



# P450 MDN EQ

## User Guide

Version 1.2

## Marc Daniel Nelson: Biography



Marc Daniel Nelson is a Grammy and French Academy Award nominated mixing engineer, music producer and creative director. He has been mixing, producing and managing creative content for over 23 years.

His music credits include Fleetwood Mac, Jason Mraz, Joni Mitchell, Colbie Caillat, Eric Burdon, Ben Harper, Need To Breathe, Robert Duvall, Ozomotli, John Fogerty, Reik and more. As Protégé for both legendary producer / engineer Bill Schnee and Ken Caillat, Marc has carried the torch for impeccable quality sound and production.

His film credits include Solo, Blade Runner, The Vietnam War, Mulan, The Expanse, Wild Horses, Point Break, No Manches Frida, Fractured, Amanda, Father Figures, Ya, Ty, Vin, Vona and more.

His creative management credits include executive producing the 13 episode PBS television series, creating and executive producing the national video campaign for Guitar Center. Creative directing for Alcon Sleeping Giant, ArtistMax, Produce Like A Pro, Inside Blackbird and Warner Chappell.

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IMDB: <https://www.imdb.com/name/nm8392038/>

A handwritten signature of Marc Daniel Nelson in a stylized, cursive font, rendered in a light brown or gold color.

MARC DANIEL NELSON

## Preface

There is an inherent magic in the analog realm, where manipulating dials always results in a musical interpretation of the audio passing through it. This stands in stark contrast to the limitations faced by digital EQ plugins – from missed nuances to glassy highs and boomy lows. The P450 MDN EQ challenges and ultimately solves fundamental issues with the digital auditory experience and offers the essence of a high-end, punchy analog op-amp driven stereo equalizer.

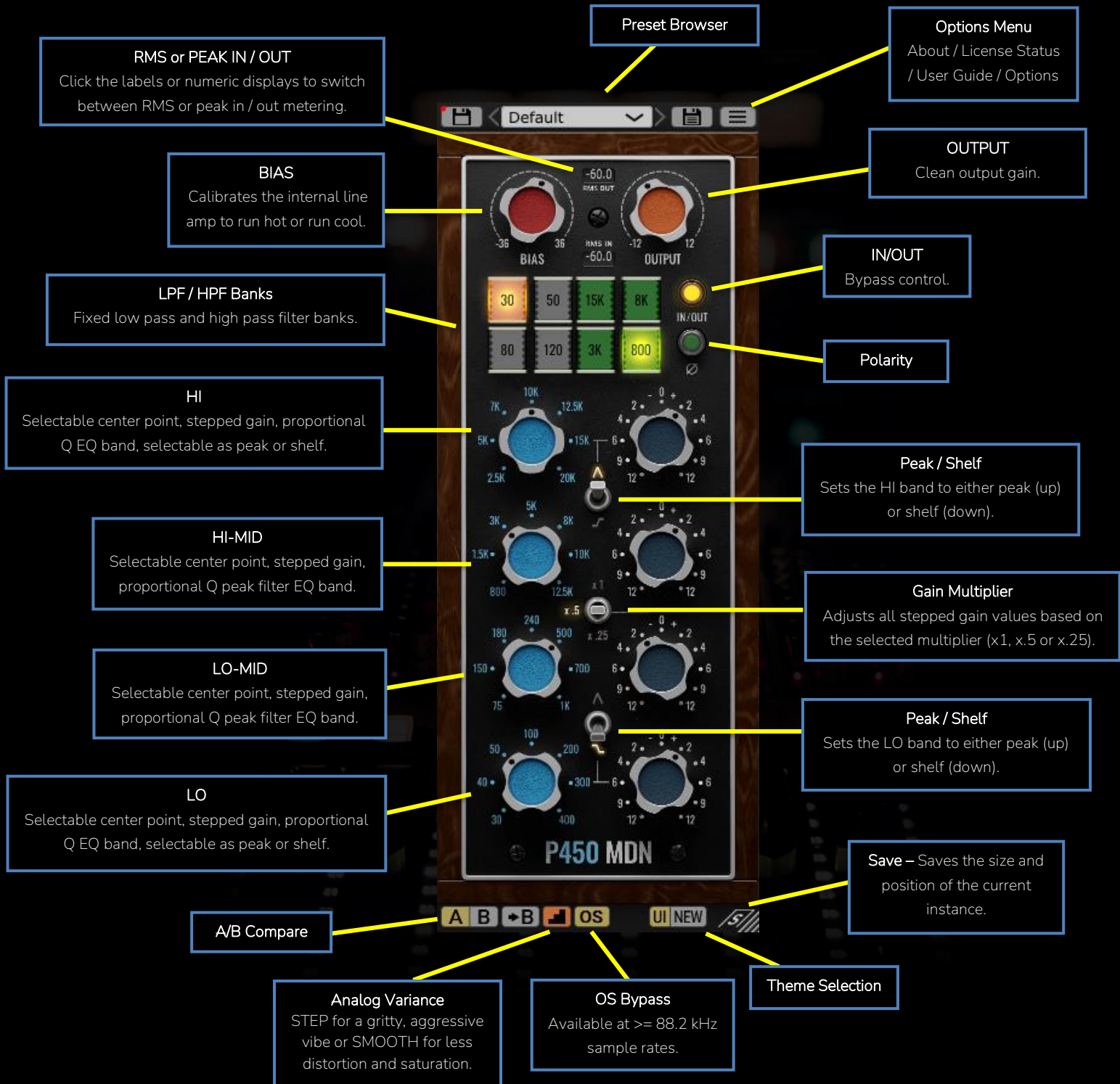
Sharing common lineage with the P455 MDN Sidecar EQ module, the P450 MDN EQ offers a more comprehensive yet more efficient, mixing-focused EQ with an industry-wide sought-after punchy low mid frequency sound quality.





