

 **PULSAR
MODULAR**



P440 SWEET SPOT EQ

Sugar, Spice and Everything Nice

**User Guide
Version 2**

Preface

To those who are on the outside looking in, mastering can appear as an elusive dark art. It is the final polish that transitions something outstanding into something breathtaking; it is like... magic! For the wizard, it is the venerable wand, and for the mastering engineer, it is the equalizer.

In both hardware and software form, new audio equipment design often embraces and extends previous designs. This can result in an incremental improvement over the previous design, a clone copy, or at worst, a regression. At times, however, a new design comes along that breaks away from the norm and approaches everything from a different angle, unshackling itself from preconceived notions of what is supposed to be, rejecting how things are supposed to behave, and ignoring how sound is supposed to 'look' based on conformance to analysis-driven expectations.

The design, development, and fine tuning of the P440 Sweet Spot have been nothing short of an exploratory journey, guided by mastering engineer Robb Robinson, a Grammy-winning mastering engineer with 20 years of engineering experience across all genres. Together, we traded ideas and experiences while spending untold hours cross-referencing countless samples and trials against Robb's many hardware units.

A sweet spot can refer to a variety of things: the optimal listening position, the ideal microphone setup in a room, or the sonically exciting operating point of a preamplifier or compressor. In any case, it's about achieving the pinnacle within the given frame of possibilities. P440 Sweet Spot is not based on any previous hardware EQ designs or topologies, nor does it copy the curves of any existing EQ. Instead, it is a completely new and liberated design that transcends hardware's physical limitations, resulting in the creation of unique circuits such as TREMOR and TIBO. The P440 reveals the sweet spots I heard in my ears, imagined in my mind, and felt in my soul.

Ziad Sidawi
Audio Equipment Designer & CEO
Pulsar Novation LTD

Pulsar Modular set out to design and build the musical equivalent of the elusive magic wand so that you can experience musical behavior that, until now, has not been achievable in the purely digital or hardware realm. Feel the magic! Never lose a punch. Never alter the original timbre. Never treat boosting or attenuating anything as a trade-off. Never compromise again! Now, you can finally experience the respect, organic binding, and new sense of openness that was only previously attainable through mastering-grade analog equalizers.

Pulsar Modular

The Sound is Unbelievable



EQ BANDS

HPF and TREMOR

LPF, SOUL, and O2

LOW SHELF

HIGH SHELF

Expand & Collapse the Visualizer Window

The image shows a digital EQ interface for a P440 module. At the top, a status bar displays 'Default', 'IN 0.0', 'OUT 0.9', 'RMS', 'HW', 'MOD', and 'OUT 0.00'. The main interface is divided into several sections:

- HPF and TREMOR:** Located on the top left, featuring a large knob for 'Hz' with a 'RES' control, and a 'TREMOR' knob with a 'GAIN' control.
- EQ BANDS:** A central section with three columns for 'LOW', 'MID', and 'HIGH'. Each column contains a 'FINE Q' slider, a 'FREQ' knob, a 'FINE Hz' knob, and a 'FINE dB' knob with '- INV GAIN + INV' options.
- LPF, SOUL, and O2:** Located on the top right, featuring a large knob for 'Hz' with a 'RES' control, and 'O2' and 'SOUL' knobs.
- LOW SHELF:** Located on the bottom left, featuring a large knob for 'Hz' with a 'FINE TUNE' control, and a 'GAIN' knob.
- HIGH SHELF:** Located on the bottom right, featuring a large knob for 'Hz' with a 'FINE TUNE' control, and a 'GAIN' knob.
- Visualizer:** A frequency response graph at the bottom showing gain in dB (from -9dB to 3dB) versus frequency in Hz (logarithmic scale from 10Hz to 10kHz).

The resonance knob controls the Q factor—the resonance's sharpness. The dot marks the default position. The symbol + indicates a resonant peak, while the symbol - indicates a softened slope and phase that reaches a 6 dB/oct slope (1-pole).

The HPF (2-pole) slider allows for tuning the filter to the desired cut-off frequency. The Earth's frequency, which is 7.83 Hz, is the starting point.

