P422

FAIRUZ

User Guide

Version 1.0

The Vintage Resonance EQ That Never Existed

Preface

Fairuz [Fay-rooz] is the Arabic word for turquoise, derived from the French term pierre tourques, meaning “Turkish stone." The Turkish traders brought this captivating gemstone, valued for its stunning blue-green coloration, to Europe 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.

The ancient Persians believed that turquoise could prevent harm; hence, they covered their daggers and bridles with it for protection. They called the turquoise stone "Pirouzeh," which translates to "victory." The Native American Apaches wore turquoise as a talisman, believing that attaching it to weapons and bows would improve their aim. Aztec chiefs wore turquoise jewelry as a mark of authority.

P422 Fairuz, inspired by turquoise's historical significance and cultural impact, 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 any instrument's natural resonance and richness. Even with extreme boosts or cuts, the sound maintains its integrity.

The P422 Fairuz is a versatile channel-focused proportional EQ. Power users have the option to switch the bands to continuous operation to deliver their own sweet spot settings. 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. I carefully construct each frequency and gain point step to achieve the exact sound I want Fairuz to deliver.

Ziad Sidawi
Audio Equipment Designer & CEO
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12 dB/Oct LPF

LPF frequency selector

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

Clean digital gain

RMS or PEAK IN/OUT

12 dB/Oct HPF

Assign the HPF before/after the Hammer circuit

HPF frequency selector

Tremor: Infrasonic bliss.

Low Shelf On/Off

Low Shelf boost/cut

Low Shelf frequency point

Mix: Blends Wet & Dry signals. Turn clockwise to add the dry signal.

Expand/Collapse the band/freq. spectrum visualizer

Q: Shape of the proportional Q. Punch, Punch x2 and Peak Filter Shapes.

4 Band ±12 dB Equalization

Step: Switch between step and continuous control for the GAIN and FREQUENCY.

Freq. Band: Dial the EQ band center frequency

High Shelf On/Off

High Shelf boost/cut

High Shelf frequency point

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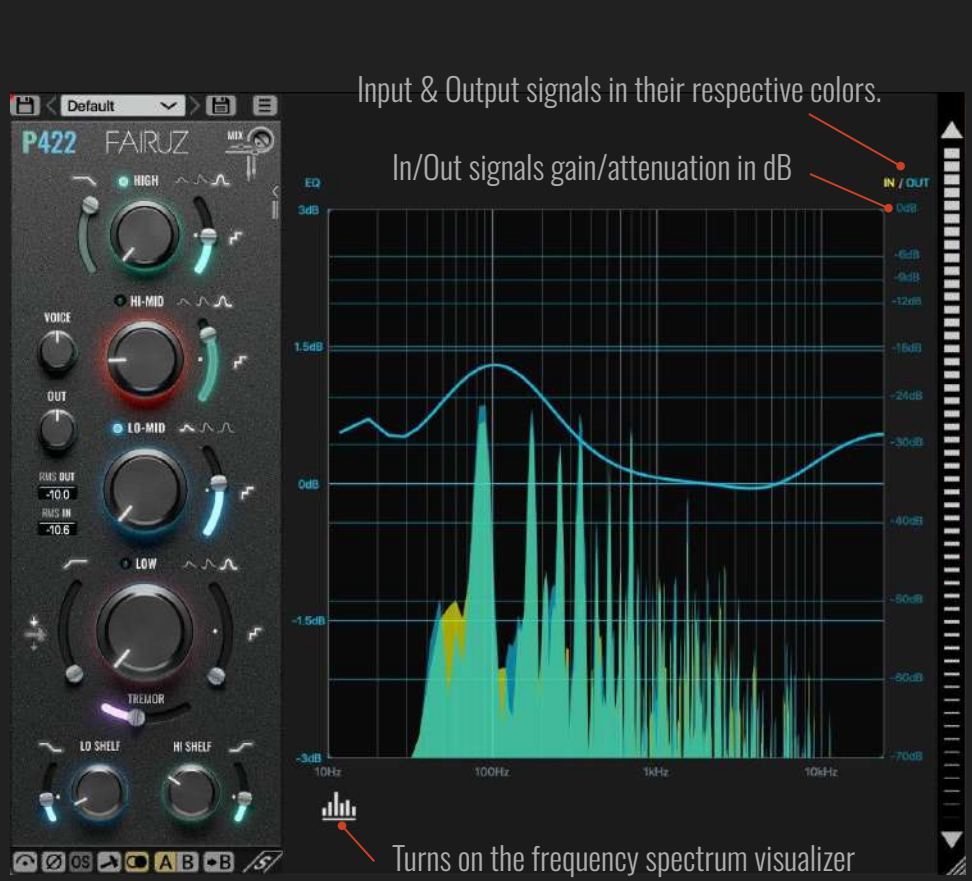
EQ bands visualizer



