XeniAudio McPlugins

Professional Compressor Suite — v1.8.0

Plugin	Description
Mc	Single-band compressor
McMsc	Single-band compressor + shared memory sidechain
MbMc	Multiband compressor (1–6 bands)
MbMcMsc	Multiband compressor + shared memory sidechain

All 4 plugins share the same compression engine with **7 emulation types** (vari-mu Tube, opto Optical, solid-state VCA, JFET, auto-release Bus, clean Digital, and the new **DBR** diode-bridge type introduced in v1.3.0) and are sold as a single bundle.

Installation

System Requirements

Platform	Minimum
OS	Windows 10+ (64-bit), Linux (x86-64-v3), macOS 10.13+ (Intel / Apple Silicon)
DAW	Any VST3 or CLAP host
CPU	x86-64 with AVX2 support
RAM	2 GB

Plugin Formats

- **VST3** — Universal format supported by most DAWs (Windows, Linux, macOS)
- **Audio Unit (AU)** — Native macOS plugin format. Logic Pro, GarageBand, MainStage, Live, Studio One, Reaper and any other AU host (macOS only)
- **CLAP** — Modern plugin format (REAPER, Bitwig, etc.) (Windows, Linux, macOS)

Installing

Windows

1. Download the `XeniAudio-Installer.exe` from your purchase confirmation email
2. Run the installer and follow the on-screen instructions
3. The installer will place plugins in:
   - VST3: `C:\Program Files\Common Files\VST3\`
   - CLAP: `C:\Program Files\Common Files\CLAP\`
4. Restart your DAW and scan for new plugins

Linux

1. Download the `XeniAudio-Linux.tar.gz` archive

2. Extract it and run the install script:

```
tar xzf XeniAudio-Linux.tar.gz
cd XeniAudio-Linux
./install.sh
```

3. Plugins are installed to:
   - VST3: `~/.vst3/`
   - CLAP: `~/.clap/`
4. Rescan plugins in your DAW

macOS

1. Download `McPlugins-<version>-macOS.dmg`
2. Double-click the DMG, then double-click `McPlugins-<version>-Installer.pkg`
3. By default, the installer places plugins for **the current user only** (`~/Library/Audio/Plug-Ins/`). To install for **all users of the Mac** (`/Library/Audio/Plug-Ins/`), click *Customize* or *Change Install Location…* and pick *Install for all users of this computer*
4. Choose which formats to install (VST3, **Audio Unit**, CLAP — all three selected by default) and finish the installer
5. Restart your DAW and rescan for new plugins. If Logic Pro / GarageBand doesn't see the AU plugins after install, force an AU re-validation by running in Terminal: `killall -9 AudioComponentRegistrar`

macOS Gatekeeper

Nothing to do. Since v1.7.0 the disk image, the installer and all plugin bundles are signed with an Apple Developer ID and notarized by Apple, with the ticket stapled into the files so they open even on a Mac that is offline. macOS lets them through without a warning and without any right-click trick.

The publisher shows as **Tony Cuny** — that is the legal name behind Xeni Audio, and the name Apple puts on the certificate.

> ***Windows.*** *The Windows installer is not code-signed. SmartScreen may say the publisher is unknown, and a brand-new installer occasionally trips an antivirus heuristic. Neither is a detection — it is a reputation score that every unsigned release starts from zero. Click More info → Run anyway, or skip the installer and copy the VST3 and CLAP folders from the* `.zip` *into* `C:\Program Files\Common Files\VST3\` *and* `C:\Program Files\Common Files\CLAP\`*.*

Verifying Installation

After installation, search for “XeniAudio” or the plugin names in your DAW’s plugin browser. You should see:

- XeniAudio Mc
- XeniAudio MbMc
- XeniAudio McMsc
- XeniAudio MbMcMsc

License Activation

Demo Mode

Without a license, all plugins operate in **demo mode**: audio is briefly muted every 60 seconds with a smooth fade-out/fade-in. This lets you fully test the plugins before purchasing.

Activating Your License

All 4 plugins share a single license — activate once and all plugins are unlocked.

