P42 CLIMAX

User Guide

Version 6

Preface

The year was 1958. A young high school student by the name of Ed Wolfrum was faced with a personal dilemma that, as it turns out, would lead to a pivotal time in the history of recorded music. Although deeply passionate about recording bands, he simply couldn't afford microphones. This predicament led to the design of a device that allowed him to record instruments directly—without the need for expensive microphones and with the ability to capture a purity of sound previously unattainable. The world's first DI box was born. Known later as the Wolfbox, it featured the Triad A-11/12J transformer and played a critical role in defining the rich, full-range low end of the Motown sound.

P42 Climax started as a tribute to a defining era in audio history, but through years of relentless refinement, it has evolved into something entirely unique. Today, it stands as a meticulously crafted tone-shaping amplifier—designed for precision, depth, and subtlety across every stage of production. Whether shaping individual tracks, enhancing groups, driving the 2-bus, or adding the final touch in mastering, P42 Climax delivers unparalleled versatility for modern workflows.

P42 delivers dual mono operation for analog style stereo imaging, switchable shelving modes with proportional Q for musicality, and transformer cutoff adjustment to sculpt low-end weight; it balances analog authenticity with modern flexibility. The refined circuit modeling delivers richer harmonics and dynamic responsiveness, while optimizations ensure minimal CPU impact. Beyond its original design, the shelving bands now support bidirectional attenuation, and an integrated brickwall limiter guarantees controlled output—whether shaping single tracks or finalizing masters.

P42 Climax began as a DI box—but it has become something more: a living, responsive presence in your signal chain. Its purpose is simple—to move you. It offers a palette of shape, color, depth, and space that transcends technical specs. There are no rigid formulas here—only intuition, discovery, and an invitation to listen deeper. Let your ears lead. You might just hear something new.

Ziad Sidawi
Audio Equipment Designer & CEO
Pulsar Novation LTD

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Polarity

Bypass

OS – Oversampling
Enables OS options (OFF, INTEL, VINTG or HD)

TX – Transformer Selection

Preset Browser

A/B Compare

Dual Mono

Options Menu
About / License Status / User Guide / Options and Preferences

A-11/12J Transformer
The sound of Motown. This is the heart and soul of the first ever passive DI box that came to be known as the Wolfbox

HP FILTER – High Pass Filter
12 dB/oct. Enable or disable with the green light.

FILTER REV. – Filter Type Switch
A (rounder), B (punchier)

LO SHELF / Proportional Q Bell
The boost slider ranges in intensity from 0 to 10. Switch between shelf and bell by clicking on the label. Enable or disable with the green light

ROUTING
Switch from Stereo to Mid or Side processing. ISOL for soloing that channel

INPUT DRIVE – Input Gain
Drives the transformer into low frequency saturation

Class A amplifier
Adds warm, even-order harmonics to Class AB amplification

LP FILTER – Low Pass Filter
12 dB/oct. Enable or disable with the green light.

AIR – Air Band Shelf Filter
The boost slider ranges in intensity from 0 to 10. Enable or disable with the blue light.

HI SHELF / Proportional Q Bell
The boost slider ranges in intensity from 0 to 10. Switch between shelf and bell by clicking on the label. Enable or disable with the green light.

GCC – Gain Control Calculation
Continuously calculates input and output gain difference. Click the arrow to apply the current calculation to MAIN OUT

MIX – Mix Wet / Dry
Ratio of the processed (WET) signal to the input (DRY) signal prior to the MAIN OUT

MAIN OUT – Main Output Level
Clean output gain

Save
Saves the size and position of the current instance

Delta Solo
Plays only what the plugin is adding or changing. Great for checking if your effect is doing exactly what you want!

INPUT
Positions saturation at the beginning of the signal path (disengages OUTPUT selection)

SATURATION
Produces complex patterns of odd and even harmonics that increase depth and definition

OUTPUT
Positions saturation before MAIN OUT (disengages INPUT selection)

P42 CLIMAX

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Signature 12 dB/oct HPF. Use in tandem with the low shelf to influence the focus, weight and warmth of the low end of any signal.
The filter can optionally be turned off using the green light.

Signature 12 dB/oct LPF with starting frequency depending on sampling rate:
- 20 kHz at 44.1 kHz sample rate.
- 22 kHz at a 48 kHz sample rate.
- 40 kHz at 88.2 kHz and above.

