

Midnight Rambler: User Manual

Version 1.0.1 • Main St Audio Labs • Virtual Stompbox Series #01

This manual provides a detailed description of the usage, design philosophy, and technical specifications for the **Midnight Rambler** amplifier emulation stompbox plugin.



1. Design Philosophy: The Tweed 5E3 Soul in a Pedal

Midnight Rambler is an amplifier simulation in virtual stompbox format, powered by state-of-the-art Neural Amp Modeler (NAM) technology and modeled after the iconic **Tweed Deluxe 5E3** — the legendary circuit that defined the raw, gritty guitar sound of late '60s and early '70s classic rock.

The Sound of an Era

- **The Rolling Stones (Late '60s / Early '70s):** Keith Richards' open-G chime and gritty rhythm breakup (*Sticky Fingers*, *Exile on Main St.*).
- **The Faces / Ronnie Wood:** Greasy, fat, mid-forward slide and chord crunch.
- **Neil Young:** Raging, explosive Tweed harmonic overdrive and rich sustain.
- **Billy Gibbons (ZZ Top):** Texas grease, harmonic pinch bite, and tight low-end snap.
- **Ed King (Lynyrd Skynyrd):** The crystalline out-of-phase Stratocaster Tweed tone on *Sweet Home Alabama*.

Mix-Ready Dynamic Calibration

Unlike raw generic models that can sound boomy or harsh, Midnight Rambler features meticulously tuned post-amp State-Variable TPT filters (Bass & Tone cut), adaptive input noise gate, and calibrated analog gain staging. It sits immediately in a multi-track production without clashing with the bass guitar or cymbals.

Ultra-Low CPU Consumption

Featuring 0% idle overhead and near-zero latency, the plugin uses optimized neural inference allowing multiple instances across your DAW session without straining your CPU.

2. Control Guide

The pedal features intuitive, analog-calibrated controls designed to feel like operating physical vintage gear:

1. VOLUME / GAIN (Input Drive)

- **Function:** Sets the input drive feeding the neural tube modeling stage.
- **Range:** Calibrated analog scale from 1.0 to 10.0 (Default: 7.0).
- **Response:**
 - 1.0 (-18.0 dB): Sparkling clean tone with massive dynamic headroom.
 - 5.0 (-10.0 dB): Warm clean tone that breaks up organically when picking hard.
 - 7.0 (-6.0 dB): The dynamic sweet spot — crunchy rhythmic chords and blues bite.

- **10.0** (0.0 dB): Maximum unboosted capture level, delivering rich tube saturation and sustain.

2. BASS (Bass Cut - HP Filter)

- **Function:** Post-amp State-Variable TPT High-Pass Filter designed to tighten low-end response.
- **Range:** **20.0** Hz to **300.0** Hz (Logarithmic taper). Wide open at 20 Hz.

3. TONE (Tone Cut - LP Filter)

- **Function:** Post-amp State-Variable TPT Low-Pass Filter designed to control top-end presence.
- **Range:** **1.0** kHz to **20.0** kHz. Smooths out harsh top-end fizz for a warm, woody character.

4. MASTER (Master Volume)

- **Function:** Clean, linear output level control with continuous real-amp taper.
- **Range:** **1.0** to **10.0** (**7.0** = **0.0** dB Unity Gain, **10.0** = **+18.0** dB Clean Boost).

5. CHANNEL (Dual Amp Mode Selector)

1. **EDGE (Breakup):** Edge-of-breakup capture with hyper-dynamic touch response. Responds instantly to guitar volume pot adjustments and picking intensity.
2. **CRANKED (Rock 'N' Roll):** Maximum volume Tweed saturation with lush power-tube compression, creamy harmonics, and singing sustain.