Activation Steps

1. **Purchase** the McPlugins bundle from Gumroad or your authorized reseller
2. You will receive a **license key** by email in the format: `XENI-XXXXXXXX-XXXXXXXX`
3. In any XeniAudio plugin, click the **"DEMO"** badge in the plugin header
4. Enter your license key in the dialog and press **Enter** or click **Unlock**
5. The plugin confirms activation and the "DEMO" badge disappears
6. **All 4 plugins** on this computer are now unlocked (they share the same license file)

License Storage

The license key is stored locally on your computer:

- **Linux:** `~/.config/XeniAudio/license.key`
- **Windows:** `%APPDATA%\XeniAudio\license.key`
- **macOS:** `~/Library/Application Support/XeniAudio/license.key`

Troubleshooting

- **"Invalid key"** — Make sure you typed the key exactly as provided (case-insensitive, dashes are optional)
- **Key not persisting** — Check that the license directory is writable
- **Moving to a new computer** — Copy the `license.key` file to the same path on the new machine, or re-enter the key

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Compression Engine

All 4 plugins share the same compression engine with **7 distinct emulation types**, each modeling a different analog topology. Starting in v1.3.0, every type has been recalibrated against measurements of real analog hardware (see the *DSP Refinement v1.3.0* section below for details).

Type	Description
Tube	Vari-mu topology. Progressive ratio that grows with engagement (subtle at low GR, more pronounced past 6 dB). Wide soft knee, H2-dominant saturation that follows the gain reduction. Warm, musical, never harsh.
Optical	Photocell-style detector. True biphasic release: a fast initial decay (~60 ms) blended with a slow tail (~1 s), giving the smooth, breathing character of opto compressors. No attack/release knobs effect on cell behavior.
VCA	Solid-state push-pull design. Constant ratio with a knee that adapts to the ratio: soft (3.7 dB) at 2:1, harder (2 dB) at 10:1. Clean, transparent — the workhorse for transparent level control.
FET	JFET-style with **program-dependent attack**: very fast on transients (~0.01 ms) and slower on sustained content (~10 ms). Hard knee, ratio harder than its label (a “4” knob behaves like ~6:1, an “8” like ~14:1). Punchy, aggressive — the “grab” character.
Bus	Auto-release glue compressor. Holds the gain reduction long on transients (~2.5 s) to avoid pumping, releases quickly on sustained passages so the mix breathes. Designed for full mixes and drum buses.
Digital	Clean, transparent compression with no coloration. Pure RMS-level detection — useful as a neutral reference.
DBR *(new in v1.3.0)*	Diode-bridge topology. Compression curve close to VCA, but with a transformer-like character: ~5× the harmonic richness of the clean VCA, plus a +2 dB low-shelf below 200 Hz that emulates the magnetic transformer used in classic transformer-coupled bus compressors.

Key Features

- **Mid/Side Processing** — Compress the mid (center) and side (stereo) channels independently
- **Stereo Unlink** — Control how much L/R channels are linked (0% = fully linked, 100% = independent)
- **Auto Makeup** — Automatically compensates gain reduction
- **High-Pass Filter** — Sidechain high-pass filter to avoid low-frequency triggering
- **Wet/Dry Mix** — Parallel compression via independent wet and dry controls. The **Link** toggle ties them so Wet + Dry always sum to 100 % (classic “Mix knob” behaviour); leave it off for free, independent parallel compression.
- **Hardware range indicators** — Each Attack/Release/Ratio rail shows a subtle tinted band marking where the real hardware operated for the selected compressor type (a dashed marker indicates a control that is fixed on the hardware, such as Optical attack).
- **Knee** — Adjust the compression curve from hard knee (0%) to soft knee (100%)
- **Saturation & Harmonics** *(Tube)* — Add analog warmth. The amount **scales with the gain reduction**: as the compressor engages more, the harmonic content blooms — replicating the natural behavior of a vari-mu tube being driven into its non-linear region.
- **Character** *(VCA/FET)* — Shape the compression personality.