Use in tandem with the high shelf to shave sharp, harsh transients and clear space for harmonic content without introducing dullness or loss of transient energy.

The FILTER REV. rocker switch allows you to choose between two filter types. A promotes warmer, rounder treatment of transient energy, while B promotes punchier, more forward treatment of transient energy.

Tip: The option to bypass the filter can be useful in mastering or mixing scenarios where additional high-pass filtering (HPF) stages are unnecessary. This helps avoid cascading multiple filters, thus preserving phase coherence and transient integrity in the signal, which could otherwise accumulate non-linear phase shifts—especially when using IIR-based designs.

RAW signal peak hold

Short-term LUFS.

Output signal peak hold

RAW RMS signal for left, right channel and peak.

Output RMS signal: Left, Right and Peak.

The P42 Climax combines both Class A and Class AB amplification stages, blending the efficiency and clarity of Class AB with the rich, even-order harmonics of Class A for a distinctive, vintage-inspired sound. When the Class A mode is engaged, it imparts a warm, musical character reminiscent of classic 1970s British consoles, adding a punchy midrange, silky high-end, and subtle low-end warmth to your audio. Maintain the pristine clarity of the Class AB foundation when Class A is disabled.
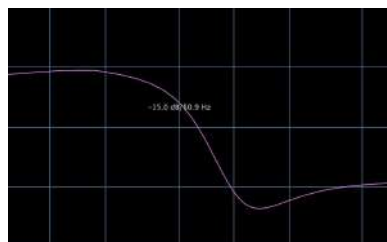
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Switchable LO SHELF and Proportional Q band filter. Click the label to switch between these options.

Switchable HI SHELF and Proportional Q band filter. Click the label to switch between these options.

The boosted portion of the signal is followed by a frequency dip that helps to frame the area of focus.

The proportional-band design adjusts its Q (bandwidth) dynamically relative to the selected frequency—narrower at higher frequencies, wider at lower ones. This mirrors the way human hearing perceives tonal balance, yielding more musical and intuitive adjustments, especially for broad tonal shaping or delicate resonance control.
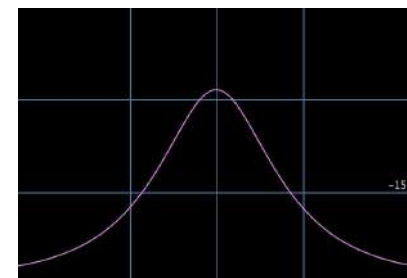
Low Shelf cut with a bump.
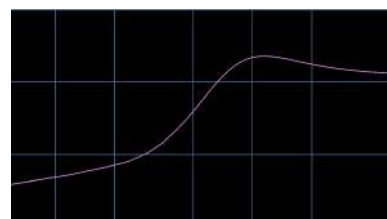
The AIR Band Shelf Filter is a carefully tuned high shelf designed to gently unmask high frequency detail and clarity. The boost slider ranges in intensity from 0 to 10.

While adjusting the level and frequency, focus on the imaging and positioning of the top end of the signal. When adjusted appropriately, it will have a significant effect on the height and depth of upper frequencies without introducing a hint of harshness, brittleness or sibilance. Enable or disable with the blue light.

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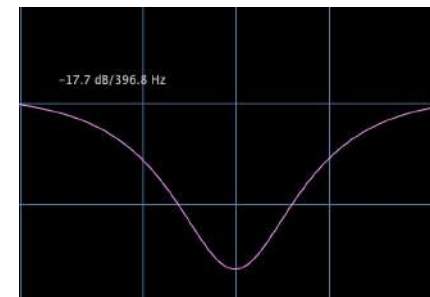
M/S is available when the plugin detects a stereo signal.

Switches processing between mono/stereo (DI), mid (MID) or side (SIDE).

Boost/attenuate the signal going into the Input transformer. SHIFT-dial to compensate against the Main Out knob.

Saturate the signal either after the input transformer or at the output stage. Saturating at the input stage is more aggressive, whereas at the output stage, it is smoother.

When MID is selected, the center is processed, and the SIDE is not processed.
ISOL: Solo the MID signal (mutes the side signal for dedicated MID channel monitoring). When active, the LED lights up and blinks.

When SIDE is selected, the stereo information is processed, and the MID is not processed.
ISOL: When not lit, SIDE is processed but not soloed. So you hear it in the context of the stereo signal.

