the “free stuff” section.
- Standalone **Quantum Speaker full packs** provide complete mic-level access to specific speaker systems for deeper tonal sculpting.
- Neutron Core amplifier packs include their matched Quantum Speaker QuickStarts, and in many cases include additional QuickStart variations beyond the standard five provided in standalone QS packs.

Filter IR Utility Files

Six optional filter impulse responses are included:

- 3 × SSL HP/LP filter IRs
- 3 × Enhanced SSL + Pultec filter IRs

These are utility IR files intended for tonal shaping and finishing.

They are not profiles and are loaded into the IR slot of your host when required.

Gain Control and NDX Power Amps

Due to the extended dynamic range present in NDX profiles, you can really use the gain control on NAM to get a huge variety of sound options from each and every profile. All the way down to -20 and up to about +10 you will find realistic results waiting, just like using the master volume control on the amp (even if it didn't originally have one!). Due to the way the input control works in NAM, unlike many other plugins and profilers, it does not invent gain behaviours, only acting as an input level into the model. For this reason you absolutely should experiment with the full range!

Input/Output Calibration setup

This is not required for poweramp profiles, as they are designed to accept a nominal level, standardised across the entire ecosystem and not the direct input from a guitar. We therefore recommend setting the input calibration to **off** and the **output** calibration 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

Neutron PowerPacks, like all Neutron products, are designed as part of 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.

PowerPack 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:

Found in this pack, 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 amps, 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 PowerPack, 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!

We invite you to watch the videos on our channel at:

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

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