

P422

FAIRUZ



The Vintage Resonance EQ That Never Existed

User Guide

Version 1.0

Preface

Fairuz [Fay-rooz] is the Arabic word for turquoise, derived from the French term *pierre tourques*, meaning “Turkish stone”. This captivating gemstone, prized for its stunning blue-green coloration, was introduced to Europe by Turkish traders via the Silk Road in the 13th century. Its rich history, mystical associations and enduring beauty have made it a symbol of wisdom, balance, communication and artistic inspiration throughout the ages.

Ancient Persians believed that turquoise could prevent harm, hence they covered their daggers and bridles with it for protection. They referred to turquoise as *pirouzeh*, which translates to “victory”. The Native American Apaches wore turquoise as talismans and believed that attaching it to weapons and bows made for better aim. Aztec chiefs wore turquoise jewelry as a mark of authority.

Inspired by the historical significance and cultural impact of turquoise, P422 Fairuz aims to embody the stone's transcendent characteristics in the realm of audio processing. Just as turquoise is prized for its ability to enhance and protect, P422 Fairuz is poised to gain acclaim for its ability to enhance the natural resonance and richness of any instrument. Even at extreme boosts or cuts, the integrity of the sound is maintained.

P422 Fairuz is a versatile channel-focused proportional EQ. Each stepped frequency point is tuned by ear for an intrinsic sweet spot, yet the option to switch the band to continuous operation is provided for power users. Bands can be either a peak or a punch (push/pull) curve. Fairuz does not emulate any hardware design; it is an original design free from the limitations and sonic constraints of existing hardware equalizers. Each frequency and gain point is carefully constructed to produce the exact sound I want Fairuz to deliver.

Ziad Sidawi
Audio Equipment Designer & CEO
Pulsar Novation LTD

Preset Browser

Options Menu

About / License Status / User Guide / Options and Preferences

Low Pass Filter

12 dB/oct - Click the LED filter indicator to toggle.

MIX

Blends the processed (wet) signal and the unprocessed (dry) signal.

Band Filter Frequency

Selectable center point, proportional Q. Click the LED beside the label to toggle. Available for each band.

Band Filter Gain

12 dB boost or attenuation. Available for each band.

VOICE

Alters the overall tonal profile to suit instrument specific musical context.

Step / Continuous Frequency

Click to switch between stepped (indicator lit) or continuous frequency and gain options. Available for each band.

OUT

Clean output gain.

RMS or PEAK IN / OUT

Click the labels or displays to switch between RMS or peak in / out metering.

Punch X1 / Punch X2 / Peak Filter Shape

Click to switch between one of two push/pull punch technique filters or the default peak filter. Available for each band.

High Pass Filter

12 dB/oct - Click the LED filter indicator to toggle.

TREMOR

Combination amplitude/frequency control. Range based, spanning 0.00 to 1.00. Infrasonic bliss.

SHELF Filter Frequency

Smooth shelf filter with bell complimented curve. Click the LED shelf indicator to toggle. Available for each shelf.

SHELF Filter Gain

Range based gain, spanning -0.50 attenuation to 1.00 boost. Available for each shelf.

Polarity

Bypass

Save

Saves the size and position of the current instance.

OS

Optionally oversample the Hammer circuit, available at ≤ 88.2 kHz sample rates.

Hammer

An additional VOICE coupled transformer. Further enhances tonal variation and richness.

Force Mono

Force mono processing in stereo DAWs.

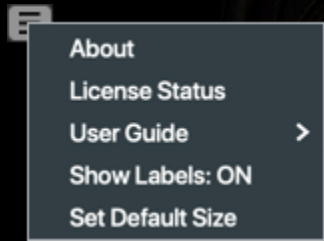
A/B Compare





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 – Check the version number or demo expiration date.


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


User Guide – Open the PDF user guide.


Show Labels: – Shows (ON) or hides (OFF) the display boxes that appear when hovering the mouse cursor over controls. When OFF, values can still be displayed by

holding SHIFT while hovering the mouse cursor over a control.