When M/S is active in the ROUTING option, an "MS" LED is present next to the input and output knobs. The knobs become dual-function motorized knobs.

- **M/S Switch OFF:**
  - All processing affects the full stereo signal.
  - Input Drive/Main Out controls the entire stereo image
- **M/S Switch ON:**
  - Processing targets only your selected MID or SIDE channel.
  - Input Drive/Main Out adjusts the chosen channel independently.

Motorized Knob Behavior:
The dual-function control remembers and applies both settings (stereo and M/S modes) simultaneously when recalled.

Note: A single P42 instance can only process one routing channel (DI, MID, or SIDE) at a time. For independent processing of different channels, you'll need to use multiple instances [See the tips & tricks section for ideas on M/S processing techniques].

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The saturation knob influences the amount of saturation applied to the signal. It gradually builds into a complex matrix of harmonics that is generated not only based on the signal but also by a self-generated saturation chart.

Both odd and even harmonics are generated, dominated mainly by odd-order harmonics. The filters, the shelves and the drive control all play important roles in conducting this harmonic symphony. The result is a striking sense of weight, thickness, depth, clarity and presence that is normally reserved for vintage and modern classic hardware.

The Gain Control Calculation feature continuously measures the input level and compares it to the output level. The calculated compensation value is shown in the display box. The compensated level can be applied to MAIN OUT at any time by clicking the arrow below the value display.

Tip: As an alternative to or in conjunction with the Gain Control Calculation (GCC), gain can be evaluated and calibrated visually by relying on the metering and audibly by relying on what you are hearing.

The main output knob features clean gain. The wide range of attenuation to -24 dB helps to gain stage the signal when the drive is pushed to increase the audibility of the harmonics.

Delta Function (Effect Isolation):
This feature polarity-inverts your dry signal and sums it with the processed output, revealing only the sonic changes being applied by the plugin. Like a microscope for your processing, it lets you audibly isolate exactly what the effect is contributing - helpful for precise adjustments to dynamics, EQ, or saturation artifacts.

The MIX WET/DRY slider allows for blending a desired amount of dry signal in with the processed wet signal. The output of this stage feeds into the main output.

M/S Mix Control (appears when ISOL is active):
M/S Button OFF:
- Mix slider blends the FULL STEREO wet signal with FULL STEREO dry signal
- Traditional parallel processing (like most plugins)

M/S Button ON:
- Mix slider blends ONLY the selected channel (MID or SIDE)
- Wet MID vs. Dry MID (if MID routing selected)
- Wet SIDE vs. Dry SIDE (if SIDE routing selected)
- Lets you adjust processing intensity per channel independently

Visual Workflow:
1. Activate ISOL in ROUTING section → M/S button appears
2. Select MID or SIDE channel in ROUTING
3. Use M/S button to choose blending mode
4. Adjust Mix slider for desired balance

Tip: Use M/S mode for surgical adjustments - like adding width only to effects while keeping mids dry, or vice versa.

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LMTR **THR** 0.0 dB **RLS** 3.0 ms **GR** 0.0 dB

Brickwall Limiter

P42 Climax includes a brickwall limiter stage designed to provide precise peak control and protect against digital overs. Unlike soft limiters or compressors, a brickwall limiter enforces an absolute ceiling—no signal is allowed to exceed the set threshold, ensuring true peak containment.

Exposed Parameters:

- Threshold
  Sets the maximum output level. Any signal that exceeds this level will be clamped hard, with no overshoot.
- Release (3 ms – 99 ms)
  Controls how quickly the limiter stops reducing gain after the signal falls below the threshold. Shorter release times (e.g., 3–10 ms) can sound more aggressive or tight, while longer settings (up to 99 ms) can produce smoother gain recovery and less pumping.
- GR (Gain Reduction display)
  A real-time visual meter showing how much gain reduction is being applied. This helps in understanding how often and how aggressively the limiter is acting on your signal.

Limiter vs. Clipper (P42 vs. P44)

While both the brickwall limiter in P42 Climax and the clipper in P44 Magnum are used to manage peaks, they operate and sound quite differently:

- The clipper shapes transients by hard or soft saturation, adding harmonic coloration and potentially introducing distortion as a creative effect.

