P422 FAIRUZ

Two pieces of studio history in one EQ,
pushed beyond the limits of the original hardware.

User Guide – v3.0

PULSAR MODULAR

PULSAR™
MODULAR

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Preface

Fairuz [Fay-rooz] is the Arabic word for turquoise, a stone long associated with wisdom, balance, and artistic inspiration. The ancient Persians called it "Pirouzeh": victory. A fitting name for a tool designed to bring out the best in whatever it touches.

P422 Fairuz does not emulate any existing hardware. Every frequency point, every gain step, every curve has been designed by ear to serve one purpose: to make your instruments sound more like themselves, only better.

Fairuz's roots go back to the API 550 equalizer, designed by Saul Walker in the late 1960s and built into the console strips that shaped decades of recorded music. At the heart of that sound is one component: the API 2520, a proprietary discrete op-amp whose punch, warmth, and headroom under pressure defined the sound of an era. That same op-amp character runs through every band in Fairuz. Fairuz takes that foundation and pushes it further, adding dimensions of tonal control and creative range that the original hardware never offered.

"Michelangelo once said, 'The sculpture is already complete within the marble block before I start my work. It is already there. I just have to chisel away everything that is not the sculpture.'"

Every instrument you record carries its own natural resonance, its own richness, its own voice. Fairuz does not impose a sound upon your music. It reveals the sound that was already there, waiting. When you reach for a shelf filter, a Contour band, or the Hammer circuit, you are not simply adding or removing frequencies. You are sculpting space for what already exists to breathe and be heard.

You are not boosting and cutting. You are sculpting.

This philosophy runs through every control on the plug-in, from the broadest tonal gesture to the finest harmonic detail. Understanding it is the key to getting the most from Fairuz, and to hearing what your music has been trying to say all along.

Ziad Sidawi
Audio Equipment Designer & CEO
Pulsar Modular

PART I · STARTING

1. What P422 Is

P422 Fairuz is a four-band equalizer built on the API design, with an op-amp for punch. It copies no single unit. Every frequency step and every curve was voiced by ear.



- **Four EQ bands:** HIGH, HI-MID, LO-MID and LOW, in rows down the panel (chapter 3).
- **Band off:** a band's gain turns into a drive control (chapter 4).
- **LO SHELF and HI SHELF:** shelves with a dip beside the lift (chapter 5).
- **HPF and LPF:** stepped filters with a peak at the cutoff (chapter 6).
- **TREMOR:** the input transformer's sub-bass lift (chapter 7).
- **OUT, VOICE and TRIM OUT:** drive the op-amp, then set the final level (chapter 8).
- **The Hammer:** the output transformer, in or out (chapter 9).

- **MIX:** blends in the dry signal (chapter 10).
- **The visualizer:** a spectrum you can EQ on directly (chapter 12).

2. Five-Minute Walk

Load P422 on a vocal, a guitar or a drum bus. A new instance loads the Default preset.

1. Click the left shape icon of the HI-MID band: Contour. Raise its gain. You get presence, with a dip beside it that keeps it smooth.
2. Click the Hammer button at the bottom-left corner. The sound gains weight and body.
3. Raise OUT until the LED beside it glows amber. The op-amp is pushing.
4. Hold Shift and drag OUT. TRIM OUT moves the other way, so the level holds while the drive changes.
5. Slide TREMOR right for sub-bass weight. If it booms, cut the LOW band.
6. Click >> at the right edge of the panel. Drag a dot in the visualizer to move its band.
7. Click A/B in the top bar and compare with the other slot.

> Tip: *Judge every move at matched level. Louder always sounds better at first.*

PART II · THE CONTROLS

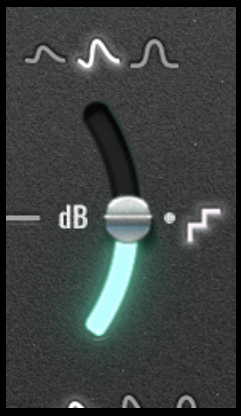
3. The Four EQ Bands



The four bands run in rows down the middle of the panel: HIGH at the top, then HI-MID, LO-MID and LOW. Each row has a power LED and a frequency knob, then three shape icons and a gain control.

