

Smash Refinery

The whole mastering chain in one plugin — eight modules in a rack you can reorder by dragging, four slots for your own plugins, and one set of master controls across all of it.

Formats • AU, VST3 (macOS) Version • 1.0.1 Manufacturer • Smash Happy Audio

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What Smash Refinery is for

Smash Refinery is the whole Smash Happy Audio mastering chain in one plugin. Eight modules — the same plugins you would otherwise insert one at a time — live in a single rack, in an order you choose, with one input trim, one output trim, and one bypass across the lot.

It exists for the part of mastering that is not about any individual processor: hearing the chain as a chain. Reordering the EQ and the saturator is two drags instead of two plugin moves. Comparing a whole signal path against another is one button. And because every module is the real plugin rather than a simplified version of it, nothing is lost by working here instead of in eight separate windows.

Four further slots host *your* plugins — any AU or VST3 you already own — so the chain does not have to end at what we make.

The rack, the focus bay, and the metrics bar

The window has three regions.

The **rack** is the row of module cards. Each card is one slot in the signal path, and they run left to right in the order the audio passes through them. This is the map of your chain.

The **focus bay** is the large area in the centre. Click any rack card and that module's full interface opens here — every control, exactly as it appears in the standalone plugin. Click the same card again to close it. Refinery opens with nothing focused, so you always start looking at the whole chain rather than at one processor.

The **metrics bar** runs across the bottom and never goes away. It reports what is leaving the console, no matter which module you happen to be looking at. See section 08.

The eight modules

Every module is the complete plugin, not a reduced version. If you own the standalone, the controls, the behaviour and the sound are identical.

- **WaveFront EQ** — linear-phase surgical EQ, sixteen bands, with a resonance hunter.
- **Groundwaves** — corrective and creative low end.
- **Tidewaves** — transparent glue compression, no added colour.
- **Firewaves** — triode and pentode saturation, parallel so the dry signal is never removed.
- **Airwaves** — high-frequency air and presence.
- **Spacewaves** — mastering reverb; the dry signal is never touched.
- **Redline Tape Limiter** — final-stage limiting and tape finish.
- **Meridian** — the full metering suite, as a module you can place anywhere in the chain.

Placing Meridian mid-chain is worth knowing about: it meters the signal *at that point*, so you can watch what a module is doing to the audio rather than only what arrives at the end. The metrics bar at the bottom is separate and always measures the console output.

Building a chain

Drag any rack card sideways to move it. A drop line shows where it will land; release to commit. The audio path follows the rack immediately — what you see left to right is what the signal passes through.

Order is not cosmetic. Compressing before saturating and saturating before compressing are different processes with different results, and the same is true of EQ either side of a limiter. Refinery makes that a drag rather than a rebuild, which is the main reason to work here.

Chain order is saved with your session and with every preset and A/B snapshot.

Turning modules on, and blending them

Each slot has two controls of its own, independent of whatever is inside it.

ON switches the module into the chain. Off, the slot is a clean passthrough — the audio is not processed and not delayed relative to the rest of the console.

MIX blends that module's output against its own input, from fully dry to fully wet. This is parallel processing per slot: a saturator at 30% mix, a compressor blended back for parallel glue, a reverb kept at a few percent. It applies to guest plugins too, which is often the fastest way to get a third-party processor to sit at a sensible level in a mastering context.

MIX is a blend of that module only. It does not affect anything upstream or downstream.

Hosting your own plugins

Four slots hold third-party plugins. Click an empty guest slot to open the picker, which lists the AU and VST3 plugins installed on your system grouped by manufacturer, with a format filter if you want to narrow it.

A guest behaves like any other slot: it has its own ON and MIX, it can be dragged anywhere in the chain, and its state is saved with your session. Opening a guest's own editor puts that plugin's window in front of Refinery, where you can leave it while you work.

Guest slots are a macOS desktop feature. The iPad version ships the eight built-in modules without them.