- The brickwall limiter, on the other hand, preserves the integrity of the waveform up to the threshold and only applies gain reduction when absolutely necessary—offering a cleaner, more transparent approach to peak control.

Used together, the P44's clipper can provide sonic character and tone, while the P42's limiter can act as a final safety net, ensuring clean, controlled output without digital clipping.

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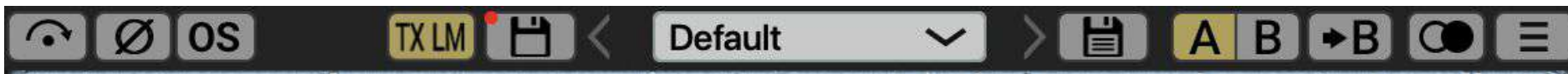
Bypass allows the unaffected audio signal to pass through without being processed.

Polarity inverts the audio signal.

Oversampling options allow P42 to optionally operate at a multiple of the host sample rate. With OS off, P42 operates at the host sample rate (x1).

When oversampling is on, different options are made available. See the descriptions of INTEL mode, VINTG mode and HD mode below.

VINTG (Vintage) mode runs at 2x the host rate, using smooth filters to roll off high frequencies while preserving aliasing—blending vintage warmth with modern distortion.

INTEL (Intelligent) mode runs at 2x the host sample rate, analyzing the full frequency spectrum to detect and attenuate aliasing artifacts.

HD mode runs at an ultra-high 384 kHz internal sample rate, employing INTEL's full-spectrum filtering for pristine quality with optimized CPU efficiency. Ideal for both critical mix busses and mastering applications.

- 44.1 and 48 kHz session, oversamples at x8.
- 88.2 and 96 kHz oversamples at x4.
- 192 kHz oversamples at x2.
- 384 kHz disables oversampling options.

The Beauty of Aliasing:
Why Oversampling Isn't Always the Answer

Aliasing in audio plugins isn't always a problem—sometimes it's a feature. While oversampling is a useful tool for minimizing unwanted digital artifacts, there are cases where aliasing can enhance a sound's character. For example, on a snare drum, aliasing might introduce harmonic complexity or a sense of 'grit' that adds body and excitement. On the other hand, for clean, sustained tones like a flute or oboe, oversampling is often preferable to maintain natural harmonic integrity.

This isn't just about practicality; it's a reminder that technical 'flaws' can serve artistic goals. Much like how tape hiss, vinyl crackle, or analog distortion are now embraced for their texture, aliasing can be a deliberate creative choice. The key is to listen critically and decide whether the artifact serves the music—not to blindly follow a rule like 'always eliminate aliasing.' After all, some of the most iconic digital sounds in music history (from early samplers to gritty bit-crushed effects) owe their charm to 'imperfections' that technically 'shouldn't' exist.

Of course, context matters: aliasing that sounds thrilling on a solo track might clutter a dense mix, so it's worth testing in the full arrangement. But when used intentionally, aliasing is just another color on the palette—a reminder that in art, perfection is subjective, and occasionally the 'wrong' tool is precisely what the music needs.

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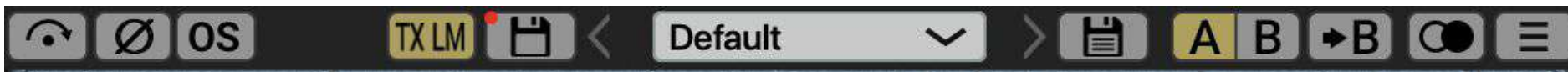
`TX LM`
`TX MID`
`TX HM`
`TX HI`
`TX LO`
The transformer selection option affects the infrasonic frequencies (below 20 Hz). Different cutoff frequencies up to 20 Hz are available. Setting it to LO (low) results in more bottom end, setting to HI (high) results in tighter bass. Use your ears to decide which works best for the material at hand. The default is LM (low mid).

Left click cycles forward, right click cycles backward.

`💾 < Default ⌄ > 💾` The preset browser allows for modification

of the currently selected preset using the save icon to the left of the browser (direct save) or for creation of new presets using the

save icon to the right of the browser (save as...). A red asterisk* will appear beside the left save icon indicating the loaded preset has been modified and can be overwritten.

> Tip: Modified factory presets will be preserved when updating the software if the install presets option is not selected. This is the default update version installer setting.

`A B ▶B` A/B allows for temporary storage of different settings for quick comparison. The arrow button

allows for copying the active side to the inactive side.