Set Default Size – Saves the size of the current P422 GUI as the default size used when inserting new P422 instances.


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

 Polarity inverts the audio signal.


 The hammer is an additional transformer coupled to the VOICE circuit. It tightens the low end while intensifying the signal with additional harmonic series.

When the hammer is enabled, adjustments made to the VOICE circuit result in a more significantly altered frequency response in accordance with the characteristics outlined above.

Tip: Fairuz can be used as a saturation unit. Turn all EQ bands off, turn all band GAIN up to full, turn VOICE to 100 and turn hammer on. Use the MIX trim pot to blend the sound with the dry signal.

 The force mono option is useful to ensure single channel processing in DAWs that represent mono sources as two identical stereo channels.

If the icon is grey, the force mono option is on.

 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.



The MIX trim pot blends unprocessed dry signal in with the processed wet signal.

Temporarily bypass by pressing CTRL+ALT (Windows) or CMD+OPTION (macOS) on the keyboard while the mouse is positioned over this control.



The Low Pass Filter features a 12 dB/oct 2-pole filter.

Enable or disable by clicking the LED indicator above the frequency selection slider.



Each proportional Q EQ Band overlaps and interacts with the adjacent band, with the LOW band also interacting with TREMOR.



Enable or disable the EQ band with the green or blue LED above the frequency selection knob. Activating the EQ band will introduce the signature sound of Fairuz, even if GAIN remains at 0 dB.

Temporarily bypass by pressing CTRL+ALT (Windows) or CMD+OPTION (macOS) on the keyboard while the mouse is positioned over this control. Unlike disabling the band, this is a complete bypass, including the op-amp saturation.



Note: When individually bypassed, the band's features are still processed, but with a gain of 0 dB. This means that if you boost a certain frequency by 12 dB and then bypass that band, the op-amp saturation at 12 dB will still be applied to that frequency, but the output will remain at 0 dB gain.



Each EQ band is accompanied by a +/- 12 dB gain slider to the right of the frequency selection knob.

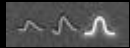


The High Pass Filter features a 12 dB/oct 2-pole filter, accentuated by a moderate resonant peak at the cutoff point.

Temporarily bypass by pressing CTRL+ALT (Windows) or CMD+OPTION (macOS) on the keyboard while the mouse is positioned over this control.

Enable or disable by clicking the LED indicator above the frequency selection slider.

Tip: To further enhance the resonant peak, try increasing TREMOR. This combination is great for a simultaneously big and powerful, yet tight and controlled low end.

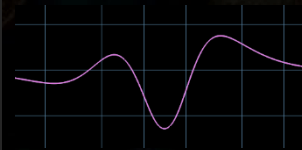


The Punch X1 / Punch X2 / Peak selector provides per-band choice of filter shapes. Available choices are:

- **Punch X1:** The Punch X1 filter features a push/pull design, using a peak filter at the center frequency (push) while automatically making an opposite adjustment at a musically flattering complementary frequency (pull).
- **Punch X2:** An extended version of Punch X1, using double the amplitude.
- **Peak:** The Peak filter uses proportional Q for smooth, natural and musical boosts and cuts. As the boost or cut increases, the slope becomes steeper and narrower.

The lit LED symbol indicates the selected option.

Note: Push/pull is a renowned filtering technique known for creating clean, controlled, focused punch. It typically uses two separate filters, each with individual frequency and gain options. While flexible, this can lead to confusion, second-guessing and time lost adjusting settings. Fairuz is designed to be both efficient and beautiful, so the ideal counterpart to the center frequency is applied automatically.



Tip: To reduce unwanted frequencies without losing desirable ones, use Peak filter attenuation surrounded by Punch X1/X2 filter boosts. You have two options: place Punch X1/X2 bands on either side of a Peak filter in one instance of Fairuz or use a second instance for the Punch bands for more flexibility. This technique targets and reduces unwanted resonance or whistling while enhancing the surrounding frequencies.