Band	Range
LOW	20 Hz – 420 Hz
LO-MID	70 Hz – 1,000 Hz
HI-MID	800 Hz – 11,500 Hz
HIGH	2,500 Hz – 18,500 Hz

3.1 Band Controls



- **LED:** switches the band off. Its gain then drives (chapter 4).
- **Frequency knob:** the center of the band.
- **Shape icons:** Contour, Contour X2 and Bell, from left to right.
- **Gain:** ±12 dB, default 0 dB.
- **Staircase icon:** at the right of the gain. Stepped, the default, or continuous frequency. Stepped also moves the gain in 0.5 dB steps.

3.2 Stepped or Continuous

The steps sit where instruments live, chosen by ear. Switch to continuous to chase a resonance between two steps.

On HIGH, 7 kHz can make S sounds harsh and hats pokey, and there is no 8 kHz step. Use 6 kHz for presence and 9 kHz for air.

3.3 The Three Shapes

- **Contour:** a boost and a dip beside it, in one move. The dip is tuned per band. The boost stays focused and the area around it stays clear. The peak sits a little above the knob's frequency and the dip below it.
- **Contour X2:** Contour with deeper, bolder shaping. Use it for bold moves: a kick that thumps, a vocal that cuts through.
- **Bell:** wide at small gains, narrower as the gain grows. Use it for problem frequencies.

> Tip: *To remove a resonance and keep what surrounds it, cut with Bell and boost either side with Contour.*

3.4 Resonance Hunt

Right-click a band's frequency knob, hold, and drag. The band jumps to +12 dB while you hold, so the resonances stand out in the track. Hold Shift before the right-click for −12 dB, to find the cut that brings the most relief. Release, and the gain goes back. The help strip reads FREQUENCY HUNTING MODE while you hunt.

4. Band Off: the Drive Mode

Click a band's LED to switch it off. Its curve goes, and its gain becomes a drive control. It pushes the op-amp on the whole signal, with no boost or cut.

- **Above 0 dB:** punch and grit. More as you go up.
- **At 0 dB:** clean.
- **Below 0 dB:** a lighter grit than the same distance above.

With more than one band off, their drive adds up. The frequency knob and shape icons do nothing while the band is off.

The LED shows the mode: lit, the band is an EQ. Off, the LED goes dark and a red ring glows around the band's frequency knob, brighter as you push the drive.

5. LO SHELF and HI SHELF



LO SHELF sits at the bottom left, HI SHELF at the bottom right. Each has a power button, a frequency knob and a gain knob.

LO SHELF lifts the lows and dips above its frequency, where low-mid mud lives. HI SHELF lifts the air and dips below its frequency, in the upper presence. The dip keeps the lift clean.

- **LO SHELF:** 20 Hz to 5 kHz, default 100 Hz.
- **HI SHELF:** 60 Hz to 18 kHz, default 10 kHz.
- **Gain:** −50 to +100, default 0. It sets how far the shelf reshapes the sound, not a dB value. Small values polish, large values change the character.



> Tip: *Both shelves up a little give a controlled smile curve. Add the HPF and LPF to bound the extremes.*

6. HPF and LPF

Both filters sit in the left column, the LPF at the top beside HIGH, the HPF at the bottom beside LOW. Both move in steps and have a power button.



6.1 HPF

The HPF steps from 20 Hz to 400 Hz, or OFF, the default. It has a peak at the cutoff that moves with it. So when you clean the lows, the edge gains a little punch. At 400 Hz it turns into a telephone or lo-fi sound.

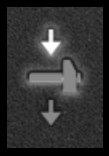
6.2 LPF



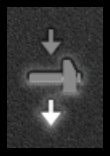
The LPF steps from 800 Hz to 20 kHz, or OFF, the default. It works even at 20 kHz: it smooths the top without sounding filtered. Lower, it removes harsh highs and calms sharp transients. At 800 Hz it becomes a strong character tool.