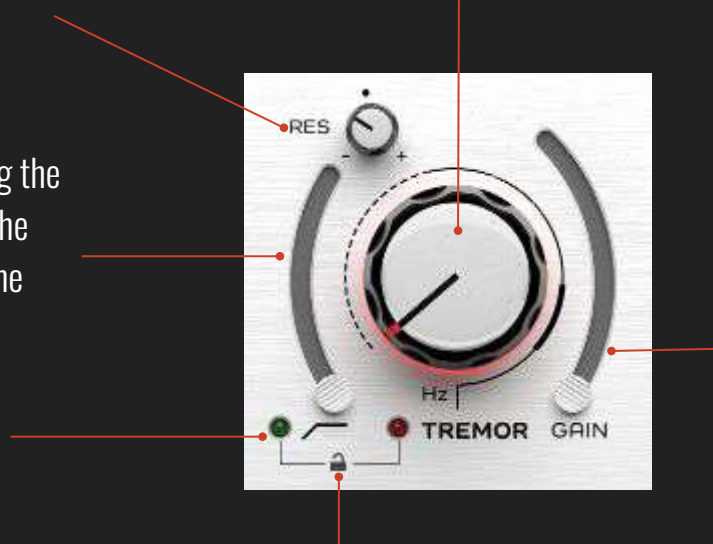
Press the LED light to turn on/off.

TREMOR knob: a special band EQ covering infrasonic frequency regions up to 20 Hz (dashed), sub-bass up to 60 Hz (solid), and bass up to 90 Hz (thick).

TREMOR is a unique low-frequency EQ band based on the idea of Earth's "heartbeat" fundamental frequency of 7.83 Hz and the derived series of 14.3, 20.8, 27.3, etc. This series is known as Schumann resonances.

The TREMOR GAIN slider influences the circuit's intensity.

To link/unlink the HPF and TREMOR, toggle the lock icon.



Tip: HPF improves woofer efficiency but may compromise the deep low end heard through full-range monitors, subs, and headphones. Overly aggressive high-passing of a mix causes the lows to punch forward as intended, but loses their natural connection to the ground. Tremor, in conjunction with the HPF, allows you to tighten up woofers while adding support underneath the mix.

BIAS allows for driving or backing off the internal circuitry to adjust between a slightly more aggressive, forward tone on the one hand and a more relaxed, expansive depth and clarity on the other.

INV inverts the low shelf boost into a low shelf cut. The filter maintains its meticulously tuned shape, resulting in a complimentary dip for a shelf boost and a complimentary bump for a shelf cut.

FREQ slider adjusts the frequency point of the current chosen step.

LED turns on/off the Low Shelf.

Each stepped low-shelf point is a collage of a custom frequency point, slope, gain, and curve. Each step respects the timbre of the source material.



TIBO tightens the low end, resulting in an uncompromised sense of solidity and focus in the center of low imaging without altering the stereo image. When used in this manner, TIBO complements modern low-end stereo mixing techniques.

The SAT trim pot provides targeted low-end saturation working to the main TIBO circuit, bringing out additional grit, girth, and presence.

Engaging the High Pass SIDE Filter by clicking on the S indicator shifts TIBO into mono-maker territory, filtering out the SIDE information for tighter low-end imaging. When used in this manner, TIBO becomes very friendly towards vinyl and club releases.

The GAIN slider adjusts the gain of the current chosen EQ step.

Shelf Shift: This feature shifts the shelf frequency point and bends the curve in ways that are unique to each frequency selection.

Tip: Each shelf step has unique gain, frequency, and curve characteristics. Whether boosting or cutting, be very aggressive with GAIN initially to help pinpoint the edge of the frequency you want to highlight. If needed, follow up with FINE-TUNE FREQ adjustments; drop FINE-TUNE GAIN all the way down, then raise it back to your ideal level.

Without any parameters engaged, SOUL serves as the signature sound of P440.

The SOUL knob spans from 100%, which represents the full device signature, to 0%, which approaches a pristine digital state while preserving the essence of the device character. In between these extremes, there is a whole universe of variation to explore.