> Tip: When comparing settings, clicking the A/B button will perform the toggle. This is a single button, so it is not necessary to move the mouse to alternate back and forth. This makes it easy to compare without knowing which one is selected. We recommend doing this with your eyes closed for maximum focus.

`◖◗` `◖◗` The Dual Mono feature enables analog emulated channel tolerance variations in left and right channels.

Enable this option as an alternative to stereo operation to experience a naturally wide and dynamic image.

> Tip: Use instances of P42 with the Dual Mono option enabled on all group buses and the main mix bus. Kiss the days of summing mixers goodbye!

Options Menu

`≡`
About
License Status
User Guide   >
Set Default Size

About—Check the version number or demo expiration date.

License Status—Manage your license and unlock upgrade options.

User Guide—Open the user guide.

Set Default Size—This option can be selected to apply the size of the current P42 instance as the default size for all instances of P42.

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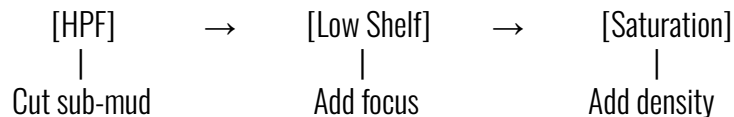
Tips, Tricks and Techniques

Low-End Focus & Weight: Quick Recipe [Kevin Eagles]

For solid, controlled bass with depth:

1. Set the HPF (High-Pass Filter):
   - Raise the frequency until you just hear it touching the low end, then back off slightly. (This removes sub-mud without thinning the bass.)
2. Engage the Low Shelf:
   - Set its frequency to ≈2x the HPF's value (e.g., HPF at 80Hz → Low Shelf at ~160Hz).
   - Boost gently until the low end feels focused and solid (not bloated).
3. Adjust Saturation:
   - Increase to add harmonic density and perceived depth.
   - Decrease if the upper bass/mids feel cluttered.
4. Fine-Tune the Body:
   - Want more weight? Raise the Low Shelf frequency (e.g., 160Hz → 200Hz).
   - Want tighter focus? Nudge the Low Shelf back toward 2x the HPF.
   - Rebalance boost/saturation to taste.

Why It Works:
- The HPF/Shelf combo carves space while reinforcing the "good" bass.
- Saturation replaces lost warmth with harmonics, avoiding a hollow sound.

```
    [HPF]        →      [Low Shelf]      →        [Saturation]
      |                      |                         |
  Cut sub-mud            Add focus                 Add density
```

Layered Tonal Coloring with P42
How to stack instances for rich, detailed sound shaping
Example & Goal: Drum Bus Enhancement & Weighty Lows + Clear, Textured Highs

1st Instance: Foundation

(Focus: Low-end weight & snare character)
- Low Shelf:
    - Set HPF first (e.g., ~38 Hz), then dial in Low Shelf at ≈2x HPF (e.g., ~80 Hz).
    - Boost until lows feel solid but not overpowering.
- High Shelf:
    - Set to 700 Hz, lightly boost to transform snare "pock" → "puck."
- LP Filter: Leave at 20k Hz (no trimming yet).

3rd Instance: Sparkle & Smoothing (Optional)

- HPF/LPF: Min/max (15 Hz/20 kHz) to avoid frequency conflicts.
- Air Band: Boost to add openness (adjust to taste).
- Fine-Tuning:
    - Try a High Shelf at 3–4 kHz to lift muffled highs.
    - Use LP Filter to gently roll off harshness.

Why It Works:
- 1st instance = Body
- 2nd instance = Definition
- 3rd instance = Air
    By separating these goals, you avoid phase clashes and maintain clarity.

This keeps your original workflow but structures it into a repeatable "recipe" with clear intent for each step. The optional 3rd instance is framed as a contingency, so users don't feel obligated to always use three. Let me know if you'd like more emphasis on certain aspects!

2nd Instance: Mid/High Accents

(Focus: Presence & air)
- Disable Low Shelf (already handled by 1st instance).
- HPF: Set to 15 Hz (no low-end overlap).
- High Shelf:
    - Sweep to find "color" frequencies (e.g., 1.4 kHz for crack/snap).
    - Boost subtly to accentuate.
- Air Band:
    - Toggle on/off to judge its effect. If lacking, proceed to the 3rd instance.

