

NEUTRON



Neutron Core NC-5E3DLX-NDX NDX Amp Profile Pack for NAM & Convology XT

User Guide

Introduction

Neutron core amp 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 amp 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/>

The Convology XT plugin is free, and available here:

<https://wavearts.com/products/plugins/convology>

To get your free lifetime serial key for CXT, read the FAQ here:

<https://wavearts.com/support/faq#how-do-i-get-a-convology-xt-serial>

About

Neutron Core is a groundbreaking ecosystem designed to provide guitarists and producers with unparalleled tonal flexibility. Consisting of separate packs of guitar amps, pedals, and effects, Neutron Core products can be used individually or combined with each other and our Quantum Speaker and PowerPack profiles to create a fully integrated mix-and-match environment. This comprehensive system is built on our core philosophy of blending cutting-edge technology with decades of real-world music industry expertise.

Our profiles and presets leverage the best tools available, including NAM (Neural Amp Modeler) for amp modeling and Convology XT for high-quality convolution effects. Each pack is meticulously crafted to deliver hyper-realistic results, capturing the authentic character of the original gear.

Importantly, we avoid applying pre-EQ to our profiles, allowing users to tailor the sounds to their specific musical projects without destructive EQ baked in. This approach preserves the richness of harmonic and frequency content, ensuring that users can shape their tones by cutting away excess frequencies rather than resorting to extreme EQ boosts, which can degrade phase integrity and fidelity. We add simple HP/LP filters only to our AIO (full rig) profiles to help get you closer to a finished sound, leaving all the other profile types (DI, Preamp, Quantum Speaker) completely untouched for maximum versatility.

This manual specifically focuses on the Neutron Core 5E3DLX NDX Profile Pack, a tribute to one of the most iconic amplifiers in guitar history.

The 1957 Tweed Deluxe 5E3: The Sound Behind the Legend

Few amplifiers have had a deeper impact on popular music than the **Fender 5E3 Tweed Deluxe**. Released in the mid-1950s and reaching its definitive form by 1957, the 5E3 was never designed to be a "flagship" amp — yet it became one of the most recorded and revered circuits of all time. Its touch sensitivity, thick harmonic content, and explosive, unfiltered voice have made it a secret weapon behind some of the most iconic tones ever captured on tape.

Artists who used the 5E3 either on record or live include:

- **Neil Young** – Arguably the 5E3's most iconic champion. His brutal, singing lead tones were often delivered *direct from a cranked Deluxe*, sometimes with a Whizzer robotically turning the knobs mid-performance.
- **Billy Gibbons** – Early ZZ Top tones were born from the 5E3's saturated mids and sagging power section, giving that unmistakable chewy, saturated grind.
- **Keith Richards** – Used a 5E3 in the studio extensively, most notably for “*Brown Sugar*” and “*Honky Tonk Women*,” with its tight-yet-loose rhythm tone defining early Stones swagger.
- **Joe Walsh** – His work with The Eagles, including on “*Hotel California*,” often involved 5E3 tones for both rhythm and lead.
- **Larry Carlton** – Used a Tweed Deluxe on key sessions, including Steely Dan's “*Kid Charlemagne*,” where its natural drive complemented his phrasing.
- Countless Nashville session players and early country stars – drawn to the amp's touch-sensitive cleans and “just breaking up” rhythm response, a hallmark of the Bakersfield and early Nashville tones.

From garage rock to outlaw country, from stadium blues to sun-drenched Americana, the 5E3 has played a critical role in shaping guitar tone for over six decades.

The Neutron Deluxe: More Than a Reissue — A Resurrection

What makes the **Neutron Deluxe** unique is that it's not a reissue — it's a **faithful resurrection** of the *exact* 1957 5E3 circuit. Painstakingly hand-wired by Tom Bradbury in 2024, this amp isn't built to sound “like a vintage Tweed” — it's built to sound **exactly like a brand-new one did in 1957**.

That distinction is critical.

