

DELOS_{DSP}

TECHNICAL REFERENCE & USER MANUAL

DELOS C

Six distinct compression circuits behind one shared control layout, with an external sidechain input, A/B comparison and full preset management.

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1.16.0

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1. OVERVIEW

DELOS C places six distinct compression circuits behind one shared control layout. Clean is designed for transparent gain control and bus work; Classic and Vintage introduce progressively more program-dependent movement and density; Opto uses a slower, smoother recovery profile; Punch prioritizes transient impact; Limit provides fast, true-peak-aware limiting with lookahead.

A split waveform view presents the incoming signal and the gain-reduced output together, making timing and envelope decisions visible without replacing critical listening. Threshold, ratio, knee, attack, release, makeup gain and mix remain consistent when changing circuit, so algorithm comparisons never interrupt the workflow. A dedicated external sidechain input, with its own shaping filter and audition mode, lets the detector be driven by a different signal than the one being compressed.

KEY FEATURES

- Six selectable compression algorithms: Clean, Classic, Opto, Vintage, Punch, Limit
- External sidechain input with Low Cut, High Cut and Bell shaping, and an Off/Listen/On audition stage
- Split input/output waveform display with a compression-amount reflection line
- Circular gain-reduction meter with peak-hold and program-dependent ballistics
- Interactive transfer curve with draggable threshold and ratio handles
- A/B state comparison with one-click copy between slots
- 50 factory presets across five categories, plus unlimited user presets
- Auto Gain and Auto Release on every algorithm, Mid/Side processing, and host-compensated Lookahead

AU

VST3

Standalone

Unity

macOS & Windows

2. GETTING STARTED

SUPPORTED FORMATS

DELOS C is built as an Audio Unit, VST3, standalone application, and a native Unity plugin, for Apple Silicon and Intel Macs as well as Windows. The Audio Unit format specifically supports mono and stereo channel configurations; VST3, Standalone and Unity accept a wider 1–8 channel range at the host bus level, though the compression engine itself always processes the first one or two channels of a bus — see **Section 10** for the exact scope of multichannel support.

INSTALLATION

Run the platform installer for your system and restart your DAW (or rescan the plugin folder) so the host picks up the new Audio Unit / VST3 component. On first launch, DELOS C opens a short welcome screen and begins a 7-day evaluation period automatically — no account or payment details are required to start the trial.

MACOS SECURITY NOTICE

DELOS C is signed and notarized by Apple. Installing and opening it should not trigger a Gatekeeper warning. If macOS still shows a one-time confirmation on first launch, just click Open.

TRIAL & ACTIVATION

During the evaluation period every feature is fully available. When the trial window ends, the plugin continues to load in your sessions but stops processing audio until it is registered again or activated with a license.

3. INTERFACE OVERVIEW

The main window is organized around a central visualization area flanked by input/output level meters, with the algorithm selector along the top and the seven-knob controls panel along the bottom. A preset bar sits above the algorithm selector for browsing, saving and A/B-comparing settings without leaving the main screen.

LAYOUT

- **Preset bar** — previous/next navigation, click-to-browse preset name, Save, and an overflow menu (Save As, Delete, Reset to Default, Show Presets Folder).
- **Algorithm selector** — six tabs (Clean, Classic, Opto, Vintage, Punch, Limit), each with its own accent color and a one-line description of its character, plus a separate SIDECHAIN toggle at the right edge of the same row.
- **Visualization area** — toggles between the split waveform view and the interactive transfer curve; switching the SIDECHAIN toggle on replaces this same area with the sidechain detector panel, without resizing the plugin window.
- **Gain-reduction meter** — a 225° circular dial reading 0–40 dB of reduction, with peak-hold.
- **Level meters** — vertical input and output meters (–60 dB to +6 dB) with a latching clip indicator.
- **Controls panel** — Threshold, Ratio, Knee, Attack, Release, Makeup and Mix knobs, a Lookahead slider, and Auto Gain / Auto Release / Mid-Side toggle buttons.

4. THE SIX COMPRESSION ALGORITHMS

All six algorithms share the same seven knobs (Threshold, Ratio, Knee, Attack, Release, Makeup, Mix), plus Auto Gain, Auto Release and Lookahead, but each implements its own detector, ballistics and — where relevant — its own coloration stage. Switching algorithms keeps every shared knob at its current value, so the same musical setting can be quickly auditioned across all six circuits.

