



P44

Magnum

User Guide

Version 1.1

Preface

It began with the intent to make the core P42 saturation circuit available to a wider audience at an accessible price point. The goal was never to simply recycle existing code, add a new graphical interface, and present it as something novel. While the initially named P42 Jr. originated from P42 Climax, it rapidly established its own unique identity, style, and workflow. Fate had its own plans! With a determination to forge its path rather than live in its predecessor's shadow, P42 Jr demanded a distinct identity and was subsequently bestowed with the name P44 Magnum. A star was born!

Magnum, with its penchant for unleashing raucousness and thunderous low-end (with two newly designed circuits named Oomph and Poomph), demanded a new approach to conduct its chaos from within— a clipper was in order. The challenge was that Pulsar Modular had never delved into the realm of traditional hard or soft clippers before, often finding their glassy results undesirable. Thus began a quest to design a clipper that flat-out refused to produce unpleasant or glassy sounds. Once the new clipper design was complete and seamlessly integrated, Magnum truly found its voice, revealing its true colors, showcasing its potential, and most importantly, showing how dangerous it can be when the cub becomes the alpha.

If you're acquainting yourself with P44 Magnum, my advice is not to approach the experience casually. Instead, push ahead with ferocity!

As Eddy Floyd said, **"It's like thunder, lightning; the way you love me is frightening; I better knock, knock on wood, baby."**

Ziad Sidawi

Audio Equipment Designer & CEO

Pulsar Novation LTD







OOMPH brings thumping power that is felt as a low-end energetic rumble. It ranges from the infrasonic 10 Hz into the sub bass region 45 Hz.

Years of conventional myths that have spread throughout modern communication channels have misguidedly encouraged everyone to cut all the lows of a mix. We say embrace it and give it some OOMPH!

OOMPH is tuned by ear to enrich the currently selected center point with an ideal Q, curve, and amplitude combination as you sweep the Oomph dial.

The smoothing slider allows you to contour the lower edge of the boosted frequencies until the bass frequencies sit properly in relation to the whole frequency spectrum.

Enable or disable the circuit with the green LED light.



POOMPH picks up where OOMPH leaves off. Poomph is to punch what Oomph is to thump. Poomph is both felt and heard, starting from the sub bass region at 45 Hz up to the lower end of the bass region at 82 Hz.

Enable or disable the circuit with the green LED light. The smoothing slider behaves exactly like that described in the OOMPH



SWEET is a custom designed high frequency exciter designed to be honey sweet and crisp without a hint of harshness.

Pause and listen carefully while sweeping through SWEET to take notice of your highs expanding in all directions. It is much more than a combination of

filters with unique curves.

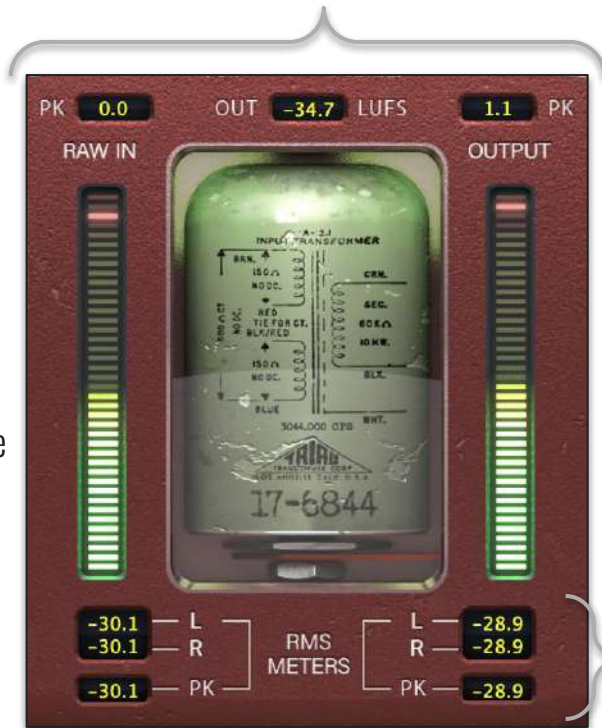
The FINE slider found to the right of SWEET allows for subtle adjustments to the amplitude of the bell filter portion of the circuit without affecting the unique combined shape of the curve.

Tip: The OOMPH and POOMPH curves interact in interesting ways depending on their intersecting crossover points. Sometimes complementary bumps occur at different points, and sometimes there is a cumulative response. Experiment and trust what you hear when you hear it!

The top PK (peak hold) measurements hold the highest measured RAW IN and OUTPUT peak values. The LUFS OUT measurement shows short term LUFS.

The bar meters show RMS / PEAK RMS measurements.

All measurements will be reset if the DAW is stopped/started.



The metering shows several pieces of information, including LUFS (Loudness Units relative to Full Scale) measurements, dBFS PK (decibels relative to full scale peak hold) measurements, and RMS / PEAK RMS (Root-Mean-Square) bar meters and measurements.

shows LR (left/right) RMS averages and the PK RMS (RMS peak hold) RAW IN and OUTPUT measurements.