Today's surviving 5E3s — while beloved — are often electrically unstable, wildly inconsistent, and choked by degraded components. And while Fender's reissues are competent, modern manufacturing regulations prevent them from fully capturing the sound, feel, and power of the original.

The Neutron Deluxe avoids all of these compromises. Using the exact wiring scheme, period-correct components, and vintage-accurate voltages, it restores the true 5E3 voice — powerful, touchy, unpredictable, and wildly expressive.

Paired with a **1×12 open-back tweed cabinet** loaded with a **Jensen P12Q** (just like the original), the Neutron Deluxe delivers that mid-forward, blooming voice that made the amp a session staple.

This isn't a tribute.

This is a time machine.

The 5E3 SOUNDING as it truly did when it rolled off the production line in '57— not with degraded, failing components!

What's Included

Inside the pack you will find:

105 NDX Profiles for NAM (Neural Amp Modeler):

There are AIO (full rig), DI (amp only) PRE (preamp only) and Quantum Speaker Quickstart NDX NAM profiles included in this pack.

NAM is free, and available here:

<https://www.neuralampmodeler.com/>

15 FX presets for Convology XT

There are both single and multi FX presets included for Convology XT

Convology XT is free, and available here:

<https://wavearts.com/products/plugins/convology>

6 Filter IRs to shape the sound

3 standard SSL LPF/HPF filter IRs Plus 3 Enhanced filters using a Pultec EQ

Profiles file Structure:

The pack is organized into a clear folder structure to help you navigate the included content:

- **Main Pack Folder:**
 - **Profiles:** Contains all the NAM profiles.
 - **Filters (Load_into_IR_Slot):** Includes three standard SSL LPF/HPF filter IRs, provided with all Neutron Core packs, Plus 3 new Enhanced filters using a Pultec EQ, tweaked for heavier sounds to add sub-sonic weight and a super high-end sheen. You can load these into the NAM IR slot right on the same instance as the profile,

you will need to turn up the output knob to compensate for the loss of level you get when loading an IR (typically +8 - +10 on the knob after loading the IR).

- **FX (For Convology XT):** Contains Convology XT presets for this pack in two formats:
 - .SFX EXE (for PC)
 - .ZIP (for macOS).
- **Profiles Folder:**
 - **AIO:** All-In-One profiles, designed with a full studio chain.
 - **DI:** Profiles designed for use with external pedals and amps without speaker simulation.
 - **PRE:** Profiles containing only the preamp section.
 - **QS:** Quantum Speaker QuickStarts with pre-blended microphone configurations.

Within the **AIO**, **DI**, and **PRE** folders, you will find additional subfolders:

- **Humbucker:** Profiles optimized for humbucker-equipped guitars.
- **Single-Coil:** Profiles optimized for single-coil-equipped guitars.
- **Universal:** Profiles such as the Pedal Platform profiles, suitable for any guitar.

This structure ensures easy navigation and quick access to the profiles and settings you need.

Pack Design Principles

The Neutron Core 5E3DLX Pack is designed based on three key decisions:

1. **Pickup Type:** Profiles are separated by guitar pickup type (Single-Coil or Humbucker), as this fundamentally shapes the signal chain.
2. **Drive Level:** Profiles are categorized by the amount of drive (Clean, Crunch, or Drive) to match the player's desired tone.
3. **Playing Function:** Each profile specifies whether it is intended for Rhythm or Lead playing.

The profile naming structure reflects these choices:

- **NC-5E3DLX-NDX-HB-03-CRN-RHY:**
 - **NC-5E3DLX-NDX** Pack Name
 - **HB/SC:** Humbucker or Single-Coil.
 - **0x:** Numerical sorting number.
 - **CLN/CRN/DRV:** Drive level (Clean, Crunch, or Drive).
 - **RHY/LD:** Rhythm or Lead.
 - **+PedalName:** Indicates the pedal used (e.g., DS1, TS9).
 - **AIO/DI/PRE:** Profile type (All-In-One, DI or Preamp).

This structure ensures players can easily find the profiles that suit their specific needs.