CLEAN

Transparent feed-forward VCA — mastering grade, zero coloration. Detection is RMS-based over a 256-sample window, giving a smooth, program-averaged gain reduction with no added harmonic content.

CLASSIC

Feed-forward/feedback blend — bus-compressor character, subtle harmonic saturation. The detector reads a 70/30 blend of the feed-forward sidechain and the algorithm's own previous output, and the wet signal passes through a soft-clip saturation stage whose output feeds back into the next sample's detector — a genuine feedback topology, not a cosmetic effect.

OPTO

Photoresistor-element model with program-dependent release. Detection is peak-based and driven through a simulated photoresistor "light level" state: attack is fast, release is deliberately slow, and an internal compression-time accumulator blends between a fast initial release and a much slower tail the longer the signal has been compressed — the classic behavior of an optical gain element, where recent compression history changes how the next release behaves.

VINTAGE

Vari-mu style — ratio increases with level, tube-style warmth. Ballistics are deliberately slower than the other algorithms, the effective knee is doubled in width, and the ratio itself increases with how far the signal sits above threshold (up to a 20:1 ceiling) — reproducing the self-limiting character of a variable-mu tube compressor. A level-dependent tanh saturation stage adds more harmonic warmth as gain reduction deepens.

PUNCH

Transient-forward — fast transient detection, slower body compression. A dual-envelope detector tracks a fast (fixed 0.3 ms attack / 8 ms release) transient envelope alongside a slower envelope driven by the user's own Attack/Release knobs. Gain reduction is computed from the slow (body) envelope, then reduced wherever the fast envelope shows a transient spike — deliberately letting transients through with less compression to preserve punch and impact.

LIMIT

Brick-wall limiter with lookahead — true-peak limiting. Incoming audio is delayed while a forward-scanning peak detector finds the true peak within the Lookahead window, so gain reduction can be applied before the peak actually arrives. Ratio and Knee have no effect in Limit mode; gain is computed directly as the ceiling-to-peak ratio needed to keep output at or under the Threshold level. Limit also does not read the external sidechain input — see

Section 5.

5. EXTERNAL SIDECHAIN

DELOS C exposes a dedicated stereo **Sidechain** input bus, separate from the main input, so a host can route a different signal — a kick drum, a vocal, a click track — to drive the compressor's detector instead of the program material itself. The panel opens from the SIDECHAIN button next to the algorithm selector, replacing the waveform/curve display in place without resizing the window.



The sidechain detector panel: External SC enabled, Low Cut/High Cut/Bell shaping the trigger, and the trigger-and-output visualizer beneath.

EXTERNAL SC

With **External SC** off, the detector reads the plugin's own program signal, as in earlier versions. Turning it on routes the detector to the Sidechain bus instead — but only once the host has actually connected and enabled that bus; if it hasn't, DELOS C falls back to the program signal automatically rather than detecting silence.

LOW CUT, HIGH CUT & BELL

Three independent filter stages shape the sidechain signal *before* it reaches the detector — they never touch the program audio being compressed. Each has its own on/off switch and can run simultaneously with the others, in the order Low Cut → High Cut → Bell:

- **Low Cut** — high-pass, 20–2000 Hz, default 100 Hz. Useful for stopping low-frequency rumble in a trigger signal from causing false gain reduction.
- **High Cut** — low-pass, 200–20000 Hz, default 8000 Hz.
- **Bell** — parametric peak, 20–20000 Hz (default 1000 Hz), –24 to +24 dB gain (default 0 dB), 0.1–10 Q (default 1.0). Useful for emphasizing a specific frequency range of the trigger — for example boosting the low end of a kick so it, and only it, pumps a bass bus.

OFF / LISTEN / ON

A three-way selector controls what the shaped sidechain signal actually does:

- **Off** — the Low Cut/High Cut/Bell filter is bypassed entirely. Whatever source External SC selects (sidechain bus or program signal) still reaches the detector, just unfiltered.
- **On** — the filtered signal drives the detector, shaping when and how hard the compressor reacts, exactly as heard in Listen.
- **Listen** — the filtered signal is sent to the plugin's output in place of the compressed program audio, so the exact trigger driving gain reduction can be auditioned by ear. Gain reduction is still computed normally underneath — Listen does not bypass compression, it only overrides what you hear.

