Mr. Lo-Fi User Manual

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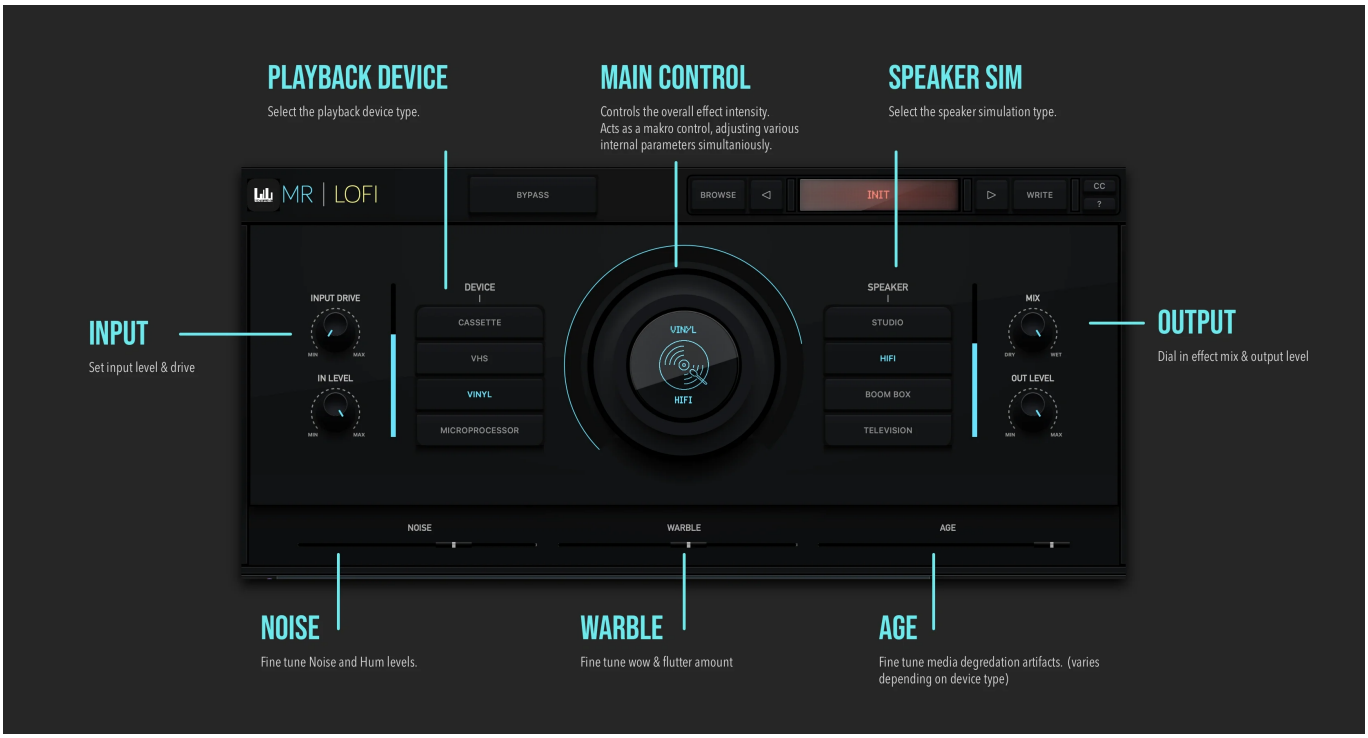
Introduction

Welcome to Mr. Lo-Fi, your go-to lo-fi audio processor! Mr. Lo-Fi is designed to bring the nostalgic charm of vintage audio to your music and sound projects. This manual will guide you through the plugin's interface and features, helping you achieve the perfect lo-fi sound.

Overview of the Interface



The Mr. Lo-Fi interface is divided into several key sections:

- **Preset Manager** (Top Center)
- **I/O Controls** (Top Left & Top Right)
- **Mode Select (Device)** (Left Center)
- **Main Control (Macro Knob)** (Center)
- **Speaker Simulation Select** (Right Center)
- **Noise, Warble, and Degradation Controls** (Bottom Center)
- **Audio Input/Output Meters** (Bottom)

1. Preset Manager

Located at the top center, the Preset Manager allows you to:

- **Browse** through factory and user presets.
- **Initialize** the plugin to default settings.
- **Write** and save your own presets for future use.

2. I/O Controls

The I/O Controls section combines both input and output settings for streamlined signal management:

Input Controls (Left Side):

- **Input Drive:** Adjusts the amount of gain applied to the incoming signal, allowing you to push the effect harder for more saturation.
- **In Level:** Sets the input volume before processing.

Output Controls (Right Side):

- **Mix:** Blends the processed (wet) and unprocessed (dry) signals.
- **Out Level:** Sets the output volume after processing.