Profile List:

Single Coil Amp Only					
ID	Input	Tone	Vol Bri	Vol Norm	Tonal Focus
SC-CLN-RHY	Norm-High	10	12	10	Chime and Compression, Clean sound with a touch of breakup
SC-CLN-LD	Norm-Low	6	10	9	Warm, mid-rich lead Sound on the very edge of clean
SC-CRN-RHY	Jumpered	5	10	0	General purpose full-bodied crunch tone
SC-CRN-LD	Jumpered	7.5	4	9.5	More mids to help lead lines and melodic hooks cut through
SC-DRV-RHY	Norm-High	12	8	11	Rocky drive sound with punch and clarity
SC-DRV-LD	Norm-High	6	0	12	Driven Lead with maximum sustain and clarity
Single Coil With Pedals					
ID	Input	Tone	Vol Bri	Vol Norm	Tonal Focus
SC-CLN-RHY+TCOMP	Norm-High	4.5	11	3	Pushed Clean with T-REX Comp Nova Compressor for sustained arpeggios and chords
SC-CLN-LD+CS3	Bright-High	4.5	6	10	Controlled, sustained clean with added clarity from Boss CS-3 Compressor
SC-CRN-RHY+ODR1	Bright-High	6.5	8	11	Beefy crunch tone pushed with a Nobels ODR-1
SC-CRN-LD+SD1	Bright-High	6	12	10	Mid Clarity crunch pushed with a Boss SD-1
SC-DRV-RHY+MSL	Bright-High	6	6	0	Saturated Drive boosted with an Ibanez MSL "Metal Screamer" the rarest tube screamer of all
SC-DRV-LD+NYMUFF	Bright-Low	10	12	6	Monster Fuzz using a USA EHX Big Muff Pi
Humbucker Amp Only					
ID	Input	Tone	Vol Bri	Vol Norm	Tonal Focus
HB-CLN-RHY	Bright-Low	10	4	12	Natural Clean with power tube compression
HB-CLN-LD	Norm-High	10	12	9	Round, powerful clean lead
HB-CRN-RHY	Bright-High	8	6	9	Harmonically rich, thick crunch rhythm with clear highs
HB-CRN-LD	Bright-High	8	10	8	Crunch lead tone with power and warmth
HB-DRV-RHY	Jumpered	10	9	7	Complex Rock drive with thick low end
HB-DRV-LD	Jumpered	10	6.5	10	Driven Lead sound on the very edge of what the amp can handle
Humbucker With Pedals					
ID	Input	Tone	Vol Bri	Vol Norm	Tonal Focus
HB-CLN-RHY+NDCOMP	Jumpered	8.5	3	6	Control and sustain using the Neutron Dual-Compressor pedal
HB-CLN-LD+OSQZR	Jumpered	7	5	6	Pristine clean lead sound with added sustain from an Armstrong Orange Squeezer
HB-CRN-RHY+TS808	Bright-High	6.5	6.5	0	The distinctive mid-focussed crunch of tubes boosted with a TS808 Tube screamer
HB-CRN-LD+LEOJR	Jumpered	12	3	6.5	Full-range, Hi-fi crunch with a Toadworks Leo Jr
HB-DRV-	Jumpered	6	3	6	Heavy, saturated Rhythm using a DOD 250

RHY+D250					
HB-DRV-LD+NFUZZ	Jumpered	12	4	3	Huge Fuzz tones from our Neutron Custom fuzz pedal
Universal					
ID	Input	Tone	Vol Bri	Vol Norm	Tonal Focus
NRM-LO-FIVES	Norm-Low	5	12	5	Mid position clean into the normal channel
NRM-HI-FIVES	Norm-High	5	5	5	Mid position crunch into the normal channel
NRM-DIMED	Norm-High	12	0	12	Fully maxed out normal channel
BRI-LO-FIVES	Bright-Low	5	5	12	Mid position clean into the bright channel
BRI-HI-FIVES	Bright-High	5	5	5	Mid position crunch into the bright channel
BRI-DIMED	Bright-High	12	12	0	Fully maxed out bright channel
JUMP-FIVES	Jumpered	5	5	5	Mid position with both channels jumpered
JUMP-DIMED	Jumpered	12	12	12	Fully maxed out jumpered channels

