

# USER'S GUIDE



# Auburn Sounds Graillon 3

Version 3.2.0

Vocal Processor



# FOREWORD

In 2015, GRAILLON 1 defended the idea of PTM (Pitch-Tracking Modulation), as a new kind of vocal effect.

GRAILLON 2 (2017) was a more complete solution for voice changing, including pitch correction, pitch shifting, and a bitcrusher. It became a popular pitch correction for seven long years, with hardly any changes in its behaviour.

But Auburn Sounds engineering is constantly improving. We wanted to reflect our new quality standards in an major update.

GRAILLON 3 (2024) would preserve the qualities of GRAILLON 2, and go beyond to make your voice a lot more "standard" in just a few clicks. It would incorporate INNER PITCH (2023) technology and defuse the existential threats that weigh on Auburn Sounds.

New effects were birthed:

- Emulation of a classic pair of FET + Opto compressors
- Feedback-based fast gating
- Vocal preamp and chorus
- Vocal doubler (*FULL Edition only*)

All of them one-button, fast, with no further latency, and tuned for vocals. Indeed preamp + FET-type compression here gives a very classical hip-hop flavour.

We also improved the core product:

- 3 different pitch engines: G2, G3 and I1 (now I2)
- Formant shifting
- Tuning each note by -100 to +100 cents (*FULL Edition only*)

One of the distinguishing features of GRAILLON 2 was its **low-CPU cost** . GRAILLON 3 continues in that direction, with a larger sound range, an improved sound, and a new look.

# INSTALLATION

*First, unzip the content of the AUBURN SOUNDS GRAILLON 3 FREE (or FULL) archive.*

## For macOS users

**Double-click on the `.pkg` installer in the `Mac/` directory.**

- *You may need to reboot your Mac computer to see the new Audio Unit in hosts.*
- *Logic may need a manual scan in its Plug-in Manager.*

## For Windows users

**Double-click on the `.exe` installer in the `Windows/` directory.**

- *When using the VST 2.4 format, you may have to enter the right VST 2.4 directory in order for your DAW to find the plug-in.*

## For Linux users

**Open the `Linux/` directory.**

- **LV2:** Copy the LV2 plug-in ( `.lv2` directory) in your LV2 directory.
- **CLAP:** Copy the CLAP plug-in ( `.clap` file) in your CLAP directory.
- **VST3:** Copy the VST3 plug-in ( `.vst3` directory) in your VST3 directory.

# UPDATES

## Upgrade to FULL

Purchasing a FULL upgrade on the Auburn Sounds website, or its resellers, always leads to the <https://itch.io> website.

After purchasing or registering an external purchase here, you need to download a new ZIP and **install it on top of the existing FREE plug-in.**

*Your existing FREE sessions will keep working with the FULL product.*

## Getting newer versions

If you can't find links to your purchase, there are two possibilities:

- **Either you linked your purchase to an [itch.io](https://itch.io) account.**  
Go to this page and login: <https://itch.io/my-purchases>
- **Or you did *not* link your purchase to an [itch.io](https://itch.io) account.**  
Go to this page which can send you download links again:  
<https://itch.io/docs/buying/already-bought>

## Should I fear broken sessions?

Session compatibility is broken with each **major** version change.

*eg: Graillon 1.2 to Graillon 2.0*

Session compatibility is preserved with each **minor** version change.

*eg: Graillon 2.3 to 2.4*

*Because your host will see each major version as different plug-ins, you can't loose sessions by upgrading.*

# COMPATIBILITY

AUBURN SOUNDS GRAILLON 3 is available in various plug-in formats:

- CLAP
- VST3
- VST2
- Audio Unit v2
- AAX
- LV2
- FLP

For the following Operating Systems (OS):

- Windows 7 or newer,
- macOS 10.15 or newer,
- Ubuntu 22.04 or newer

Our plug-ins have been tested with a wide variety of Digital Audio Workstations hosts (DAW). However if you find out your DAW isn't well supported, please report a bug at [contact@auburnsounds.com](mailto:contact@auburnsounds.com) .

Supported sampling rates range from 22050 Hz to 192 kHz.

# CHANGELOG

## Version 3.2

- **NEW** I2 mode fixes the sound of I1 mode.
- **NEW** Knobs and sliders react to mouse wheel.
- Fix missing UI in CLAP when using Bitwig on Linux.
- Fix lack of keyboard input in REAPER on Windows.
- Faster Auburn OS, new color scheme and animation.
- Graillon now requires SSE3.

## Version 3.1.1

- Fix crash during load and DAW scan in macOS Sequoia 15.4.

## Version 3.1

- **NEW CLAP format** support.
- **NEW** Preset browser (top-left button).
- Faster UI resize and opening performance.
- Fix bad UI size in Cubase, OBS, Digital Performer.
- Fix bad UI size in FLStudio Mac VST2.
- Fix Studio One Mac crash on resize (CoreGraphics).
- Fix installation path for FL2024.
- **Removed:** No more VST2 support on Linux.
- **Removed:** Minimum macOS version is now 10.15.