The RES knob controls the LPF's Q factor at the cutoff frequency point (resonance). The default position is gentle, allowing for subtle breath and punch to develop on the low end.

Lowering the RES smooths the shape and softens the signal phase until it gradually reaches a 6 dB/oct slope (1-pole). Increased RES emphasizes the signal at the cutoff frequency (resonant peak).

The LPF slider allows for the filter cutoff frequency point to be tuned to the desired frequency.

The range's upper bounds are dependent on the host sample rate. At 44.1 kHz and 48 kHz sample rates, it is 21 kHz. At 88.2 kHz and higher sample rate, it is 33 kHz.

O₂ is a signature circuit that works to subtly and beautifully separate, sharpen, and enhance elements in the audio signal, unearthing hidden gems in your mix.

Enable or disable O₂.



Enable or disable Soul

A linked indicator signifies the tight relationship between the O₂ and SOUL circuits. Only when SOUL is active can O₂ engage.

The High Shelf Selector knob allows you to choose one of a series of shelving filters. In beautiful and unexpected ways, each step dips, steps, bends, leaps, and rolls.

Fine-tune the frequency point of the shelf filter relative to the custom designed filter. The triangle marker indicates the default neutral position.



The SCALE simultaneously adjusts the GAIN and Fine-Tune settings for the LOW, MID, and HIGH bands. The middle position defaults to 0% scaling. You can increase boosts and cuts by turning the SCALE clockwise, or attenuate by turning it counterclockwise.

INV inverts the high shelf boost into a high shelf cut. The filter maintains its meticulously tuned shape, resulting in a complimentary dip for a shelf boost and a complimentary bump for a shelf cut.

Each of the high/low arrows (found beside the on/off light) shifts the center point frequency and bends the curve in ways that are unique to each frequency selection.

Fine-tune the shelf filter gain ± 5 dB relative to the custom designed filter.

Enable/disable the EQ band. Activating the EQ band results in the signature sound of the circuitry becoming enabled, even at 0 dB gain.

The Q selector allows you to choose one of three proportional Q designs.

Fine-tune adjustment to the Q value.

The FREQ knob is stepped at predetermined intervals in Hz.

The GAIN knob is stepped at predetermined intervals in dB.

You can engage the inverse proportional design separately for each band's positive and negative gain.

The FINE dB slider provides continuously variable gain adjustments.