3. Mode Select (Device)

Choose your desired playback mode:

- **Cassette:** Emulates the warmth and character of analog cassette tapes.
- **VHS:** Adds nostalgic video tape artifacts.
- **Vinyl:** Recreates the classic sound of vinyl records.
- **Microprocessor:** Simulates early digital audio devices for a vintage digital feel.

Select a mode by clicking the corresponding button.

Simulation Aspects:

Each mode (Cassette, VHS, Vinyl, and Microprocessor) has a set of internal parameters that are automatically adjusted by the Macro Knob. These parameters work together to create the authentic character of each playback medium. While you can't directly control these individual parameters, the Macro Knob intelligently balances them to achieve the perfect lo-fi sound for your needs.

The following sections detail the specific parameters that are simulated in each mode. These parameters are carefully tuned to recreate the authentic characteristics of each medium, from subtle imperfections to more pronounced degradation effects.

Tape Mode

- **Wow & Flutter:** Simulates the subtle pitch variations caused by tape speed inconsistencies
- **Tape Saturation:** Recreates the warm, harmonic distortion from magnetic tape overload
- **Tape Hiss:** Adds authentic high-frequency noise characteristic of analog tape
- **Hum:** Emulates 50/60Hz power supply interference
- **Stereo Crosstalk:** Simulates signal bleeding between left and right channels
- **Azimuth Misalignment:** Recreates phase issues from misaligned tape heads
- **Dropouts & Bias Distortion:** Simulates the dropouts and unique distortion found in underbiased analog tape recordings
- **Bandwidth Control:** Adjustable frequency range from pristine (20Hz-20kHz) to degraded (100Hz-10kHz)

VHS Mode

- **Wow & Flutter:** Enhanced pitch variations typical of video tape systems
- **Tape Saturation:** Video-specific magnetic saturation characteristics
- **Tape Hiss:** VHS-specific noise floor emulation
- **Hum:** Power supply interference with video-specific characteristics
- **Stereo Crosstalk:** Enhanced channel bleeding typical of VHS audio tracks
- **Azimuth Misalignment:** Video tape head alignment issues
- **Dropouts & Bias Distortion:** Simulates the dropouts and unique distortion found in underbiased analog tape recordings
- **Bandwidth Control:** Adjustable range from standard (50Hz-15kHz) to degraded (130Hz-8kHz)

Vinyl Mode

- **Wow & Flutter:** Simulates turntable speed variations

- **Dust, Crackles & Pops:** Authentic surface noise and imperfections
- **Hum:** Turntable motor and grounding interference
- **Noise:** Record surface noise and stylus friction
- **Tracking Variation:** Simulates stylus movement across record grooves
- **Intermodulation Distortion:** Recreates complex harmonic distortion from vinyl playback
- **Vinyl Clipping:** Asymmetrical soft clipping characteristic of vinyl records
- **Bandwidth Control:** Adjustable range from pristine (30Hz-18kHz) to worn (70Hz-12kHz)