The P450 LPF and HPF frequency points complement those found in P455. Each filter frequency point is individually tuned with its resonance value, ensuring a musical touch that goes beyond simple frequency adjustments.

P450 MDN EQ goes full analog and features the natural low-frequency bump and saturation typical of transformer-coupled circuitry. Adding to the analog realism, the multiplier affects not only the shape of the EQ curve and distortion at equivalent gain but also influences the behavior of the intoxicating low bump.


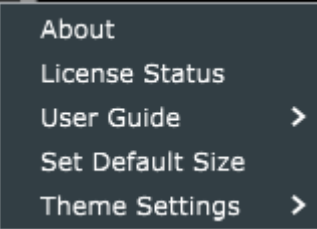
This is not your typical digital EQ. Feel free to push the gain to 6, 9, or even 12 dB, and let the P450 MDN EQ reward you with beautiful tones. Say goodbye to cute graphic dancing frequencies on your screen, overwhelming numbers of features and icons, blinking lights and dreaded auto-gain – and dive into the joy of P450 MDN EQ.

Ziad Sidawi  
Audio Equipment Designer & CEO  
Pulsar Novation LTD



  Default   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.

Note: 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.

		Options Menu
	About	
	License Status	
	User Guide >	About – Check the version number or demo expiration date.
	Set Default Size >	
	Theme Settings >	




License Status – Use this option to authorize or deauthorize your software. The internet is required for this action.

User Guide – Open the user guide in PDF format.

Set Default Size – Saves the size of the current P450 GUI as the default size used when inserting new P450 instances.



Theme Settings – Switches the faceplate and controls to a desired visual theme based on the following choices:

- New: The New theme is always used.
- Old: The Old theme is always used.
- Preset: The choice of New or Old will be stored and recalled with each preset. When this option is used, a theme selection button is shown beside the Options Menu button.

   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.

Note: When saving a preset, only the active parameters in the selected A/B slot are saved – the opposite slot is not saved.

  Analog Variance is a characteristic of all analog equipment. Random fluctuations can occur due to various factors such as electrical interference, thermal noise, component imperfections and environmental conditions.

This can introduce small variations or distortions into the signal, causing it to deviate slightly from its original form.

When the default STEP option is engaged, P450 channels the gritty, aggressive vibe of the analog gear that served as inspiration. When the SMOOTH option is enabled, distortion and saturation are lessened.

*Tip: If you prefer the SMOOTH option to be your default, simply open the Default preset, switch to the SMOOTH icon and save the preset.*

**OS OS** OS enables or disables EQ oversampling. This option is available at sample rates of 88.2 kHz or higher. EQ oversampling is always active at sample rates of 48 kHz and lower.

**UI NEW** Choose the look of brand-new factory fresh piece or a vintage barn find treasure. Either way, sound will not be altered.



BIAS sets the amplification operating point of the internal line amp circuitry, allowing it to 'run hot' or 'run cool'.

Pushing (clockwise) or pulling (counterclockwise) BIAS will drive or back off for a tighter, forward, more aggressive

tone (pushed) or a more relaxed, deeper tone with more clarity and space (pulled).