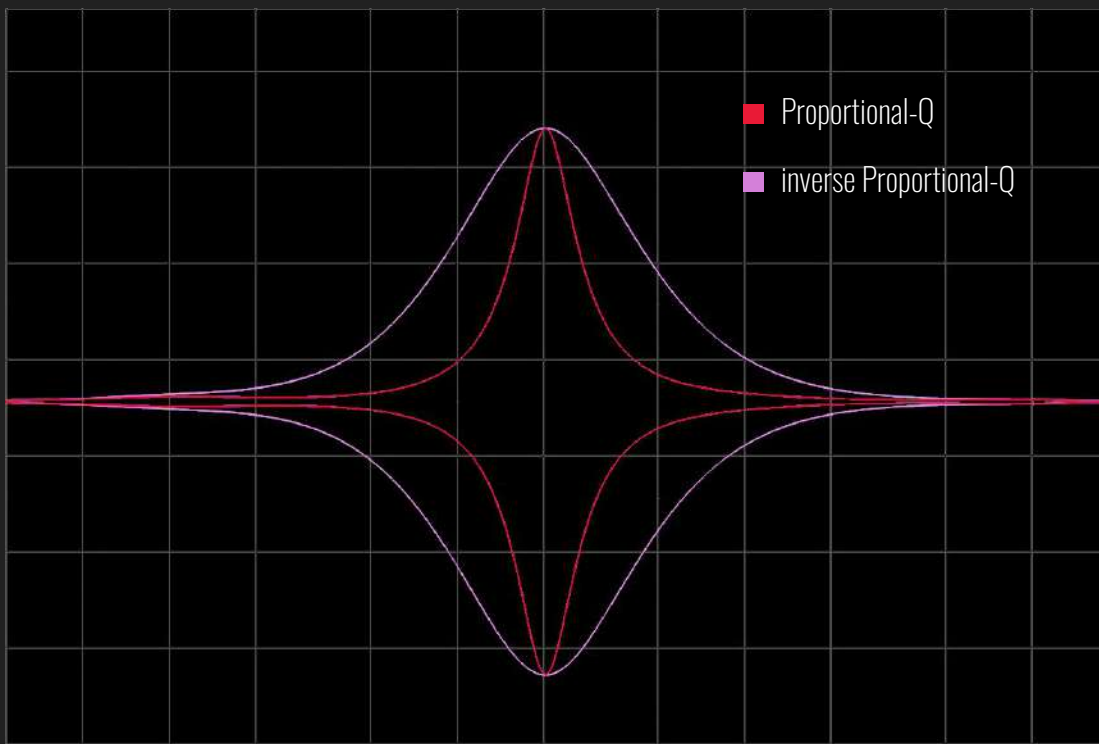


Resonance HUNT: While holding Mouse **Right-Click** on the FREQ knob or the FINE Hz slider, the Q gets tight and a medium boost is temporarily applied. This is a better approach than having a solo band mode, which can throw the ear off with too much abrupt contrast. Use **Shift-Right Click** for a temporary narrow notch band cut, instead.

Fine-tune range is based on the EQ band:

- * LOW: -10 Hz to +10 Hz.
- * MID: -200 Hz to +200 Hz.
- * HIGH: 1 kHz to +1 kHz.

Use the FINE Hz slider to nail the sweet spot based on the source audio when we determine it to be in between two of the stepped positions.



In gentle gain settings, a **Proportional-Q** circuit automatically widens the bandwidth, while in more extreme boost/cut settings, it narrows it.

The opposite is true with the **inverse Proportional-Q** circuit, which tightens the bandwidth in gentle gain settings and widens it in more extreme boost/cut settings.

The FINE dB boosts or attenuates without causing the Q to adapt. This feature allows you to make adjustments that maintain the width and slope if you so desire.

You can mouse-click on the "eq wave" and get information about frequency and amplitude.
Surf the "eq wave" by click-drag (left or right direction) anywhere in the visualizer.



The scroll wheel works as a quick way to expand/shrink the dB meter.
You can also left click, hold, and go up and down to expand/shrink the dB meter.
You can right click, hold, and go up and down to expand/shrink the dB meter at a slower pace.



Bypass the audio plugin's processing on the raw signal.



Polarity Flip inverts the audio signal.



Oversampling applies to MOD, SOUL, and O2 circuits and operates at an internal sample rate of ~384 kHz by default (see Options Menu for additional OS options).

SOUL and O2 can produce a lot of harmonics, resulting in aliasing that can accumulate in the midrange. Oversampling cleans up these reflections, leaving the midrange and upper midrange open and free of artifacts.

If you toggle OS off to compare non-oversampled with oversampled audio, you may perceive a level increase in the lows through the low mids. To avoid this, we recommend committing to an OS choice and setting SOUL and O2 early in your process.



Transformer selection alters the low end's characteristics. Set the transformer to low to enhance the bottom end, and set it to high to enhance the bass. The options are Low, Low Mid, Mid, High Mid, and High. The default is LM (Low Mid).



The Preset Browser allows you to browse, load, and save presets. Save over the current preset by clicking the Save icon, or create a new preset with the Save As icon. When you alter the preset from its original parameters, a red asterisk * will appear next to the Save icon.

Updating the software will overwrite factory presets unless you deselect the install presets option, but user-created presets with names different from the factory preset names will remain intact.



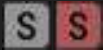
A/B allows for temporary storage (not saved within the preset) for quick comparison between A & B (no need to move the mouse when flipping between the two). The arrow button allows for copying from the active side to the inactive side. You can also load a preset into the temporary storage.



The VALUE field displays the value of the control currently under the mouse pointer. Units of measurement are dependent on the selected control (e.g., dB for GAIN, Hz for frequency selection, % for SOUL or O2, stepped position where appropriate).