Final Polish
- Revisit each instance:
    - Adjust LP Filters per layer to avoid buildup.
    - Tweak saturation or shelves for cohesion.

Pro Tip:
- Think of each instance as a "lens" focusing on different tonal zones.
- Less boost per layer = cleaner stacking.

(Visual metaphor: Like layering transparent gels—each adds a hue without muddying the light.)

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P42 Group Processing Workflow
Fast, CPU-friendly tonal shaping for grouped tracks

This method allows you to adjust a plugin once and have the changes apply to every track in the group. It also works for bypassing plugins and controlling send levels, as long as the setup is done properly.

Core Technique:
1. Insert P42 on all tracks in a group (e.g., drums, guitars, vocals).
2. Link plugin parameters (DAW-dependent):
    ○ Cubase/Pro Tools/Reaper: Use native channel linking or scripts.
    ○ Manual method: Select multiple channels → hold Alt+Shift (Cubase) while tweaking to sync settings.
3. Tweak one instance—saturation, shelves, filters—changes apply to all linked tracks.

Why It Rocks:
- Instant tonal cohesion for instrument groups (e.g., glue drums with "Tape Studer A812" preset).
- Near-zero CPU hit vs. stacking multiple plugins.
- Non-destructive—unlink later to fine-tune individual tracks.

Pro Moves:
- Stem mastering hack: Process a group bus, then drag/drop P42 to individual tracks for further tweaks.
- Depth control: Push groups forward (boost saturation/shelves) or back (cut highs/LPF) globally.

"Like a multi-track tape machine: one sound, unified weight, effortless depth."

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Dual Mono Processing for Stereo Enhancement
*Leveraging P42's analog behavior for width and low-end control
How It Works:
- Dual Mono Mode (supported in Logic Pro, Pro Tools, etc.):
    - Processes left and right channels independently
    - Naturally creates subtle stereo variance due to P42's analog-modeled circuitry
    - Results in:
        - Wider stereo image (from slight channel differences)
        - Softer low-end focus (as L/R low frequencies diverge slightly)

When to Use It:
✅ For "vintage-style" stereo widening.
✅ When a less centered, more relaxed low end is desired (e.g., pads, ambient tracks).
⚠️ Not always preferable: Depends on the material! Tight bass (e.g., EDM, hip-hop) may benefit more from linked stereo processing.

Workflow Tip:
1. Insert P42 as dual mono on a stereo track/bus.
2. Compare against stereo-linked mode (bypass dual mono).
3. Let your ears decide:
    - Dual mono = Organic width, looser lows
    - Stereo-linked = Focused center, precise imaging

Technical Note:
This effect stems from P42's modeled analog behavior—small L/R variations in saturation and EQ response mimic hardware units.
(Visual metaphor: Like using two slightly different mic preamps for L/R channels.)

Why It Matters:
- Creative choice, not a "rule"
- Material-dependent: Try both! Drums may widen beautifully, while bass might need mono cohesion.

Oversampling: Strategic Use
Key Points to Remember:
- Commit Early—Set your oversampling mode before final mixing decisions. Switching later can alter your mix's depth and clarity.
- Higher Sample Rates = Less Aliasing—A 96 kHz project will sound different when oversampled vs. 48 kHz due to reduced high-frequency artifacts.
- Bass Benefits—OS (x2) in INTEL mode cleans up aliasing, giving low frequencies more space and dimension.

When to Use Which Mode?
- Mixing Individual Tracks:
    - Low/Mid-heavy tracks? Try no oversampling.
    - High-frequency content? Use x2 to suppress aliasing.
- On the 2-Bus:
    - INTEL (x2) if mixing into it from the start (best for depth).
    - VINTG if applying last-minute (preserves existing tone).

Final Advice:
- Test in Context—No universal "best" setting; always A/B in your mix.
- CPU-Friendly—P42 stays efficient even at x2 oversampling.

"Oversampling isn't just technical—it's spatial. Choose wisely, commit early."