The MAIN OUT knob is for pristine gain adjustment. Hold the shift key while adjusting MAIN OUT to have INPUT DRIVE automatically compensate.



Delta allows you to hear the difference between the wet and dry signal. This allows you to hear just what the plugin is adding to or removing from the unprocessed dry signal.



The MIX WET/DRY knob blends the unprocessed dry signal in with the processed wet signal. MIX always resides between SWEET and O2. A blended wet/dry signal must be fed into the O2 circuit as a single entity to retain the integrity and intention of the overall plugin design.



Audio moves through these 3 circuits we are calling here SMO: SWEET >> MIX >> O2

If it is set to PRE, SMO is before MAIN OUT.
In POST, SMO is after MAIN OUT.



O2 is a unique circuit algorithm that has the effect of expanding or swelling an audio signal beyond the confines of the original sound. The sensation is reminiscent of introducing a long, deep, airy breath into the audio.



The INPUT DRIVE knob pushes additional input gain into the transformer, which increases the harmonics. Use this in tandem with the saturation slider to dial in an ideal harmonic balance that enhances your material.

Pulling back the INPUT DRIVE lowers the harmonics but increases the depth of the image.

NOTE: Hold the shift key while adjusting INPUT DRIVE to have MAIN OUT automatically compensate.



If the saturation position option is set to INPUT, the saturation circuit is applied before entering the Oomph & Poomph circuit resulting in a more intense aggressive low end.

If set to OUTPUT, the saturation circuit is positioned after the Oomph & Poomph circuit resulting in a more rich smooth low end.

Tip: Magnum saturation tends to thicken and intensify signal throughout the mid to upper mid ranges. A simple and effective workflow is to first dial in the SATURATION while focusing on transient peaks and mid presence, then complement the setting by balancing the signal using OOMPH, POOMPH, SWEET and O2.



The P44 Magnum saturation has a gluing, compression-like effect that smooths out sharp digital peaks and increases the RMS (density/energy) of the source material.

Tip: 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.



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



Polarity Flip inverts the audio signal.



Oversampling applies only to the saturation routines and operates at double (x2) the host sample rate.



P44 exhibits a sonic signature that melds with audio passing through it just by virtue of being enabled on a track, much like a hardware device. The MOD button activates an alternative circuit design that imparts a tape-like sonic character.



A/B allows for temporary storage (**not saved within the preset**) for quick comparison between A & B (**no need to move mouse when flipping between the two**). The arrow button allows for copying the active side to the inactive side. You can also load a preset into the temporary storage.



Clicking the CLIP button enables the clipper and all associated controls.



Options Menu About – Check the version number or demo expiration date.

License Status – Manage your license.

User Guide – Open the user guide.

Set Default Size – This is a global setting. Sets the current GUI window size as the default for new instances.



Browse, load and save presets using the Preset Browser. Save over the current preset by clicking the left save icon or create a new preset with the right save icon. A red asterisk * will show up next to the left save icon to indicate the preset has been changed from its original parameters.

Modified factory presets will be overwritten when updating the software unless the install presets option is deselected. User created presets with different names than the provided preset names will not be replaced or deleted.



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.



The clipping process in P44 is of exceptional quality, preserving the integrity of the source material like timbre, imaging, and solidity.

Hard clipping occurs when the KNEE setting is at zero. Soft clipping, on the other hand, is achieved by increasing the KNEE, which creates a curve toward the threshold. For instance, if the KNEE value is set to 4 dB, soft clipping engages 4 dB before reaching the threshold. The clipper engages gradually, following the curve. Signals above the threshold continue to be clipped.

By adjusting the KNEE control, the clipping effect can be altered. This adjustment transitions the sound from tight, punchy, and strong to progressively smoother, with more of a thump and slightly more subdued, all while maintaining clipping at the designated threshold.

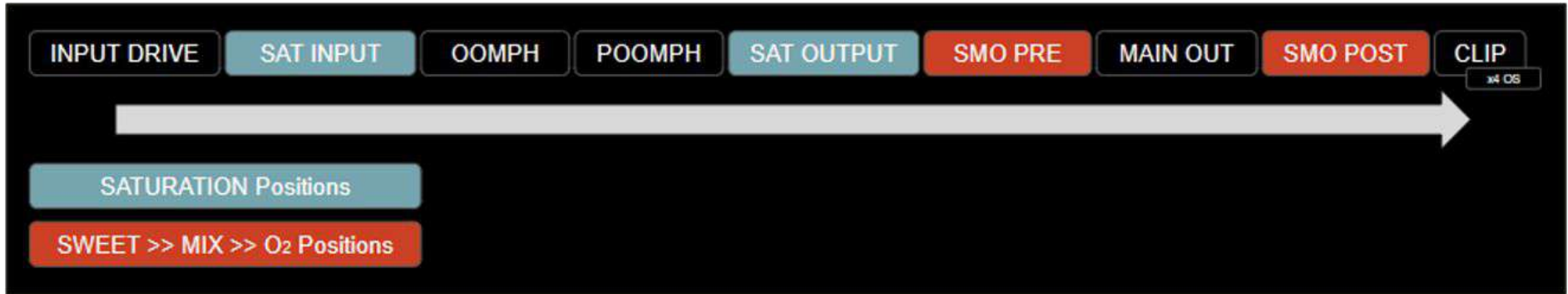
To the right of the CLIP button, a dBFS slider allows the clipping threshold to be set to a maximum of -18 dBFS. To the right of the dBFS slider, the GR display shows the amount of signal being clipped. Next, we have the KNEE slider (as described above). Finally, the OUT slider allows for post clip level adjustments ranging from -18 dB to 9 dB.