One P440 instance does not process MID/SIDE or L/R channels at the same time. Instead, insert two instances to process each of the channels separately.

When working in MID or SIDE, the P440 outputs the combined channels (one being processed while the other is not), so that the stereo mix is in context.



Depending on the channel mode, the S (Solo) button functions as follows:

- In "STEREO" mode, the image will collapse to mono.
- In "LEFT" or "RIGHT" mode, the signal routes to both channels, allowing you to hear it on both speakers.
- In "MID" or "SIDE" mode, the signal routes to both channels, allowing you to hear it on both speakers.

The S button will blink, when engaged, to indicate that it is soloing the channel.



Dual Mono delivers analog emulation for left and right channel tolerance variations. Experience a naturally wide and dynamic image that delivers better results than using dual-mono plugin insertion (for DAWs that support it). TREMOR does not vary between the left and right channels, ensuring a solid foundation.

HW

HW1

HW2

HW3

HW4

HW5

Hardware crosstalk: DAW's summing is mathematically perfect, often producing a congested stereo image.

Analog summing is naturally imperfect, resulting in a better separation of elements within the stereo image, which the listener perceives as wide and cohesive.

P440 comes with five custom-designed hardware emulation circuits that impart these characteristics.

PEAK RMS

The RMS / PEAK switch toggles between RMS or PEAK metering.

IN -60.0 OUT -60.0

IN / OUT metering. Whether this displays RMS or PEAK values depends on the selection of the RMS / PEAK switch.

Tip: Experiment with Dual Mono when using HW for additional variation!



About: Check the version number or demo expiration date.

License Status: Manage your license and unlock upgrade options.

User Guide: Open the user guide.

OS Settings: Set oversampling options:

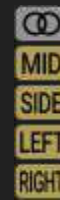
- OS Skips Soul: If this option is selected, SOUL is not processed by the oversampling routine, saving CPU cycles.
- OS Skips O2: If this option is selected, O₂ is not processed by the oversampling routine, saving CPU cycles.
- OS at X2: Sets oversampling to x2 the host sample rate instead of being calculated internally to ~384 kHz.

Set Default Size: Use the window size of the current P440 instance as the default size for new P440 instances.

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

- Bright : The Bright theme is always used.
- Dark: The Dark theme is always used.

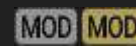
Preset: The choice of Bright or Dark will be stored and recalled with each preset. When this option is used, a theme selection icon is shown on the faceplate directly below the Options Menu.



The routing switch sets the channel processing option between MONO/STEREO, MID, SIDE, LEFT, or RIGHT.



Quantize/Smooth: Analog Variance is a characteristic of all analog equipment. Choose between grainy aggressive versus smooth silky.



MOD enables alternate modified circuits within P440. This circuit excites transients, intensifying energy without clouding the signal or increasing the volume but instead delivering weight, low/mid transient expansion, and punch.



The MAIN OUT slider features -12 dB to 12 dB of clean gain.

How-To

- **Stepped EQ knobs:** The whole experience using Sweet Spot is very natural and efficient. Start by listening and deciding how you want to shape your sound. Move through the stepped Q, frequency, and gain bands to translate what you are imagining to what you are hearing. Often, you may reach the optimal level without requiring any fine adjustments, yet this flexibility is always available when needed. [RR]
- **On TIBO:** Since TIBO relies on the source material, it is impossible to recommend a specific position. It entails adjusting the TIBO dial and observing the changes in solidity, directionality, and low end positioning. It's not a case of "as you keep increasing it, things get tighter." Any number of places you land (and often more than one place) sounds very flattering. However, activating the TIBO SIDE mode filter reverses this description. In this case, it does get tighter as you increase it, but the center image still benefits from the changes mentioned above. When the SIDE mode filter is engaged, the mono-making sounds quite natural. The low end gets centered, but it doesn't get smaller or weaker, and it does not lose any front-back or y-axis dimensionality.[KE]
- **TIBO:** tight bottom or larger than life... or both? The flexibility of TIBO goes beyond its original intent to tighten and solidify. You can use TIBO to deliver a larger-than-life representation of the original signal. To do this, you need to have the Dual Mono ON, as this will create randomization between the left and right channels, which generates the needed SIDE information. If Dual Mono is off, you can still apply TIBO SAT to your signal. Either of these approaches works wonders on bass guitar! Stereo analog hardware devices will always have variances between the left and right channels. This is why the low end is typically not as tight as a digital plugin, but it gives you a larger-than-life representation of the signal. With TIBO, you can achieve both by turning on Dual Mono, applying TIBO to tighten up the low end, and then using TIBO Saturation as a finishing touch. [ZS]