## Version 3.0

- **NEW** UI was redone.
- **NEW** In G3 and I1 modes: improvements to pitch detection, pitch-shifting, PTM, internal latency compensation.
- **NEW** Correction disable switch
- **NEW** Formant-shifting.
- **NEW** Keyboard tuning support.
- **NEW** Vocal compressor.
- **NEW** Vocal gate.
- **NEW** Vocal chorus.
- **NEW** Vocal doubler.
- **NEW** Vocal preamp.
- **NEW** Stereo-linking.
- **NEW** MIDI Input can be disabled.
- **NEW** Snap Min parameter.
- **NEW** Maqam presets.

- Fix AU latency reporting in REAPER.
- Bitcrusher available in Free Edition.
- Clicking on notes in the waveform switch them.
- **Removed:** 32-bit support on Windows.
- **Removed:** Most Minor and Major presets remove, clic on the treble clef instead.

## Version 2.8

- **NEW** Support FLStudio plug-in format on Windows.
- **NEW** Archive contains a plug-in datasheet.
- Fix incorrect presets A major and G major.
- Fix CoreGraphics crash in macOS, triggered on resize or opening.
- Slightly nicer UI, some lights computed in linear RGB.
- Faster UI resize.
- Windows installer now asks to close DAW if plugin is open.

## Version 2.7

- **Support for macOS Ventura and Sonoma.**
- **Support for AAX arm64 for native M1.**
- **NEW** User manual design.
- **NEW** Major/Minor scale menu.
- Fix annoying MIDI note inversion when same timestamp for note on and note off.
- The macOS installer should not need Rosetta anymore.
- Linux: fix animation going too fast in some distributions.
- Fix sluggish controls in Ableton + VST3.
- UI is sharper and using 17mb less RAM.
- Fix Big Sur UI performance.
- Fix macOS mousewheel being extreme with some mouses.
- Fix Ardour + Monterey crash.
- Many resizing fixes.
- First UI opening is a bit faster.

## Version 2.6

- **Resizable UI.** Drag the bottom-right corner to resize the plug-in.
- Fix crash when closing OBS Studio.
- Now comes with a Windows desinstaller.
- Fix latency reporting with LV2 .
- Fix lingering MIDI notes in some hosts.

## Version 2.5

- **Support for Apple Silicon and macOS 11.0 arm64.**

The minimum macOS supported version is now 10.12.

- **Fixed Linux X11 crash with multiple instances.**

Closing the second window while the first is opened would crash. This greatly enhances Linux stability.

- Fixed VST3 MIDI Input. It would not work, or crash, in earlier versions.
- Fixed VST3 latency reporting, which was only correct for 44100 Hz.
- Fixed installer when the "Program Files" directory is localized.

## Version 2.4

- Repair MIDI input that was accidentally disabled since two versions.
- Reduced CPU usage of the UI, especially macOS and Linux
- Fix Linux crashes and bugs (eg: when opening or closing the UI).
- Fix detection of VST3 by Bitwig on Linux.
- UI rendering is a bit more detailed.

## Version 2.3

- **New:** Linux x86\_64 support.
- **New:** Windows installer.
- Compatible with macOS 10.15 Catalina.
- Notarization.
- Added AUv2 Audio Component API, brings back GarageBand compatibility.
- Remove high CPU load on stop in AU, VST3, and AAX.
- Fix improper signing of macOS AAX binaries.

## Version 2.2

- **New:** Stereo support across the whole signal chain.
- Added VST3 format.
- Added Mac installer.
- Added Pro Tools bypass support.
- Visual feedback for MIDI input and pitch correction status.
- Add snap points for Pitch Shift.
- Fix wrong audio at startup.
- Fix compatibility with hosts: Open Broadcaster, Audio Hijack.
- Fix pitch-correction turning ugly in FLStudio after tweaking buffer size
- 2x less CPU usage from an open UI.
- **Removed:** 32-bit support on macOS.

## Version 2.1

- **New:** Right click on sliders in Frequency-shifting mode to invert the direction of



the frequency shifting for this shifter.

- Add AAX Native and AAX AudioSuite support.
- Faster text drawing.
- Fixed MIDI input in Bitwig Studio.
- Fix crash in Vienna Ensemble Pro.
- Dropped support for Mac OS X 10.7.

## Version 2.0

- Add automatic voice tuner.
- Add pitch-shifter.
- Add bit-crusher.
- Add new pitch-tracking ring modulation.
- Add the ability to shift the base octave of the shifters.
- Because of pitch-shifting latency is not 0 anymore.
- Reworked complete UI.

## Version 1.2

- Fix crash in macOS Sierra upon instantiation, all hosts.
- Graillon now uses 2x less memory.

## Version 1.1

- Graillon is now freemium.
- Now available in Audio Unit format.
- Faster and sharper UI.
- Graillon now uses 30% less memory.
- Fix Cubase crashes in Windows and OS X.
- Fix Audition crash when processing a mono sample.
- Fix Ableton Live crash when scanning plugin.
- Fix Apple Logic crash: threads would stay attached.
- Fix Audacity for Mac crash: was a multi-threading bug.
- Fix Digital Performer bug: no processing in Audio Unit.
- Fix pass-through of key presses to the host.
- Fix restoring state in Ableton Live.
- Fix random crash at opening, waveform was badly initialized.
- Fix slowness and partial update when UI is reopened.
- Changed the JPEG loader, 25% faster first UI load.

