

NEUTRON



Neutron Core NDX Profile pack for NAM NC-CMP-DMND-NDX

User Manual

Neutron Core Pedal 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 pedal 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/>

NC-CMP-DMND-NDX

NDX Compressor Pedal NAM Profile Pack

This pack contains 9 profiles of the About — Diamond Compressor CPR-1

The original Diamond CPR-1 is one of the rare compressor pedals that behaves less like a “squash box” and more like a full front-end channel strip for guitar: a low-noise, ultra-linear buffered signal path feeding smooth optical (Vactrol) gain reduction, followed by Diamond’s signature tilt-EQ that shifts the entire tonal balance (bass vs treble) around a centre point, instead of doing a conventional treble cut/boost.

Circuit-wise, the CPR-1’s feel comes from that opto element: it compresses in a natural, program-dependent way that keeps the front edge of the note intact while controlling level and adding sustain—exactly why these units became an “always-on” staple for players who hate hearing obvious compression artifacts.

First released in 2005 and later discontinued, the CPR-1 has become a high-demand, hard-to-replace reference for hi-fi pedal compression—less about obvious effect, more about making the instrument feel *finished*.

Profiles are captured at three compression levels (Low, Mid and High) and three EQ variants (Warm, Normal and Bright). This allows players to shape the envelope response and feel of the compressor in ways that match their guitar and playing dynamics and experience the utility of the unique tilt EQ.

All profiles in this pack use the NDX process to capture the full time-based behaviour of the pedal, including compression curves, attack response, and recovery.

Profile Structure

Each profile in this pack follows a standardised filename format:

NC-CMP-DMND-NDX-XX-[EQ]-[COMP]

- **NC-CMP-DMND-NDX** is the pack name
- **XX** is a numerical prefix to ensure correct sorting in the NAM interface
- **[EQ]** indicates the tilt EQ setting used during capture: WARM, NORMAL or BRIGHT
- **[COMP]** denotes the amount of compression applied: LOW, MID or HI

Included Profiles:

Filename	Description
NC-CMP-DMND-NDX-01-NORMAL-LOW	Light compression, Neutral EQ
NC-CMP-DMND-NDX-02-NORMAL-MID	Medium compression, Neutral EQ
NC-CMP-DMND-NDX-03-NORMAL-HIGH	Heavy compression, Neutral EQ
NC-CMP-DMND-NDX-04-WARM-LOW	Light compression, Warm EQ
NC-CMP-DMND-NDX-05-WARM-MID	Medium compression, Warm EQ
NC-CMP-DMND-NDX-06-WARM-HIGH	Heavy compression, Warm EQ
NC-CMP-DMND-NDX-07-BRIGHT-LOW	Light compression, Bright EQ
NC-CMP-DMND-NDX-08-BRIGHT-MID	Medium compression, Bright EQ
NC-CMP-DMND-NDX-09-BRIGHT-HIGH	Heavy compression, Bright EQ

Input Control and Compression Behaviour

Compression intensity can also be adjusted using the **Input control in the NAM plugin**. While input level behaves like a threshold control, it is important to note:

Reducing input from a higher-compression model will sound more natural than increasing input on a lower-compression model.

For best results, start with a profile that has more compression than you need, and reduce the input level until the desired behaviour is achieved.

Input/Output Calibration

All profiles in this pack contain input and return level calibration information where relevant. If your chosen plugin or device does not read this information do not worry, its not necessary to use the profiles. To enable the calibration feature on the NAM plugin, enable “Calibrated” mode in the NAM plugin settings and enter your own input calibration level in the box provided and turn on “input calibration”. We create our sounds at +6dbU = 0dbFS. If your plugin or device does not support auto-calibration, either manually adjust your input to this level, or as a rough guide you can simply strum your guitar equipped with a humbucker and set your input level on your soundcard/device so that the signal peaks around -6db on your meter, or for a single coil guitar this should be around -12db. Add or remove gain from there to taste. We recommend setting 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

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 pack comprehensively, however we have also made a video that explains the Neutron Core concept in detail here:

<https://www.youtube.com/watch?v=kkE-U04qo2U>

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

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

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