EQ bands & frequency spectrum visualizer

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Enable or disable the LPF

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

VOICE emphasizes a mid-focused presence and density (turn clockwise) or relaxed clarity (turn counterclockwise).

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

The OUT knob is a clean digital makeup gain when the HAMMER icon is OFF, and when ON, the OUT knob is routed into the Hammer.

Conventional band curve plus 2 Pultec style band curves that have cut and boost perfectly tuned for immediate use. No more tinkering with two different band frequencies.

Stepped or continuous frequency and gain for each band.

Filter shape selector: Punch X1/Punch X2/Peak.

Gain slider: up to ±12 dB.

4 Bands: Low, Lo-Mid, Hi-Mid, and High Band frequency dials.

NOTE: While RMS metering gives a more averaged and sustained measurement, providing a better depiction of the signal's perceived loudness over time, peak metering is more focused on recognizing a signal's greatest instantaneous levels.

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Click to turn the band off/on.

The High Pass Filter features a 12 dB/oct 2-pole filter, accentuated by a moderate resonant peak at the cut off point.
Enable/Disable by pressing on the HPF icon.

When the band is off, the knob color changes to indicate that the op-amp is still saturating that frequency band.

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.

When the band is off, boost/cut will increase/decrease saturation of the op-amp without affecting the band gain.

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.

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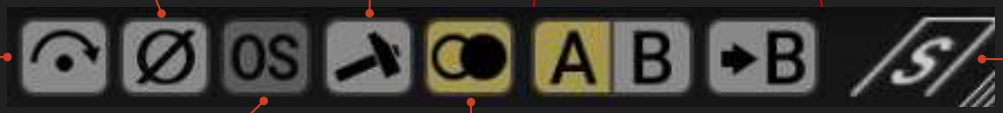
Hammer circuit/output transformer

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.

Polarity inverts the audio signal.

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



Saves the current gui size

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

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

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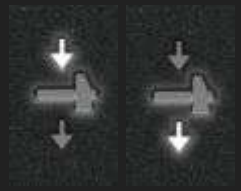
Stepped/Continuous

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. 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.

Hammer Circuit



The Hammer is an output transformer that is positioned after the OUT knob and 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 and increased harmonic activity.

Additionally, the HPF can be positioned before or after the Hammer transformer for a different low-end result.

EQ Band Curves

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 a clean, controlled, focused punch. It typically uses two separate filters, each with individual frequency and gain options. While flexible, this can lead to confusion and 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.

Tips & Tricks

- 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.

- Try TREMOR in combination with the high-pass filter for control over both the power and tightness of the low end.

- 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.

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

- If VOICE is set to a positive value while the Hammer is active, increasing the OUT knob overloads the output transformer, resulting in even more intense nonlinear harmonic behavior.

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\P422 Fairuz\Presets'

For macOS
'/Users/Shared/Pulsar Modular/P422 Fairuz/Presets'

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.**

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 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.

Uninstalling P422 Fairuz

For Windows

- VST3: 'C:\Program Files\Common Files\VST3', locate the 'P422 Fairuz.vst3' file and delete it.
- AAX: 'C:\Program Files\Common Files\Avid\Audio\Plug-Ins', locate the 'P422 Fairuz.aaxplugin' folder and delete it.
- Shared: '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: '/Library/Audio/Plug-Ins/Components', locate the 'P422 Fairuz.component' file and delete it.
- VST3: '/Library/Audio/Plug-Ins/VST3', locate the 'P422 Fairuz.vst3' file and delete it.
- AAX: '/Library/Application Support/Avid/Audio/Plug-Ins', locate the 'P422 Fairuz.aaxplugin' folder and delete it.
- Shared: '/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).

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