How-To

- **Stacking P440 instances (a TIBO example):** Stacking P440 instances can have a compelling cumulative effect. When doing so, one must be mindful of some of the bolder circuitry, such as SOUL or O2, and limit their usage when stacking, but stacking subtler circuitry, such as TIBO, which is the subject of this tip, can yield fantastic results.

In a mixed context, stacking the BIAS/TIBO settings can yield some very interesting results. On very staccato distorted guitars, I was having a bit of an issue because my brain likes symmetry and one of the two guitar players is cleaner on rhythm while the other side is a bit behind by comparison. I cranked the BIAS and noticed the presence of the played notes and a slight tightening of the guitar's bottom end. I then applied TIBO; still, I needed more, so another P440 came in, and once again, cranking both (BIAS/TIBO) further defined all the notes. [LA]

- **Efficient shelf selection workflow:** P440's shelving philosophy is unique in that the shelf positions don't just influence gain but also frequency and the overall curve shape. The workflow that I find works best is to be aggressive with GAIN and the big shelf knob while listening to the shapes of each position, knowing that once you find a sound that you think works for the material, you can FINE TUNE GAIN up or down while locking that shape in place. If necessary, fine-tune the frequency further. The lower shelf positions (0–4) might seem more subtle at first, but you can FINE TUNE GAIN them up to hear their boundaries more easily against the material. Even the default shelf at position 0 has a simple musical shape that, when raised, can match the default gains of the higher shelf positions. I find that shelf position 6 is the most linear, but it heavily depends on personal preference. With this workflow, I can quickly audition all 12 shelf positions to discover how well their shapes work or don't work. When I apply the maximum negative FINE TUNE GAIN to shelf position 12, it produces a smooth 5 kHz cut before increasing to 10 kHz, a feature that gets used on some mastering jobs. [RR]

How-To

- **Oversampling:** Oversampling may be beneficial when using P440 in a mastering context where precise control over dimension, clarity, and openness are critical. This ensures that no artifacts exist, and only pure, unclouded, uncompromised sound is present. If many P440 instances are being used during the mixing process, and if you are trying to preserve CPU usage, evaluate OS on/off by listening to each P440 insert on a track. Having OS on is not always 'better'. With OS off, for example, SOUL can impart a gentle thickening throughout the mids. With OS on, SOUL can sound clearer or prettier in a sense, with the additional weight shifting to the upper mids. O2, on the other hand, sounds more like Hi-Fi with OS on because it has a much more prominent harmonic effect that is better suited to the increased bandwidth. With oversampling turned off, the P440 Sweet Spot is wonderful-sounding and highly efficient. Consider whether it's necessary, and even if it's beneficial, listen to both options and trust your ears. Focus on both the element itself and how it affects all other elements.[RM / RR]
- **Shape your low end:** Setting HPF at around 15 Hz expands the stereo image. TREMOR adds a bump, and HPF with resonance can also add a bump, but each has a different color. Furthermore, the HPF Q goes from neutral to negative at 0.71 to 0.49, effectively turning it into a 6 dB/oct 1-pole filter. This means you can bump up with TREMOR, then push down with Q as needed. You already have a low-end virtual playdough tool. Attenuation also possesses a generally unknown magical power. Try setting Band 1 at the 9th position on a full mix, set GAIN -4 or -5 (Q in position 0), and then observe the changes in your low end.[ZS]
- **O2 works within SOUL:** O2 is a flavor-enhancing to the SOUL. I begin by setting the O2 to OFF in order to determine the optimal SOUL setting for the material. There is a ton of variation in the first 20% alone, so pay attention to every click. Once you find a SOUL setting that gives the source a constructive nonlinear shape (across all 3 axes: front to back, side to side, and top to bottom), you can drive O2 into it for a little harmonic fattening, but this time within the contour of the chosen SOUL flavor. The two work off each other, so a little goes a long way.[RR]