## Version 1.0

- Initial release.



# PARAMETERS

## Options

### **LR Link**

Pitch shifting is performed identically on the left and right channel, instead of creating anti-phase. On a stereo signal, this preserves stereo image and cohesiveness, instead of diffusing energy on the side. However, unlinking stereo can be useful to deemphasize background vocals. *This has no effect if the input is mono.*

### **Preamp**

This vocal preamp emulation is a slightly modified port of Airwindows Channel9 in a mode that emulates the effect of a British console. This may help with dynamics and sibilants, but also removes a bit of low-end (default: disabled).

### **MIDI Input**

Can enable or disable passing MIDI In to the tuner. This has no effect if you don't send MIDI notes to Graillon in the first place.

### **Chorus**

May help blend a vocal in the mix (default: disabled).

## Pitch Engines

**G2** Keep Graillon 2 algorithms. There are only a few cases, typically male voice, for which it may be preferable.

**G3** Improves pitch detection, especially detection of high notes that would be impossible in Graillon 2. Better preservation of personality and better PTM. Pitch-shifting is a bit improved.

**I2** Same as G3 but uses the Inner Pitch v2 shifting engine, which improves pitch-shifting naturalness especially for bass content and complex material. Its use is not always warranted because of the hefty CPU usage. *Warning: very slow mode.*

## Pitch Shift

**Pitch** Shift from -12 semitones to 12 semitones. **Right-clicking on this knob snaps to semitones.**

**Formant** Enable or disable formant preservation.

**Formant Amount** Scales the amplitude of formant preservation 0 to 100%. Typically formant sounds harsh and should be scaled back.

**Formant Shift** Shift the source of formant reference -12 semitones to 12 semitones.

## Pitch-Correction

**Correction** Enable or disable pitch correction.

**Correction Amount** Scales the pitch correction amount 0 to 100%. Most useful values are 0 and 100%.

**Smooth** Set pitch transitions speed. Set to minimum for hard tuning.

**Inertia** Reduces Pitch Correction jumps by making choosen notes "stick". This may change actual melody by stabilizing notes. Quite a critical setting.

**Snap Min** The minimum pitch deviation that warrants pitch correction. Below that threshold, a tolerance is applied to let vibrato live within those bounds. *Warning: Snap Min doesn't sound that good if the song needs robotic sounds.*

**Snap Max (formerly Snap Range)** How far notes can snap nearby pitches (default: jump up to 8 semitones).

So, there are **four ways to have less obvious pitch correction**:

- decrease **Correction Amount**
- increase **Smooth**
- increase **Snap Min**
- decrease **Snap Max**

**Scale Selection** Select a major or minor scale. This doesn't change keyboard tunings.

**Tune Keyboard** Open the keyboard and shows 12 tuning knobs to escape equal temperament. *(Full Edition Only)*

**Scale Rotation** Either SHIFT + click the keyboard, or click the arrows in the waveform view. This rotates notes and tuning.

## Effects

**Compressor** Idealized FET + Opto classic compressor vocal chain. Feedback design, hard-knee, fast attack, 100% stereo-linked compressor tuned for vocals.

**Gate** A fast attack, 4:1 ratio, dual-release, feedback design, 100% stereo-linked gate

tuned for vocals.

**Quantize** Bit crusher. Rate of time quantization, expressed in number of samples.

**Bit Reduction** Reduces the number of bits in floating-point mantissa. *Surprisingly, this can help with sybilants.*

## Pitch-Tracking Modulation (FULL version only)

**Modulation Selector** Chooses between Ring Modulation and Bode (frequency-shifting).

**Shifted Voices** Mixes modulated copies of the Pitch-Corrected input voice. Modulation ratios are fixed fractions of the detected pitch: 1/4, 1/3, 1/2, 2/3. **In Bode mode, right-click on the sliders change the shift polarity.**

*Warning: Those aren't mixed in Wet, but separately.*

**Octave** Shifts the fixed modulation ratios by an octave up or down.

## Reference

A screw next to the center screen can be dragged like a knob to change the reference A (Default: 440 Hz).

## Doubler (FULL Edition only)

**Doubler** Top-right screw can be dragged like a knob to double a voice.

## Output

**Wet** How much the pitch-corrected, pitch-shifted, effected, non-PTM input gets mixed.

**Dry** Mix input signal, delayed to temporally match **Wet** .

**Low Cut** Removes some bass energy from input. 12 dB/oct high-pass filter. **Dry** is not affected.

**Gain** Global gain for Dry, Wet, and the PTM sliders.

**Amount** Scales 0 to 100% the whole Graillon effect.

# CREDITS

## Development, UI/UX, DSP

- Guillaume PIOLAT

## Additional UI/UX

- Sephora SCHMIDT

## Testing

- Pablo JOUBERT

## Thanks

Thanks goes to our fellow musicians, friends and family that provides invaluable support for the creation of loveable audio tools.

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