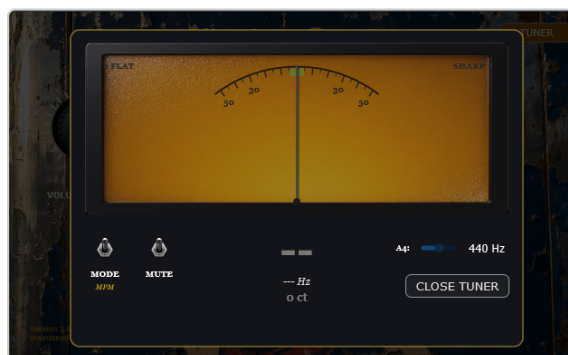
6. MIC / CAB (3-Way Rotary Switch • 1971 Oxford 12" Studio Cabinet)

1. **WARM (9 o'clock • Royer R121 Ribbon):** Thick, full-bodied tone with smooth top-end and rich low-mids.
2. **SHARP (6 o'clock • Shure SM57 Dynamic):** Classic rock bite with focused upper-mid punch that cuts effortlessly through dense mixes.
3. **BLEND (3 o'clock • 60/40 Studio Pair):** Curated combination (60% SM57 + 40% R121) delivering balanced bite, depth, and three-dimensional realism.

7. STANDBY (Mute / 0% CPU Switch)

- **Function:** Completely mutes the audio path and drops CPU consumption to **0%** immediately.

8. Integrated Precision Chromatic Tuner



- **Illuminated Vintage VU Meter:** Smooth ballistic needle indicating pitch deviation from **-50** to **+50** cents. The center **0** mark glows green when in tune.
- **Dual Algorithm Engine:** Switchable between **MPM** (McLeod Pitch Method for harmonic-rich guitar tracking) and **YIN** (sub-cent autocorrelation tracking).
- **Frequency Display:** Real-time note name and exact frequency in Hertz ($= 440\text{ Hz}$).
- **Zero-CPU Architecture:** Worker thread sleeps completely when the tuner window is closed.

9. Dynamic Background Skin (Drag & Drop)

- Drag and drop any image file (.jpg or .png) directly onto the plugin window to change its visual skin in real time.

3. Audio Configuration (Standalone Mode)

When running as a standalone application, configure your audio settings as follows:

1. **Audio Device Type:** Always select **ASIO** on Windows (CoreAudio on macOS, JACK/ALSA on Linux).
2. **Device:** Select the native low-latency driver of your audio interface (e.g., *Focusrite USB ASIO*).
3. **Sample Rate:** Set to **48000 Hz** (48 kHz).
4. **Buffer Size:** Set to **128 samples** (2.3 ms) or **256 samples** (5.3 ms).

Why 256 samples (5.3 ms) might sound better than 128 samples:

The tiny 5.3 ms delay, combined with the physical acoustic sound of your unplugged electric strings vibrating in the room, creates an organic doubling effect that adds tridimensional depth, thickness, and a natural room reverb feel to your playing.

4. System Requirements & Distribution

System Requirements

- **Operating Systems:** Windows 10/11 (64-bit), macOS 10.13+ (Universal: Intel & Apple Silicon), Linux (Ubuntu 22.04+).
- **Processor (CPU):** AVX2 instruction support on Windows/Linux (Intel Core 4th Gen / AMD Ryzen or newer). Native Apple Silicon support on macOS.
- **RAM:** 4 GB minimum.
- **Formats:** VST3, Audio Unit AU (macOS), and Standalone Application for all platforms.

Distribution (All-in-One)

Midnight Rambler is 100% self-contained. All neural models, impulse responses, and typography assets are embedded in memory inside the plugin binary.

5. Troubleshooting

- **Missing C++ Redistributable (Windows):** If the VST3 fails to scan, install the official Microsoft Visual C++ Redistributable 2015-2022 (x64).
- **CPU Compatibility (AVX2):** Ensure your processor supports AVX2 instructions. The underlying NAM neural engine requires AVX2 to compute neural networks in real-time.
- **macOS Unidentified Developer:** Go to *System Settings > Privacy & Security* and click *Open Anyway*, or run `xattr -cr /path/to/MidnightRambler.app` in Terminal.