Or post clip level adjustments ranging from -18 dB to 9 dB. CLIP is at the very end of the P44 signal chain, appearing after the MIX knob. It is always being x4 oversampled regardless of the OS button state.

Tip: If you find that using CLIP takes just a little of your top end, use SWEET, O2, or a combination of both to restore it.

Tip: Since CLIP appears at the end of the signal chain post MIX, it can be used to clip a fully wet signal, a combined parallel wet/dry signal, or even a fully dry signal. When the MIX knob is set to 100% dry, P44 is essentially in 'clipper only' mode.

Signal Flow Diagram



Modifier keys

Temporarily bypass one or more parameters

(⌘ + ⌥)(macOS) or CTRL + ALT(Windows) + Mouseover

Enable parameters for automation (Pro Tools only)

Press control + command + option (⌘ + ⌘ + ⌥) on macOS or CTRL + ALT + START () on Windows.

Adjusting MIX knob IN or OUT slider to compensate equally with the opposite control.

SHIFT-Click+Drag: Counter Gain compensation

Fine adjustment of knobs, sliders and other controls

Press and hold control (⌘) on macOS or CTRL on Windows, then left click and drag. Alternatively right click and drag without a key modifier.

Enable parameters for automation (Pro Tools only)

Control + command + option (⌘ + ⌘ + ⌥) on macOS or CTRL + ALT + START () on Windows.

Fine adjustment of knobs, sliders and other controls

Hold control (⌘) on macOS or CTRL on Windows, then left 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.

General

Mouse and Key Modifiers

Fine adjustment of knobs, sliders and other controls

Press and hold control (⌘) on macOS or CTRL on Windows, then left 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.

Temporarily bypass one or more parameters

Press and hold command + option (⌘ + ⌥) on macOS or CTRL + ALT on Windows while moving the mouse cursor over the chosen parameters to bypass them. Release the modifier keys to re-engage the bypassed parameters. This applies to OOMPH, POOMPH, SWEET, O2, SATURATION and KNEE.

Enable parameters for automation (Pro Tools only)

Press control + command + option (⌘ + ⌥ + ⌘) on macOS or CTRL + ALT + START (⏻) on Windows.

Tips & Tricks

- **CLIPPER:** Try engaging CLIP and pushing a signal into it using very aggressive SATURATION, INPUT DRIVE, and any other parameter you wish. Compensate by bringing down the OUT slider. The result is a bombastically beautiful, brutalized signal that is suitable for all of your creative needs.
- **SWEET:** If you use any automatic frequency smoothing style plugins that notch out high frequency resonances, try following it with P44 Magnum with a combination of SATURATION and SWEET to inject and lift pleasing upper frequency content in place of what you removed.
- **INPUT DRIVE:** Simply pushing INPUT DRIVE all the way up and pulling the MAIN OUT all the way down brings a liveliness and openness to any audio without ever being over the top. It accentuates the

Managing Presets

Basics

If the option to install presets is not deselected 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. Also, remember to save your own 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 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\P44 Magnum\Presets'`

For macOS

`'/Users/Shared/Pulsar Modular/P44 Magnum/Presets'`

Uninstalling P44 Magnum

For Windows

- VST3: In 'C:\Program Files\Common Files\VST3', locate the 'P44 Magnum.vst3' file and delete it.
- AAX: In 'C:\Program Files\Common Files\Avid\Audio\Plug-Ins', locate the 'P44 Magnum.aaxplugin' folder and delete it.
- Shared: In 'C:\Users\Public\Documents\Pulsar Modular', locate the 'P44 Magnum' 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: In '/Library/Audio/Plug-Ins/Components', locate the 'P44 Magnum.component' file and delete it.
- VST3: In '/Library/Audio/Plug-Ins/VST3', locate the 'P44 Magnum.vst3' file and delete it.
- AAX: In '/Library/Application Support/Avid/Audio/Plug-Ins', locate the 'P44 Magnum.aaxplugin' folder and delete it.
- Shared: In '/Users/Shared/Pulsar Modular', locate the 'P44 Magnum' 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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Beta Testers: All the wonderful Leap of Faith users! Thank you!

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

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