Quantum Speaker Quickstart (QS) Profiles

These NDX QuickStart profiles use pre-blended microphones on a Jensen P12Q speaker, as fitted to our 1x12 open-backed tweed cabinet:

- **QS-P12Q-NDX-01-Balanced**
- **QS-P12Q-NDX-02-Clear**
- **QS-P12Q-NDX-03-Deep**
- **QS-P12Q-NDX-04-ITR**
- **QS-P12Q-NDX-05-Warm**
- **QS-P12Q-NDX-06-Greasy**
- **QS-P12Q-NDX-07-FreshAir**
- **QS-P12Q-NDX-08-Truth**
- **QS-P12Q-NDX-09-Simplicity**

FX Presets for Convology XT

This pack includes several multi-effects presets for Convology XT, these all-in-one presets can contain any combination of modulation, delay and reverb for a complete sound in a single preset. They are designed to enhance your playing experience for a studio quality sound and are made using advanced convolution technology from the highest quality sources for an authentic and realistic result. Notice the suffix of -M, MS or -S in the preset name, this shows whether the preset is mono (-M), mono in+stereo out (-MS) or stereo in and out (-S). Make sure you place any mono or mono in effects presets before stereo ones, as otherwise they will collapse anything stereo into mono before applying their effect:

FX Presets List for this pack:

1. **NCFX-Studio-Spring-S:** A high quality studio spring tank, as originally found in many large studios in the 60s and 70s

2. **NCFX-Nashville-Room-S**: The live recording room of in very famous Nashville recording studio..
3. **NCFX-EMT-Plate-S**: An EMT140 tube plate reverb with around 3s decay, great for vintage authenticity.
4. **NCFX-Concrete-Blocks-S**: An echo chamber with concrete pillars, common in many vintage recording studios.
5. **NCFX-Blues-Hall-S**: A Live blues club, perfect for that “at the Regal” vibe.
6. **NCFX-Nashvill-Echo-S**: Slapback tape delay into a real live recording space, country classic!
7. **NCFX-Modern-Country-S**: A more modern, wet sound for country rock, blues and pop.
8. **NCFX-Large-Lead-S**: Long Delays and lush reverb, great for melodic leads and solos.
9. **NCFX-Under-The-Sea-S**: Deep. Undulating modulation with a lush delay and reverb tail.. perfect for slow arpeggios and creating interesting pads.
- 10.**NCFX-Mutts-Mullet-S**: Reminiscent of the legendary Mutt Lange’s tasteful “produced” sounds of the 1980s. An instant hit!
- 11.**NCFX-Twin-Tape-S**: Two slightly modulated tape delays with a lo-fi sound, perfect for layers and complex chordal patterns.
- 12.**NCFX-Coopers-Cube-S**: Recreation of the legendary Cooper Time Cube made famous by radio rock from the 70s.
- 13.**NCFX-Double-Slap-S** Another slap echo, this time with 2 repeats very slightly off-sync and panned L/R for stereo interest.
- 14.**NCFX-224-Delay-Room-S** Digital delay into a Lexicon 224 reverb set on “room” mode.
- 15.**NCFX-Analog-Ambience-S** All-Analog signal path consisting of tape echo, spring reverb and a real recording space.

To install the included FX presets:

On Windows, run the included EXE to install the FX presets into your Convology library folder, then reload any instances of convology XT for the presets to appear.

On MacOS, unzip the contents of the zip file in the FX folder of the pack to a location on your system (e.g. Documents\Neutron\FX\NEUTRON NC-5E3DLX FX). Once the folder is in the location, on your convology XT plugin open the settings (picture of a cog wheel) and in the "preferences" section, set your custom library location to the same folder containing your extracted files (e.g. Documents\Neutron\FX\). Reload any instances of convology XT for the presets to appear.

Gain Control and NDX 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 gain control on the amp. Due to the way “gain” 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 gain control, and don’t be afraid to try the full range!

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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