VISUALIZER

The panel's built-in display mirrors the split waveform view but is dedicated to sidechain behavior: the upper half shows the shaped trigger signal against a dashed threshold reference line, and the lower half shows the resulting compressed program output with the same color-coded gain-reduction reflection line used elsewhere in the plugin.

DETECTOR SOURCE

A Stereo / Mid / Side selector chooses which part of the sidechain feeds the detector, applied before the Low Cut/High Cut/Bell chain above. Mid triggers from center content only; Side from width/ambience only — e.g. ducking on room tone, not the centered signal.

6. FULL PARAMETER REFERENCE

MAIN CONTROLS

PARAMETER	RANGE	DEFAULT	NOTES
Input	-24 to +24 dB	0 dB	Pre-gain trim, applied before Mid/Side encode and the detector
Threshold	-60 to 0 dB	0 dB	Not used by Limit (see Section 4)
Ratio	1:1 to 20:1	4:1	Not used by Limit; Vintage raises the effective ratio automatically above this base setting
Knee	0 to 24 dB	2 dB	Not used by Limit; doubled internally by Vintage
Attack	0.1 to 300 ms	10 ms	Scaled differently per algorithm (see Section 4)
Release	1 to 2000 ms	100 ms	Scaled differently per algorithm (see Section 4)
Makeup	-12 to +24 dB	0 dB	Manual makeup gain, added after the compressor stage
Mix	0-100%	100%	Parallel dry/wet blend, identical behavior across all six algorithms
Lookahead	0 to 20 ms	0 ms	Delay reported to the host for automatic compensation; see Section 10
Algorithm	Clean / Classic / Opto / Vintage / Punch / Limit	Clean	—
Auto Gain	On / Off	Off	Available on all six algorithms
Auto Release	On / Off	Off	Available on all six algorithms

PARAMETER	RANGE	DEFAULT	NOTES
Mid/Side	On / Off	Off	Stereo only; encodes L/R to M/S before the detector, decodes after
Bypass	On / Off	Off	True bypass — dry passthrough, the engine does not run

SIDECHAIN

PARAMETER	RANGE	DEFAULT
External SC	On / Off	Off
Filter (Off/Listen/On)	Off / Listen / On	Off
Low Cut	On / Off	Off
Low Cut Freq	20–2000 Hz	100 Hz
High Cut	On / Off	Off
High Cut Freq	200–20000 Hz	8000 Hz
Bell	On / Off	Off
Bell Freq	20–20000 Hz	1000 Hz
Bell Gain	–24 to +24 dB	0 dB
Bell Q	0.1–10.0	1.0
Detector Source	Stereo / Mid / Side	Stereo

7. METERING & VISUALIZATION

SPLIT WAVEFORM VIEW

The upper half shows the incoming signal together with a gain-reduction reflection line that dips downward by the live GR amount, as though the compressor were pressing the waveform down from above; the line is colored green, amber or red as reduction deepens. The lower half shows the resulting, fully processed signal on its own, so the effect of the current settings reads clearly against the input.



Program-dependent gain reduction: the split waveform view and circular gain-reduction meter, shown here on the Vintage algorithm.

TRANSFER CURVE

A CURVE toggle swaps the waveform view for a static input/output transfer plot covering -60 to 0 dB, drawn with the same soft-knee math used by the DSP engine. Two handles sit directly on the curve: dragging the threshold handle (on the unity line) remaps Threshold, and

dragging the ratio handle (offset above threshold, where the post-knee slope is visible) remaps Ratio.

GAIN-REDUCTION METER

A circular dial sweeping 225° represents 0–40 dB of gain reduction, with asymmetric ballistics: it jumps instantly to a new, deeper reduction value but decays back gradually, and a peak-hold dot marks the deepest reduction reached over roughly the last two seconds before it, too, decays.

LEVEL METERS

Vertical input and output meters cover –60 dB to +6 dB and include a latching clip indicator: once any sample reaches 0 dBFS, the clip light stays lit and displays the peak level reached until manually cleared with a click.

The sidechain detector panel has its own dedicated visualizer, covered in Section 5.

8. FACTORY PRESETS

DELOS C ships with 50 factory presets across five categories, ten presets each. Each preset sets the algorithm choice together with Threshold, Ratio, Attack, Release, Knee, Makeup and Mix; all other parameters (Input, Lookahead, Auto Gain, Auto Release, Mid/Side, sidechain settings) remain at their defaults unless changed by hand afterward.