PULSAR MODULAR

M/S Dual Mono Workflow
*(For surgical mid/side processing with P42 Climax)

What You Need:
- A DAW supporting dual mono (e.g., Logic Pro, Pro Tools)
- An M/S encoder/decoder plugin (e.g., Voxengo MSED, Brainworx bx_control)

Step-by-Step Setup
1. First Plugin: M/S Encoder
   - Encodes your stereo signal into Mid (L) + Side (R)
   - Mid = Center information (L+R)
   - Side = Stereo width (L-R)
2. Insert P42 Climax
   - Set your DAW to dual mono mode (L/R independent processing):
     - Left channel = Processes Mid signal only
     - Right channel = Processes Side signal only
   - Full P42 features available (EQ, saturation, Wet/Dry)
     - Exception: ROUTING options disabled (since signals are now mono)
3. Final Plugin: M/S Decoder
   - Decodes Mid/Side back to standard L/R stereo

Why Use This?
- Precision control—Shape mids (vocals, bass) and sides (reverb, width) independently
- Creative flexibility—Apply different saturation/EQ to center vs. stereo image
- Phase-coherent—Maintains stereo integrity when decoded back

Pro Tips:
- ✔ Mid (L) Chain: Boost clarity in vocals/kick, or add warmth
- ✔ Side (R) Chain: Enhance stereo effects or tame harsh highs
- ✔ Wet/Dry: Blend processed/unprocessed for subtlety

"Think of it as a stereo splitter—P42 processes each 'lane' separately before merging back.

Works great for:
- Mastering chains (tighten mids while widening sides)
- Drum buses (solidify kick/snare center + sparkle cymbals)
- Synth pads (warmth in center, airy width)

Experiment! This method unlocks P42's full tonal sculpting power.

CPU-Friendly Alternative
If your DAW doesn't support dual mono:
1. Duplicate your track, pan one hard left, the other hard right
2. Use an M/S encoder on each, then process separately with P42
3. Sum back to stereo

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Mid/Side Processing with P42
Two powerful workflows for stereo shaping

1. Series M/S Processing (Simplest Method)
How It Works:
- Insert two P42 instances in series on your stereo track/bus:
    - First instance: Set ROUTING = MID
    - Second instance: Set ROUTING = SIDE

Key Features:
- Work in full stereo context while tweaking
- Use ISOL to temporarily mono/solo the MID or SIDE signal for surgical adjustments
- M/S Wet-Dry Control: When ISOL is on, the blue MS button lets you blend processed/original for the isolated channel only

Best For:
- Quick M/S tweaks without extra plugins
- Focused adjustments while maintaining stereo perspective

2. Parallel M/S Processing (Maximum Control)
How It Works:
1. Duplicate your stereo track (or use DAW routing)
2. Load P42 on both:
    - Track 1: ROUTING = MID + ISOL ON
    - Track 2: ROUTING = SIDE + ISOL ON
3. Blend the two tracks to taste

Signal Flow:
- MID Instance: Outputs identical mid signal to L/R
- SIDE Instance: Outputs mid+side (L) and mid-side (R)

Best For:
- Independent level/processing control over mids and sides
- Creative stereo imaging effects

Why Both Methods Rock:
✔ No external M/S plugins needed—P42 handles it all.
✔ ISOL provides surgical control when needed.
✔ Maintain full stereo context while working

Pro Tip: Use Series for quick fixes and Parallel for detailed sound design.

PULSAR MODULAR

Advanced M/S Processing with Dual Knobs
Unlock surgical control over stereo signals

Key Features
✔ Dual-function knobs (INPUT DRIVE/MAIN OUT)
✔ M/S switches (only active when ROUTING = MID or SIDE)
✔ Motorized faders for seamless switching
Workflow Example
Goal: Push full stereo signal by +6dB, while adding +3dB extra saturation to MID.
1. Set ROUTING = MID
2. Isolate MID processing:
   ○ Enable blue MS switch (processes MID only)
   ○ Set INPUT DRIVE = +3dB
3. Process full stereo:
   ○ Disable MS switch (light turns gray)
   ○ Set INPUT DRIVE = +6dB
4. Toggle the MS switch to compare—watch the motorized knobs auto-adjust!
Why It Matters
- Layered saturation: Boost entire mix while selectively coloring mids/sides
- Visual feedback: Motorized knobs reflect per-mode settings instantly
- Non-destructive: All other controls (EQ, filters) affect only your selected ROUTING channel
Pro Tip: Use this to:
- Add warmth to vocals (MID) while keeping sides clean
- Crush sides for effect while preserving mid clarity
Remember
- Dual knobs only work in MID/SIDE modes.
- MAIN OUT knob follows the same behavior for level balancing.
- No need to use all features—pick what serves your mix.
"Like having two plugins in one—toggle between global and channel-specific processing on demand."