DSP Refinement v1.3.0

In v1.3.0, every compression type was profiled against measurements of real analog hardware via a remote-access platform. Hundreds of test signals (steps, bursts, sweeps, pure tones) were captured and analyzed for transfer curve, attack/release dynamics, harmonic content, and frequency response. The findings were translated directly into the DSP:

- **Tube** transfer curve uses a power-law that gives a true vari-mu behavior. The saturation amount is now modulated by the live gain reduction so the tube character intensifies under heavier compression, exactly as a real tube biases.
- **Optical** release uses two parallel exponential decays (mix 60% fast / 40% slow) instead of a single time-varying decay — closer to the measured photocell behavior.
- **FET** attack is now genuinely program-dependent: the same instance reacts much faster on a transient at 0 dBFS than on a sustained signal at –20 dBFS, with a ratio of about 700:1 between the two. The ratio knob is also mapped non-linearly to match the hard, non-linear ratios of vintage transistor units.

- **VCA** knee width adapts to the ratio (softer at 2:1, harder at 10:1) — a behavior measured in classic solid-state designs.
- **Bus** auto-release behavior was inverted: it now holds long on transients and releases quickly on sustained content, eliminating the pumping artifact present in older versions.
- **DBR** is a brand new type: a diode-bridge model with transformer warmth and a low-shelf lift, intended for bus and master applications.

> ***Note*** *— Projects saved with v1.2.x or earlier will sound slightly different when reopened in v1.3.0 because of these changes. Visit each instance and verify the result. The new behavior is musically more accurate but is not a one-to-one match with the previous DSP.*

DSP Refinement v1.6.0 — Tube Mode

The Tube mode was reworked against the vari-mu captures, addressing two issues:

- **Flat high end.** The previous oversampling chain rolled the top octave off by several dB, which read as a “dynamic-EQ”-like dulling whenever the tube effects engaged. The decimation stage is now a **linear-phase windowed-sinc FIR oversampler** with a genuinely flat passband (within 0.06 dB to 18 kHz), so the frequency response stays flat at every level — like the hardware.
- **2nd-harmonic-dominant saturation.** The waveshaper was recalibrated to a gentle, asymmetric (biased-tanh) curve that is even-harmonic dominant (H2 >> H3), matching the measured vari-mu signature, instead of the previous over-driven, odd-harmonic character.
- **Usable Vari-Mu gain reduction.** The compression onset was previously so gentle that the GR meter barely moved. Gain reduction now engages from a few dB over threshold and rises progressively while keeping the soft, programme- dependent Vari-Mu character (still gentler than VCA).

Mc — Single-Band Compressor

Mono-band compression with spectral display

Parameters

Parameter	Range	Default	Notes
Bypass	On/Off	Off	
Type	Disabled, Tube, Optical, VCA, FET, Bus, Digital	Disabled	Compressor emulation type
Sidechain	Off, DAW	Off	DAW sidechain input
Input	-24 to +24 dB	0 dB	Input gain
Threshold	-60 to 0 dB	-20 dB	Compression threshold
Ratio	1:1 to 20:1	4:1	Compression ratio
Attack	0.1 to 100 ms	10 ms	
Release	10 to 1000 ms	100 ms	
Makeup	0 to 24 dB	0 dB	Output gain compensation
Wet	0 to 100%	100%	Dry/wet mix
Dry	0 to 100%	0%	
HP Enable	On/Off	Off	Sidechain high-pass filter
HP Freq	20 to 2000 Hz	20 Hz	
Saturation	0 to 100%	0%	Tube mode only
Harmonics	0 to 100%	0%	Tube mode only
Character	0 to 100%	50%	VCA/FET modes
Knee	0 to 100%	0%	Soft/hard knee
Auto Makeup	On/Off	Off	
Master Mode	Mix/Master	Mix	Master = higher quality
Stereo Unlink	0 to 100%	0%	0=linked, 100=independent

Parameter	Range	Default	Notes
Mid/Side	On/Off	Off	Mid-side processing

Display Modes (not automatable)

Mode	Description
Spectrum	Real-time frequency spectrum with gain reduction overlay
Waterfall	Scrolling spectrogram showing frequency history
Graph	Oscilloscope-style waveform display (IN/OUT/GR)
Balance	Tonal balance display with adjustable averaging

McMsc — Single-Band Compressor + SHM Sidechain

Same as Mc, plus inter-plugin shared memory sidechain

McMsc has identical compression parameters to Mc (see Mc chapter). The additional features are:

Shared Memory (SHM) Sidechain

McMsc can send and receive audio sidechain between plugin instances across tracks using **shared memory** — no extra routing cables needed.