How-To

- **The right tool for the right job:** P440 is not super surgical, so I've been using it with a clean scalpel EQ that also does dynamic bands. I prefer keeping my musical corrections (P440) and technical corrections (dynamic EQ) separate because once I set the dynamic bands (like bumpers on a bowling alley preventing gutter balls), I can then start exploring shapes with P440 pushing into the bumpers.

The first word that comes to mind when flipping through the P440 filters is FIRM. Your ear quickly locks onto their boundaries, and you can dial in confidence with or without visual graph representation. To me, the best-sounding EQs (in analog) have the ability to add punch and firmness with a simple cut at the right spot—I call them pressure points. 20+ years turning EQ knobs, and this still blows my mind when it happens, and the P440 does this in a way no other digital EQ I can think of can.

So if the cuts are punchy, you can only imagine what the boosts sound like. They remind me of the SPL PQ boosts (the HW, not the SW), but instead of the bands being either proportional Q or constant Q, P440 allows you to do both concurrently if you want. I first use the coarse proportional Q gains to find the approximate shape that tickles my ear, then fine-tune with gain trim and constant Q if needed. This workflow is quick when combined with the fixed frequency points. [RR]

- **Separate attenuation from boost:** I prefer to use two instances of P440. I use the first instance for band attenuation and turn off all other features such as filters, shelves, O2, Tremor, SOUL, and so on. You'll notice that cutting with P440 usually adds a punch to that EQ band! I'm sure you've never enjoyed cutting into frequencies as much as you do with P440. You use the second P440 instance for boosts and other tasks. Get the SOUL to work for you, and then add O2 if needed. If you change the SOUL value, re-examine your O2 setting. HW modes sometimes work better when O2 is off. Experiment based on material. [ZS]

How-To

- **Low Frequency workflow:** Picture the low frequency curve and phase interactions (think Pultec boost+cut) from TREMOR (a sweeping 10Hz to 90Hz omnidirectional sounding boost) + a Low Shelf (with a generous +/- fine-tune slider resolution) + Band 1 (a more directional sounding boost+cut) + a resonant HPF that, when set to a high RES Q value, makes its own unique sounding pressure poke (though I usually like a lower HPF Q with TREMOR feeding into it). Obviously, these four LF interactions can't all be firing strong at the same time, but the fun comes when you discover which amplitude + phase interactions deliver the cleanest, punchiest, and biggest sounding low end for the source material. There is never one size fits all when it comes to shaping low-end, but I think P440 makes the discovery process enjoyably fast. The Sweet Spot is punchy and large, ranging from low-end to low-mid. API 550a-ish. The EQ exhibits forgiveness in the upper mids and highs, featuring curve boundaries that aren't conspicuously defined, unlike the majority of other digital EQs. P440 seamlessly incorporates boosts and vanishing cuts into the music. When the P440 is bypassed after dialing in curves and colors, the constructive difference is usually shocking. You can tailor its unique sound across a wide range of material without typical DSP compromises (image shifts, transient choke, edginess, etc.). I treat P440 like an analog EQ with tonal options, and it continues to impress me daily. [RR]
- **Color options:** The five unique HW color options directly correlate to analog behaviors such as crosstalk, channel deviation, even/odd harmonics, etc. Some affect the image, while others affect the transient density. They are all useful at times, IMO, and I enjoy flipping through them even when assuming they won't work for a particular mix. I'm often surprised at which combinations I arrive at. The MOD button is also a trip once you start hearing it across diverse material. The MOD and HW settings overlap slightly in the middle, resulting in an either/or situation on today's folk-rock record. If the mix's low mid has room for more knock-knock, HW-1 can work with MOD. Dual Mono was the star of the show today. Every time I pressed the dual mono button, the added dimension was constructive and pleasing, without any loss of power or bizarre image manipulations. Ziad's process to identify and implement the channel deviations was excellent. [RR]