DRUMS

- Kick
- Snare
- Hi Tom
- Mid Tom
- Low Tom
- Floor Tom
- Hi-Hat
- Overheads
- Drum Room
- Drum Bus

GUITARS

- Clean Rhythm
- Acoustic
- Lead Sustain
- Funk Chop
- Rock Rhythm
- Slide Guitar
- Fingerstyle
- Arpeggios
- Power Chords
- Ambient Swell

BASS

- DI Bass
- Slap Bass
- Fingerstyle Bass
- Pick Bass
- Sub Bass
- Synth Bass
- Upright Bass
- Bass Bus

SYNTHS

- Pad Glue
- Pluck Punch
- Lead Sustain
- Bass Synth
- Arp Tighten
- Poly Chords
- FM Bell
- Sidechain Pump

- Deep Sustain
- Punchy Pop
- Analog Warmth
- Wide Stereo

MASTERING

- Gentle Glue
- Transparent Peak
- Loudness Max
- Vintage Bus
- Broadcast Ready
- Streaming Safe
- Classical Dynamic
- EDM Punch
- Hip Hop Glue
- Vinyl Warm

User presets are saved alongside the factory library and are listed uncategorized in the browse menu. Presets are stored as .lilithcomppreset files under Delos DSP/Delos C/Presets in the platform's application data folder.

9. A/B COMPARISON

DELOS C keeps two complete, independent snapshots of every parameter (A and B). Switching slots saves the outgoing slot's current state and loads the incoming slot's state, using the same mechanism a DAW uses to recall a saved session. A single copy button (labelled A>B or B>A depending on which slot is active) copies the active slot straight into the other slot with no separate paste step. Both slots, and which one is active, are saved as part of the plugin's session state.

10. TECHNICAL NOTES & KNOWN BEHAVIORS

The following behaviors are accurate to the current build and worth knowing before relying on certain controls in specific algorithms.

LIMIT DOES NOT READ THE SIDECCHAIN

The **Limit** algorithm's true-peak detector always scans the program signal itself. External SC, the Low Cut/High Cut/Bell filter and the On mode have no effect on Limit's gain reduction — only the other five algorithms respond to a routed or shaped sidechain signal. **Listen** still works normally on Limit, since it overrides the output directly rather than going through the detector.

LOOKAHEAD IS HOST-COMPENSATED

Enabling Lookahead reports the resulting delay to the host as plugin latency, so compatible DAWs apply automatic delay compensation to keep the track in sync with the rest of the session.

RATIO & KNEE IN LIMIT MODE

The Limit algorithm computes gain reduction directly from the ceiling-to-peak relationship and does not use the Ratio or Knee knobs at all.

MULTICHANNEL & SURROUND BUSES

The plugin negotiates host bus layouts from 1 to 8 channels (mono/stereo only on the Audio Unit format), but the compression engine itself always processes channels 1 and 2 of the active bus. Any additional channels in a wider bus configuration pass through the plugin unprocessed rather than being compressed or muted.

SIDECCHAIN FALLBACK

If External SC is on but the host hasn't connected or enabled the Sidechain bus, the detector automatically falls back to the plugin's own program signal rather than reading silence.

11. TROUBLESHOOTING

PLUGIN DOESN'T APPEAR IN MY DAW

Rescan your plugin folders from your DAW's preferences, and confirm the installer placed the Audio Unit / VST3 component in the standard system plugin directory for your platform.

MACOS BLOCKS THE INSTALLER

DELOS C is signed and notarized, so this shouldn't happen. If it does, confirm the download came from delosdsp.com, then check System Settings > Privacy & Security.

NO AUDIO IS PASSING THROUGH THE PLUGIN

Check that Bypass is off and that the trial or license is still active; DELOS C continues to load after a trial expires but stops processing audio until reactivated.

EXTERNAL SC IS ON BUT NOTHING CHANGES

Confirm your host has actually routed and enabled the Sidechain input bus for this instance — otherwise the detector falls back to the program signal (see Section 10). Also confirm you're not on the Limit algorithm, which never reads the sidechain.

12. VERSION & CREDITS

Product	DELOS C
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Web	delosdsp.com
Support	delosdsp.com/contact

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