Saturation Placement: Tame or Unleash
Use P42's input/output switch to control distortion intensity

INPUT Stage Saturation (Maximum Impact)
What it does:
- Hits the transformer circuit with the full, unfiltered signal
- Creates bold, immediate harmonics
- EQ shapes the already-distorted sound
Best for:
- Aggressive tones (guitars, drums, lo-fi effects)
- "Amp-like" saturation where EQ works like a tone knob
- Pushing the signal hard for vintage crunch
OUTPUT Stage Saturation (Precision Control)
What it does:
- Filters clean signal first, then saturates
- Lets EQ directly target which frequencies distort
- Results in smoother, more selective clipping
Best for:
- Transparent saturation (vocals, mastering)
- Taming harshness while keeping warmth
- Focused distortion (e.g., only clipping mids)

"INPUT = a hammer, OUTPUT = a scalpel—both shape tone, but with very different force."
(Bonus: At high drive settings, this difference becomes extreme!)

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Managing Presets

Basics

If the option to install presets is not de-selected during installation, the installer will overwrite the factory presets. User-created presets will remain unaltered. To safeguard any modifications made to factory presets and preserve them during an update, make sure to deselect the install presets option when running the installer. Remember to save your presets with different names using the 'save as' option located to the right of the preset browser.

Backing Up Presets

Presets can be backed up and restored using your operating system's file manager. Simply perform a copy/paste of either individual preset files or the full presets folder to a backup location of your choosing. The presets folder can be found in the following locations:

For Windows
'C:\Users\Public\Documents\Pulsar Modular\P42 Climax\Presets'

For macOS
'/Users/Shared/Pulsar Modular/P42 Climax/Presets'

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Modifier keys

Temporary bypass the parameter
CTRL+ALT (Windows) or CMD+OPTION (macOS) +Mouseover:

- Low & High Shelf.
- The two proportional Q bands.
- Air band.
- Saturation knob.
- Mix slider back to 100% wet.

Cycle between the options
Mouse left-click for forward, right-click for backward.

- TX: LO, LM, MID, HM, HI.

Counter Two knobs for compensation
SHIFT

- Input Drive & Main Out knobs.

Enable parameters for automation (Pro Tools only)
Control + Command + Option (⌃ + ⌘ + ⌥) on macOS or CTRL + ALT + START on Windows.

Fine-tuning sliders, knobs, and other controls
Hold control (⌃) on macOS or CTRL on Windows, then click and drag. Alternatively, right-click and drag without a key modifier.

Return controls to their default state
Press option (⌥) on macOS or ALT on Windows and left click. Alternatively, double-click without a key modifier.

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Uninstalling P42 Climax

For Windows

- VST3: 'C:\Program Files\Common Files\VST3\Pulsar Modular', locate the 'P42 Climax.vst3' folder and delete it.
- AAX: 'C:\Program Files\Common Files\Avid\Audio\Plug-Ins\Pulsar Modular', locate the 'P42 Climax.aaxplugin' folder and delete it.
- Shared: 'C:\Users\Public\Documents\Pulsar Modular', locate the 'P42 Climax' folder and delete it. This folder contains the user guide and presets. If no other folders exist under 'Pulsar Modular', this can be deleted as well.

For macOS

- AU: '/Library/Audio/Plug-Ins/Components', locate the 'P42 Climax.component' file and delete it.
- VST3: '/Library/Audio/Plug-Ins/VST3/Pulsar Modular', locate the 'P42 Climax.vst3' folder and delete it.
- AAX: '/Library/Application Support/Avid/Audio/Plug-Ins/Pulsar Modular', locate the 'P42 Climax.aaxplugin' folder and delete it.
- Shared: '/Users/Shared/Pulsar Modular', locate the 'P42 Climax' folder and delete it. This folder contains the user guide and presets. If no other folders exist under 'Pulsar Modular', this can be deleted as well.

Restrictions

The USER may not reverse engineer, disassemble, re-sample, create Impulse Response profiles or re-record, decompile, modify, alter in whole or in part PULSAR NOVATION LTD audio plugins for the intent of renting, leasing, distributing, repackaging (whether for profit or not).

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Please kindly report any errors or omissions in this user guide to psupport@pulsarmodular.com

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