How-To

- **A guide to discovering P440 workflow:** There is much to discover in P440. The following hands-on experiences and insights may help put you on a path to audio nirvana. The stepped frequency points and Qs inspire me to dive in and explore how the curves interact with the music. It's an exploration, because we don't yet know what will work or what won't. We have to discover this along the way, and P440 intuitively guides this process better than any other EQ I've used. Scan through the frequency points on the big knob, and if two positions sound good, you can fine-tune between them to dial in perfection. Usually, I leave my FINE Hz knobs at 0, but occasionally, when using sustaining instruments, I adjust them to find the optimal window. It's like having the best of both hardware and software EQ combined, IMO. Fine-tune knobs also exist for both gain and Q, which causes the curve flexibility to go through the roof. There are three proportional Q positions that allow you to quickly find a shape in conjunction with the stepped frequencies and gains. Once you find a Q+GAIN shape that you think is close, you can then alter the curve's width and amplitude using the Q and Gain fine-tune sliders. I love this because my ear prefers to hunt for tone quickly using proportional Q, but then once I find a shape that works, I can leave the proportional shape alone while dialing in the curve width and amplitude like a normal digital EQ. This workflow has completely changed my approach and improved my EQ-ing. [RR]
- **On TREMOR:** The range and interaction between Tremor and the low-band filter overlap. You can utilize Tremor either as a fundamental infrasonic support or as a supplementary EQ band with cumulative gain, which combines with the LOW bell band.[RR]
- **Summing mixer substitute:** Hardware is imperfect, and this, as in nature, is central to the intangible uniqueness and beauty we experience in so many classic high-end designs. One common use of a reputable piece of outboard gear as a passthrough device is to impart its subtle signature tone. HW includes 5 design variations, each representing alternative impressions of the intoxicating dimension, separation, depth, and clarity that is commonly experienced with quality hardware. [RR]

Modifier keys

Temporary bypass the parameter

CTRL+ALT (Windows) or CMD+OPTION (macOS) +Mouseover:

- Low & High Shelf.
- HPF & LPF and RES.
- BIAS, TIBO, SAT, TREMOR, SCALE.
- SOUL, O2, HW.
- Band GAIN.
- Fine-tune: Q, Hz, dB.

Cycle between the options

Mouse-Click for forward, Right-Click for backward.

- Stereo, L, R, MID, SIDE
- HW modes, TX modes.
- Q factor selection (Only Right-Click for backward).

Resonance HUNT

Mouse Right-Click (Peak) or Mouse Right-Click (Notch).

- **FREQ knob or the FINE Hz slider.**

The Resonance Hunt (Peak) tightens the Q and temporarily applies a 5 dB boost until you release the mouse right-click. The resonance hunt (Notch) applies a deep -8 dB narrow band cut.

Fine adjustment of knobs, sliders 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.

Enable parameters for automation (Pro Tools only)

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

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. 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\P440 Sweet Spot\Presets'

For macOS

'/Users/Shared/Pulsar Modular/P440 Sweet Spot/Presets'

Uninstalling P440 Sweet Spot

For Windows

- VST3: 'C:\Program Files\Common Files\VST3\Pulsar Modular', locate the 'P440 Sweet Spot.vst3' file and delete it.
- AAX: 'C:\Program Files\Common Files\Avid\Audio\Plug-Ins\Pulsar Modular', locate the 'P440 Sweet Spot.aaxplugin' folder and delete it.
- Shared: 'C:\Users\Public\Documents\Pulsar Modular', locate the 'P440 Sweet Spot' 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 'P440 Sweet Spot.component' file and delete it.
- VST3: '/Library/Audio/Plug-Ins/VST3/Pulsar Modular', locate the 'P440 Sweet Spot.vst3' file and delete it.
- AAX: '/Library/Application Support/Avid/Audio/Plug-Ins/Pulsar Modular', locate the 'P440 Sweet Spot.aaxplugin' folder and delete it.
- Shared: '/Users/Shared/Pulsar Modular', locate the 'P440 Sweet Spot' 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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