RMS (Root Mean Square) metering and peak metering are two different methods of measuring audio signal levels, providing insights into different aspects of the signal.

Peak metering is more concerned with identifying the highest instantaneous levels of a signal, while RMS metering provides a more averaged and sustained measurement, giving a better representation of the signal's perceived loudness over time.

Switch between these options by clicking on the RMS OUT / RMS IN or PEAK OUT / PEAK IN labels or the numeric displays.

*Note: The selected RMS or PEAK option is saved when you save a preset!*



The OUTPUT knob provides clean digital boost or cut at the final output stage.



The LPF (low pass filter) and HPF (high pass filter) banks are positioned after the four frequency bands.

The low pass filters are exceptionally smooth and the high pass filters are particularly punchy due to their very unique designs. These are not typical off the shelf generic filters.

Clicking on a frequency point button toggles it on or off. One frequency point per bank can be on.

*Tip: Pushing a band or shelf EQ into these filters produces beautiful, playdough-like shapes. As a simple example, try enabling the 30 Hz HPF along with a 30 Hz low shelf bump of 2 dB on a kick drum for simultaneous tightening and embeefening; or try a 3 kHz LPF with a 4 dB boost from the high shelf at 2.5 kHz on a drum group. This will contain the drums, focus it and make it super punchy with less high frequencies.*



IN/OUT is a bypass control, allowing the unaffected audio signal to pass through without being processed.



Polarity inverts the audio signal.



P450 offers four frequency bands logically arranged from top (high) to bottom (low): HI, HI-MID, LO-MID, LO.

Each band features selectable frequency points and stepped gain with proportional Q, whereby the Q factor is adjusted dynamically based on the amount of boost or cut. As the boost or cut is increased, Q narrows proportionally.

Every frequency point underwent meticulous tuning by ear at each gain step and multiplier setting, expressing craftsmanship in every detail.

To temporarily bypass EQ bands, press and hold CTRL+ALT (Windows) or CMD+OPTION (macOS) while the mouse is over a control. Additional bands can be bypassed by continuing to hold the key combination and hovering the mouse over them.



The topmost and bottommost bands can be set as either peaking or shelving filters by using the corresponding peak/shelf switch. The up position selects peak, while the down position selects shelf.



The Gain Multiplier switch changes the stepped gain dB amounts according to the selected position.

Calculations are made by multiplying the selected option (x1, x.5 or x.25) by the value corresponding to the tick on the gain knob.

*Tip: While you might get similar gain value if you used 2 dB gain with an x1 multiplier verses a 4 dB with a x.5 multiplier, please note that the frequency point and the shape of the Q is a bit different. As such, use your ears to audition which works best on the audio you are working with.*

*Note: When gain is adjusted or a gain knob is clicked, the popup numeric display shows the calculated gain, which is the selected gain value multiplied by the multiplier switch value.*



# 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\P450 MDN EQ\Presets'

### For macOS

'/Users/Shared/Pulsar Modular/P450 MDN EQ/Presets'

# 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 EQ bands

Press and hold command + option (⌘ + ⌘) on macOS or CTRL + ALT on Windows while moving the mouse cursor over the chosen EQ bands to bypass them. Release the modifier keys to re-engage the bypassed bands.

### Enable parameters for automation (Pro Tools only)

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

## Uninstalling P450 MDN EQ

### For Windows

- VST3: In 'C:\Program Files\Common Files\VST3', locate the 'P450 MDN EQ.vst3' file and delete it.
- AAX: In 'C:\Program Files\Common Files\Avid\Audio\Plug-Ins', locate the 'P450 MDN EQ.aaxplugin' folder and delete it.
- Shared: In 'C:\Users\Public\Documents\Pulsar Modular', locate the 'P450 MDN EQ' 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 'P450 MDN EQ.component' file and delete it.
- VST3: In '/Library/Audio/Plug-Ins/VST3', locate the 'P450 MDN EQ.vst3' file and delete it.
- AAX: In '/Library/Application Support/Avid/Audio/Plug-Ins', locate the 'P450 MDN EQ.aaxplugin' folder and delete it.
- Shared: In '/Users/Shared/Pulsar Modular', locate the 'P450 MDN EQ' 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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Plugin Development: Pulsar Modular Team  
GUI Development: Max Ponomaryov / azzimov GUI design – [www.behance.net/azzimov](http://www.behance.net/azzimov)  
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Please kindly report any errors or omissions in this user guide to [psupport@pulsarmodular.com](mailto:psupport@pulsarmodular.com).

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