Master controls

INPUT trims the signal before the first module, **OUTPUT** after the last. Use input trim to drive level-dependent modules — saturation and compression respond to how hard you hit them — and output trim to land the finished level.

BYPASS takes the entire console out of the path. It is a true bypass: the signal is passed through untouched and stays correctly aligned in time with the rest of your session, so an A/B against bypass is an honest comparison rather than one confused by a timing shift.

Reading the bottom bar

The bar is text only, by design — numbers you can read at a glance rather than meters to watch. It always measures the console output, after the output trim, regardless of which modules are enabled or where Meridian sits in the chain.

- **LUFS M / S / I** — momentary, short-term and integrated loudness.
- **TRUE PEAK** — inter-sample peak, the number that matters for encoders.
- **CORRELATION** — stereo phase relationship. Sustained negative values mean mono compatibility is worth checking.
- **CLIP** — latches when the output exceeds full scale. Click it to clear.
- **LATENCY** — what the console is currently reporting to your DAW.
- **CPU** — measured render time as a share of the available real-time budget.

Saving, comparing, and stepping back

All three capture the same thing: the *entire* console. Chain order, every slot's ON and MIX, every control inside every module, and each guest plugin along with its own settings.

That is worth stating plainly because it is what makes them useful. An A/B that only flipped Refinery's own faders and left the modules untouched would not be comparing anything you would recognise as a mix decision.

Presets save and load a complete console to disk. There are no factory presets, deliberately — a mastering chain should come from the material in front of you.

ALT is an A/B. The first press stores the current console as the alternate; press again to flip between them. Guests are restored in place rather than reloaded, so flipping is immediate and their windows stay open.

UNDO steps back to the console as it was before the last change.

Specifications

Formats	Audio Unit, VST3
Platform	macOS — Apple Silicon and Intel (universal). iPad AUv3 available separately.
Built-in modules	8 — WaveFront EQ, Groundwaves, Tidewaves, Firewaves, Airwaves, Spacewaves, Redline, Meridian
Guest slots	4 (macOS desktop) — AU and VST3, hosted in-process
Per slot	ON, MIX (dry/wet), free position in the chain
Master controls	Input trim, Output trim, Bypass
Metering	LUFS M/S/I, True Peak, Correlation, Clip, Latency, CPU
Channel configuration	Stereo in / stereo out
Latency	Sum of the enabled modules; reported to the host for automatic compensation

Troubleshooting

A module looks exactly like the standalone plugin

It is the standalone plugin. Modules are the complete products, not simplified copies. Anything you know from the individual plugin applies here unchanged.

Reordering modules changed the sound more than expected

That is the chain working as intended. Level-dependent modules — saturation, compression, limiting — respond to what arrives at them, so moving an EQ or a trim in front of one changes what it does. If you want to compare orders fairly, set ALT before the first drag.

My DAW reports latency, or moving a module changed it

Refinery reports the total latency of whatever is currently enabled, and your DAW compensates automatically. Enabling a linear-phase module such as WaveFront EQ adds a substantial, expected amount. Turning modules off reduces it again.

A guest plugin's window disappeared behind Refinery

Guest editors are separate floating windows. Click the guest's slot again to bring its window back to the front.

A guest plugin is not in the picker

The picker lists AU and VST3 plugins your system has already scanned and validated. If a plugin is missing, confirm your DAW can see it, then reopen the picker. Check the format filter as well — it may be narrowed to one format.

CLIP is lit but the meters look fine

CLIP latches, so it stays lit after a single overshoot that has long passed. Click it to clear, then watch whether it returns. True Peak is the number to trust for encoder safety, since inter-sample peaks can exceed what a sample-peak meter shows.

Bypass sounds like a level change rather than a clean comparison

Check the output trim. Bypass removes the whole console including that trim, so if you have used it to make up gain, the bypassed signal will legitimately be quieter. Match levels before judging.