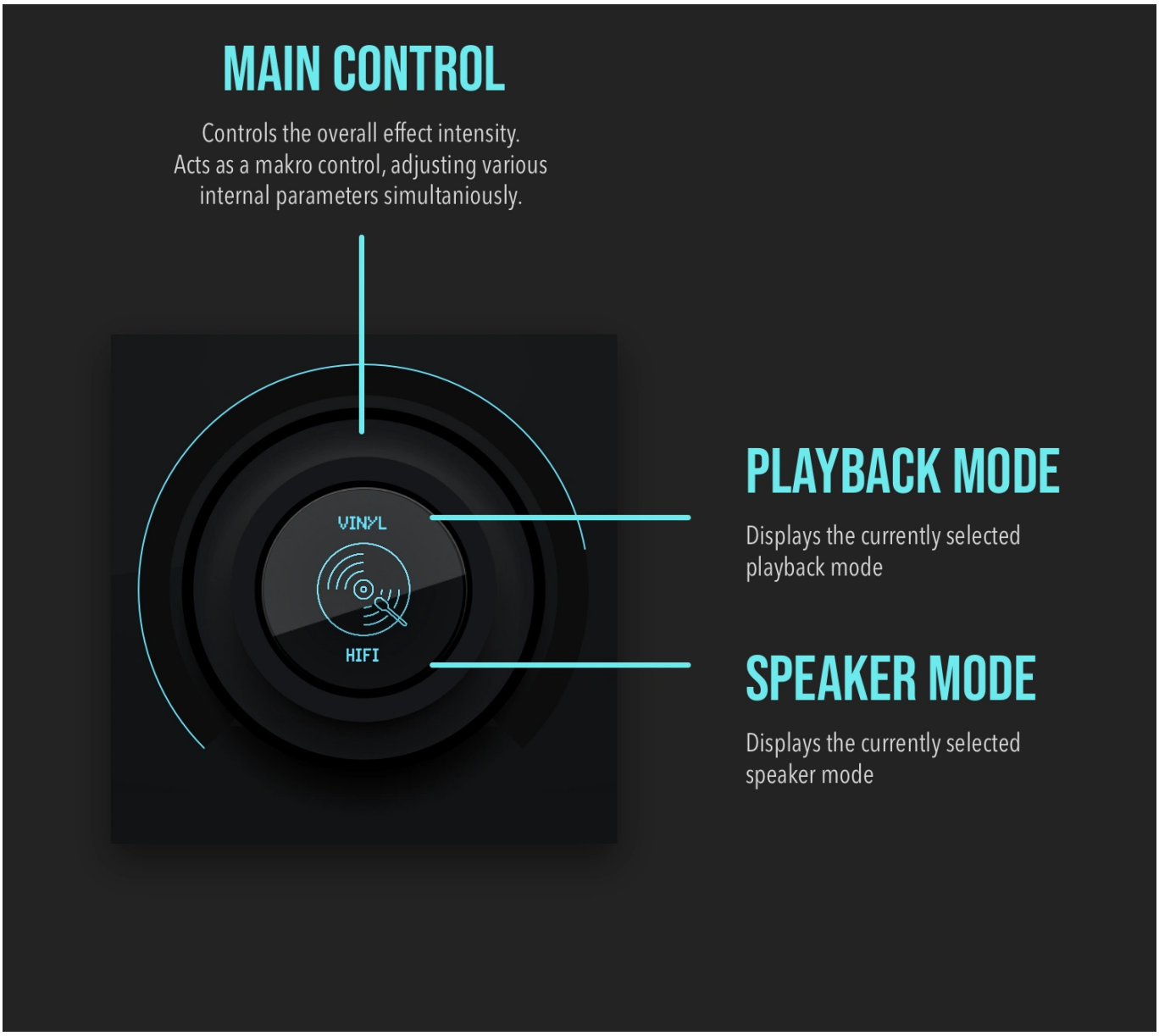
Digital Mode

- **Jitter:** Simulates timing inconsistencies in digital systems
- **Noise:** Digital quantization and processing noise
- **Hum:** Digital power supply interference
- **Bit Depth:** Adjustable from high-quality (24-bit) to low-quality (2-bit)
- **Sample Rate:** Configurable from 44.1kHz to 8kHz
- **I/O Stage:** Soft clipping with digital characteristics
- **Intermodulation Distortion:** Digital-specific harmonic distortion
- **Anti-Aliasing Filter:** Brick wall filter commonly found in digital systems.

4. Main Control (Macro Knob)

The large central knob is the Macro Control. It adjusts the overall intensity and character of the selected effect mode, making it easy to dial in the perfect lo-fi vibe with a single control.

The Macro Knob features a central icon display showing your current settings - the playback mode appears at the top, with the speaker simulation shown below it. This clear visual indicator makes it easy to see your active settings at a glance.



5. Speaker Simulation Select

The Speaker Simulation Select complements the playback modes by adding another layer of authentic lo-fi character. Each speaker option is carefully modeled to recreate the specific frequency response and distortion characteristics of different playback systems:

- **Studio:** Provides a clean, uncolored reference point, allowing you to hear the pure effect of the playback simulation without additional speaker coloration.
- **Hi-Fi:** Emulates the warm, slightly rolled-off highs and enhanced midrange of vintage home stereo systems, perfect for creating that classic 80s/90s listening experience.
- **Boombox:** Adds the characteristic midrange honk and limited bass response of portable cassette players, with subtle compression and distortion that enhances the lo-fi aesthetic.
- **Television:** Recreates the thin, mid-focused sound of old TV speakers, complete with their characteristic resonance and limited frequency range, ideal for achieving that nostalgic broadcast feel.

By combining these speaker simulations with the playback modes, you can create incredibly authentic lo-fi textures. For example, pairing the VHS mode with the Television speaker simulation creates a perfect recreation of watching old VHS tapes on a CRT TV, while the Cassette mode through the Boombox speaker emulation delivers that authentic portable cassette player sound.

7. Fine Tune Controls

- **Noise Intensity:** Adjusts the amount of noise (e.g., tape hiss, vinyl crackle) added to the signal.
- **Warble:** Controls pitch instability, simulating wow and flutter effects found in analog media.
- **Degradation (Age):** Alters the degree of signal degradation, such as distortion, saturation, dropouts, and jitter, depending on the selected mode.

8. Audio Input/Output Meters

At the very bottom, monitor your input and output levels to ensure optimal gain staging and avoid unwanted clipping.

Tips for Use

- Experiment with different combinations of playback and speaker modes for unique textures.
- Use the Macro Control for quick, musical adjustments.
- Subtly blend in noise and warble for authentic vintage character.
- Save your favorite settings as presets for quick recall.

Support

For more information, updates, and support, visit https://numericalaudio.com/mrlofi or contact us at hello@numericalaudio.com