Choose between stepped or continuous frequency and gain for each band.

Each point of the stepped frequencies, along with each gain point, is specially tuned to a sweet spot by the ear of the Fairuz designer. More flexible control can be achieved by switching to continuous mode, if needed.

If the LED indicator is lit, the stepped option is selected, otherwise, continuous is selected.

Note: Internally, Fairuz is based on a continuous design with steps that have been chosen for their particular musicality and ability to enhance the already present and already beautiful natural acoustic resonance of an instrument. Stepped choices have a degree of precision that is not available in continuous mode. For example, a stepped point may be a fractional value, whereas continuous mode uses whole frequency points.



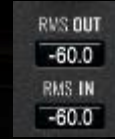
The VOICE circuit influences the overall tonal qualities of the audio signal by applying frequency specific headroom constraints, pushing audio against or pulling audio back from an internal ceiling.

As VOICE is turned clockwise, the overall tone becomes more aggressive with a mid focused presence and density along with a tighter sense of space. As VOICE is turned counterclockwise, the overall tone becomes more relaxed and deeper with an increased sense of space.

Temporarily bypass by pressing CTRL+ALT (Windows) or CMD+OPTION (macOS) on the keyboard while the mouse is positioned over this control.



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



Switch between RMS or PEAK IN / OUT metering by clicking on either of the labels.

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.

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



TREMOR occupies the rumbling infrasonic region that is often described as being felt more than it is heard.

The TREMOR slider controls both the frequency and amplitude of the circuit, increasing in both gain and frequency position as the slider is moved to the right.

Temporarily bypass by pressing CTRL+ALT (Windows) or CMD+OPTION (macOS) on the keyboard while the mouse is positioned over this control.

Enable or disable by clicking the LED indicator above the gain slider.

Tip: Try TREMOR in combination with the High Pass Filter for control over both the power and tightness of the low end.



The LO SHELF and HI SHELF filters have ultra-smooth curves, with the LO SHELF followed by a

complementary dip and the HI SHELF preceded by one. The dip helps to naturally smooth the transition into the curve and frames the boost or cut. This means that even subtle adjustments can have a natural-sounding yet profound influence on the audio.

On the other hand, these filters are designed to be pushed hard while maintaining that same sense of natural integration with and respect for the source signal, so forget what you have been taught and feel free to experiment with abandon.

Temporarily bypass by pressing CTRL+ALT (Windows) or CMD+OPTION (macOS) on the keyboard while the mouse is positioned over this control.

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\P422 Fairuz\Presets'`

For macOS

`'/Users/Shared/Pulsar Modular/P422 Fairuz/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 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 all EQ bands, shelves, HP and LP filters, VOICE and TREMOR.

Enable parameters for automation (Pro Tools only)

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

Uninstalling P422 Fairuz

For Windows

- VST3: In 'C:\Program Files\Common Files\VST3', locate the 'P422 Fairuz.vst3' file and delete it.
- AAX: In 'C:\Program Files\Common Files\Avid\Audio\Plug-Ins', locate the 'P422 Fairuz.aaxplugin' folder and delete it.
- Shared: In 'C:\Users\Public\Documents\Pulsar Modular', locate the 'P422 Fairuz' 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 'P422 Fairuz.component' file and delete it.
- VST3: In '/Library/Audio/Plug-Ins/VST3', locate the 'P422 Fairuz.vst3' file and delete it.
- AAX: In '/Library/Application Support/Avid/Audio/Plug-Ins', locate the 'P422 Fairuz.aaxplugin' folder and delete it.
- Shared: In '/Users/Shared/Pulsar Modular', locate the 'P422 Fairuz' 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). Copying a painting does not make one a painter.

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Plugin Development: Pulsar Modular Team
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Please kindly report any errors or omissions in this user guide to psupport@pulsarmodular.com.

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