SC Dropdown

Click the **SC** badge in the header to open the sidechain source selector:

Option	Description
Off	No sidechain
DAW Sidechain	Use the host's sidechain input (channels 3-4)
SHM: PluginName	Receive audio from a connected SHM plugin

Send Toggle

Enable **Send** in the footer to broadcast this plugin's output to other SHM-connected plugins.

Latency Compensation

Enable **Lat.Comp** to align the timing of received SHM audio with the main signal. This compensates for block-size differences between sender and receiver. Lat.Comp state propagates across all connected SHM plugins — enabling it on one plugin enables it on all.

Instance Name

Double-click the instance name (e.g., "McMsc #1") in the footer to rename it. This name appears in other plugins' SC dropdown, making it easy to identify

sources.

MbMc — Multiband Compressor

1–6 band multiband compression with Linkwitz-Riley crossovers

Band Configuration

The **Bands** parameter (1–6) controls how many compression bands are active. Each band is separated by Linkwitz-Riley 4th-order crossover filters.

Crossover Frequencies

Up to 5 crossover points between bands:

Crossover	Default	Range
1 (Sub / Low)	80 Hz	20–20000 Hz
2 (Low / LowMid)	250 Hz	20–20000 Hz
3 (LowMid / Mid)	1000 Hz	20–20000 Hz
4 (Mid / HighMid)	4000 Hz	20–20000 Hz
5 (HighMid / Air)	10000 Hz	20–20000 Hz

Band Labels

Band	Name	Default Range
1	Sub Bass	< 80 Hz
2	Bass	80–250 Hz
3	Low Mid	250–1000 Hz
4	Mid	1k–4k Hz
5	High Mid	4k–10k Hz
6	Air	> 10k Hz

Per-Band Parameters

Each active band has its own independent compressor with the same parameters as Mc:

Parameter	Range	Default	Notes
Type	Disabled–Digital	Disabled	Per-band emulation type
SC	Off/DAW	Off	Per-band sidechain
Bypass	On/Off	Off	
Solo	On/Off	Off	Listen to this band only
Mute	On/Off	Off	
Input	-24 to +24 dB	0 dB	
Threshold	-60 to 0 dB	-20 dB	
Ratio	1:1 to 20:1	4:1	
Attack	0.1 to 100 ms	10 ms	
Release	10 to 1000 ms	100 ms	
Makeup	0 to 24 dB	0 dB	
Wet	0 to 100%	100%	
Dry	0 to 100%	0%	
HP	On/Off	Off	Sidechain HP filter
HP Freq	20–2000 Hz	20 Hz	
Saturation	0–100%	0%	Tube mode
Harmonics	0–100%	0%	Tube mode
Character	0–100%	50%	VCA/FET mode
Knee	0–100%	0%	
Auto Makeup	On/Off	Off	
Master	Mix/Master	Mix	
Stereo Unlink	0–100%	0%	
Mid/Side	On/Off	Off	
Comp Enabled	On/Off	On	Compression active

Global Controls

These affect all bands simultaneously:

Control	Description
Auto Makeup	Enable auto makeup for all bands
Mix/Master	Switch all bands to Master mode
Mid/Side	Enable M/S processing for all bands

Zoomed Band View

Click on any band in the main view to open the **zoomed band view**, which shows detailed controls for that band including a larger spectrum display.

MbMcMsc — Multiband Compressor + SHM Sidechain

Same as MbMc, plus per-band shared memory sidechain

MbMcMsc has identical multiband compression parameters to MbMc (see MbMc chapter). The additional SHM features are:

Per-Band SHM Sidechain

Each band can independently receive SHM sidechain audio from a different source plugin. In the **zoomed band view**, click the **SC** dropdown to select:

Option	Description
Off	No sidechain for this band
DAW Sidechain	Use host sidechain input
SHM: PluginName	Receive audio from a specific connected SHM plugin

Send Toggle

When **Send** is enabled, this plugin's full mixed output is broadcast to all connected SHM plugins. Other plugins can then select this as a sidechain source for any band.

