

Duono

Mono-compatible Stereo Widener

User Manual — v1.0.0 singintime@gmail.com · <https://stefanobaldan.com>

Thank you for using **Duono**.

Duono turns a mono source into a wide, natural-sounding stereo image with a single **Width** knob. It is mono-compatible by design: fold the output back to mono and you get exactly the original signal — no comb filtering, no hollow phasing, no surprises on a club PA or a phone speaker.

One knob. No menus, no modes. It just makes things wider, and does it beautifully.



How it works

Under the hood, Duono builds its stereo image from your mono input using a pair of very short delays arranged as a mid/side matrix. The centre of the image is a slightly delayed copy of your signal; the stereo “sides” are derived from the difference between the input and a second delayed copy. Left and right are then formed by adding and subtracting that side signal — so the two channels differ in **phase**, not in **level**. That phase difference is what your ears read as width and space, rather than as a hard pan to one side.

The clever part is *where* the widening happens. The side signal sits in quadrature — a 90° phase relationship — with the centre, which spreads the effect smoothly across the whole frequency spectrum: every frequency is nudged into the stereo field by a slightly different amount, and Duono only ever **adds** energy to the sides — it never carves notches out of your sound.

This is why Duono is so good on **organic, multi-frequency material**. Bowed strings, whistles, harps, double bass, voices, lush pads — these sources carry energy across dozens of partials at once, so each partial lands in a slightly different spot in the image. That is exactly how a real instrument radiates into a room, which is why such sources bloom into a wide, three-dimensional, completely natural stereo picture instead of sounding “processed”. Sparse sounds (a lone sine, a clean test tone) reveal the frequency-dependence as gentle movement, but rich, harmonically dense material masks it entirely and simply sounds *big*.

And because the maths is symmetric, the mono sum always returns your original signal, bit for bit. You can push the width as far as you like without ever worrying about how it will collapse on a mono system.

Mono compatibility

Duono's mono compatibility isn't just "good enough" — it's *exact*. When left and right are summed to mono, the stereo information cancels completely and you are left with your original signal, sample for sample (offset only by Duono's ~3 ms latency, which your DAW compensates for automatically). You can prove it yourself: widen a mono source, sum it to mono, and null it against the dry signal — the result is total silence.

Because the fold-down is mathematically guaranteed to be identical to the source, Duono needs no "mono check" button and no low-frequency bypass: there is nothing to check, and nothing to protect against. Widen as hard as you like — it will never collapse, comb, or thin out in mono.

Compatibility

Formats: VST3, Audio Unit (AU), CLAP **macOS:** 10.13 or later (Apple Silicon and Intel) **Windows:** 64-bit

If your DAW doesn't list Duono immediately after installing, rescan your plug-ins.

The Width control

Duono has a single parameter: **Width** (0–100%).

- **0%** — centred, no widening (your dry signal).
- **higher** — a progressively wider, more enveloping stereo image.

Ways to adjust it:

- **Drag** the knob up/down with the mouse.
- **Scroll** the mouse wheel over it for fine steps.
- **Arrow keys** nudge the value when the knob is focused.
- **Double-click** (or press Return) to type an exact value.

Tips

- Insert Duono on a **mono** track or bus — it takes a mono input and produces a stereo output.
- It shines on acoustic and organic sources, and on synth pads.
- Try it on a bus to widen a whole submix while keeping the mono fold-down clean.
- Use less than you think — a little width goes a long way, and Duono leaves headroom to push when you want drama.

Have fun widening your sound.

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