Latency Compensation

Same as McMsc — enabling Lat.Comp on one plugin propagates to all connected plugins.

Instance Name

Double-click the instance name in the header to rename it for easy identification in other plugins' SC dropdowns.

SHM Sidechain — Detailed Guide

How It Works

The **Shared Memory (SHM)** sidechain system allows XeniAudio plugins to exchange audio data in real-time without additional DAW routing:

1. **Automatic Discovery** — When multiple SHM-capable plugins are loaded in the same DAW session, they automatically discover each other
2. **Direct Audio Routing** — Audio is transferred via lock-free ring buffers in shared memory, with minimal latency
3. **No Extra Cables** — No need to create additional buses or sidechain routing in your DAW

Connection Status

Each SHM plugin shows a connection status indicator:

Indicator	Meaning
Green dot	Connected — other SHM plugins detected
Red dot	Error — SHM initialization failed
Gray dot	Standalone — no other plugins detected

Typical Use Cases

Vocal Ducking (McMsc → MbMcMsc)

1. Load **McMsc** on a vocal track
2. Load **MbMcMsc** on a bass/music track
3. Enable **Send** on the vocal McMsc
4. In MbMcMsc, open a band's SC dropdown and select **SHM: McMsc #1**
5. The vocal now sidechains the bass compression

Multi-Band Ducking

1. Load **MbMcMsc** on a bass track
2. Load **MbMcMsc** on a kick track

3. Enable **Send** on the kick plugin
4. In the bass plugin, set the low band’s SC to **SHM: MbMcMsc Kick**
5. Only the low frequencies of the bass are ducked by the kick

Latency Compensation

When plugins run at different buffer sizes or have processing latency, enable **Lat.Comp** to align the sidechain audio with the main signal. This propagates across all connected plugins — enable it once and all plugins follow.

Presets

All 4 plugins include factory presets accessible from the header preset selector. Presets include:

- **General purpose** compressors for vocals, drums, bass, mix bus
- **SHM-specific** presets for ducking and sidechain workflows
- **Character** presets showcasing each emulation type

Saving User Presets

Click the preset name in the header to open the preset browser, then click **Save** to create a user preset. User presets are stored in:

- **Linux:** `~/.config/XeniAudio/<PluginName>/Presets/`
- **Windows:** `%APPDATA%\XeniAudio\<PluginName>\Presets\`
- **macOS:** `~/Library/Application Support/XeniAudio/<PluginName>/Presets/`

A/B Comparison

Use the **A/B** buttons in the header to compare two different settings:

1. **A** — Current settings are saved to slot A
2. **B** — Switch to slot B with default or copied settings
3. Toggle between A and B to compare
4. Click **Copy A→B** or **Copy B→A** to copy settings between slots

Undo/Redo

- **Ctrl+Z** — Undo the last parameter change
- **Ctrl+Shift+Z** — Redo
- Up to 20 undo steps are stored

Tips & Troubleshooting

Performance Tips

- **Lower band count** — Using 2–3 bands instead of 6 reduces CPU usage significantly
- **Disable unused bands** — Set band Type to “Disabled” for bands you don’t need
- **Spectrum display** — The spectrum analyzer adds CPU load; switch to “Off” mode for lowest latency

Common Issues

Issue	Solution
Plugin not found in DAW	Rescan plugins; check format (VST3/CLAP) is supported
Audio cuts out every 30 seconds	Demo mode is active — enter your license key
SHM plugins don’t discover each other	Ensure all plugins are in the same DAW session; check that no firewall blocks shared memory
Sidechain audio has clicks/pops	Enable **Lat.Comp** to align timing
Crackling at high gain reduction	Lower the Ratio or increase Attack time

Keyboard Shortcuts

Shortcut	Action
Double-click knob	Reset to default value
Shift+click knob	Enter value directly
Ctrl+Z	Undo
Ctrl+Shift+Z	Redo

Contact & Support

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- **Documentation:** xeni-audio.com/docs

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