> Tip: *If the LPF closes the top too far, a small HI SHELF boost brings the air back.*

6.3 HPF Before or After the Hammer



The HPF Pos switch, above the HPF, reads Pre Hammer or Post Hammer. It puts the HPF before or after the op-amp and the Hammer.



- **Post Hammer (default):** the op-amp and the Hammer get the full lows, then the HPF cleans. Fuller and weightier.
- **Pre Hammer:** the HPF tightens the lows first. Cleaner, with more headroom.

A busy low end usually wants Pre. Maximum weight wants Post.

7. TREMOR



TREMOR sits at the bottom center, under the LOW band. It is the input transformer's sub-bass lift. Slide it right for more; the center of the lift rises as you go. The default is off, at the left end.

The lift follows the low end of the music instead of sitting at one frequency. It comes before the four bands, so you can tidy its weight with a LOW cut.

On headphones or with a subwoofer, you feel TREMOR. On small speakers you hear it through the bands it feeds.

8. OUT, VOICE and TRIM OUT



OUT and TRIM OUT sit in the left column, TRIM OUT as the small screw to the right of OUT. VOICE sits above them.

- **OUT:** the level into the op-amp and the Hammer, ±12 dB, default 0 dB. Turn it up for more punch and grit.
- **VOICE:** −100 to +100, default 0, clean. Clockwise adds punch from the op-amp and pushes the Hammer harder. Counterclockwise cleans the Hammer's low-end grit and tightens the deep lows. It needs the Hammer on.
- **TRIM OUT:** the final level, after MIX, ±12 dB, default 0 dB. It never changes the tone.



The LED left of OUT shows the op-amp biting: dim amber as it starts, full amber when you drive it hard. Each hit holds for a moment, so a single snare hit still shows.

Hold Shift and drag OUT or TRIM OUT: the other moves the opposite way, so the level stays put while the drive changes. Shift-Option-drag (Shift-Alt on Windows) moves both the same way.

> **Note:** *OUT and VOICE change the level as well as the tone. Match the level with TRIM OUT before you judge.*

9. The Hammer



The Hammer is the output transformer. Click the Hammer button at the bottom-left corner to switch it in or out. It is off by default.

- **Off:** P422 without its transformer. The EQ, the filters and the op-amp are the whole sound.
- **On:** P422 with the transformer fitted. It adds low-end weight and body, a touch of grit and a slightly softer attack. The body moves with the bass instead of sitting at one frequency.

OUT and VOICE set how hard it works (chapter 8). For clean weight, turn VOICE left: the body stays, the low-end grit goes.

10. MIX



MIX sits to the right of VOICE. It blends the dry signal into the processed one, 0 to 100 % dry. At 0, the default, you hear only the processed signal. At 100 you hear only the dry signal.

Use it for parallel processing. Push the EQ and the drive hard, then blend back to keep the original transients. The visualizer always shows the processed signal.

11. Switches, Top Bar and Meters



- **Bypass:** top bar, far left. Passes the audio through untouched. The host's bypass follows this button, and presets carry it.



- **Polarity (Ø):** left column, under the LPF. Inverts the polarity, to align multi-mic recordings.



- **OS:** top bar, right of Bypass. Oversamples the drive for cleaner highs when you push it. The latency stays the same, on or off.



- **Hammer:** bottom-left corner. The output transformer in or out (chapter 9).



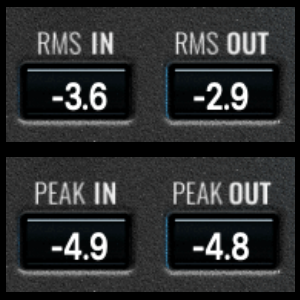
- **Dual Mono:** bottom-left corner, above the Hammer. Left and right drift apart slightly, like two units side by side. Off, the default, both sides drift together like one stereo unit. Use it on stereo buses, groups, overheads and rooms. It is not a mono switch.



- **A/B:** top bar, right of the preset name. Two compare slots (13.1).

11.1 Meters

The input and output meters sit in the left column, under OUT. Click either one to switch both:



- **RMS:** average level, close to loudness. Use it to compare settings. The default.
- **PEAK:** instant level. Use it to catch clipping.

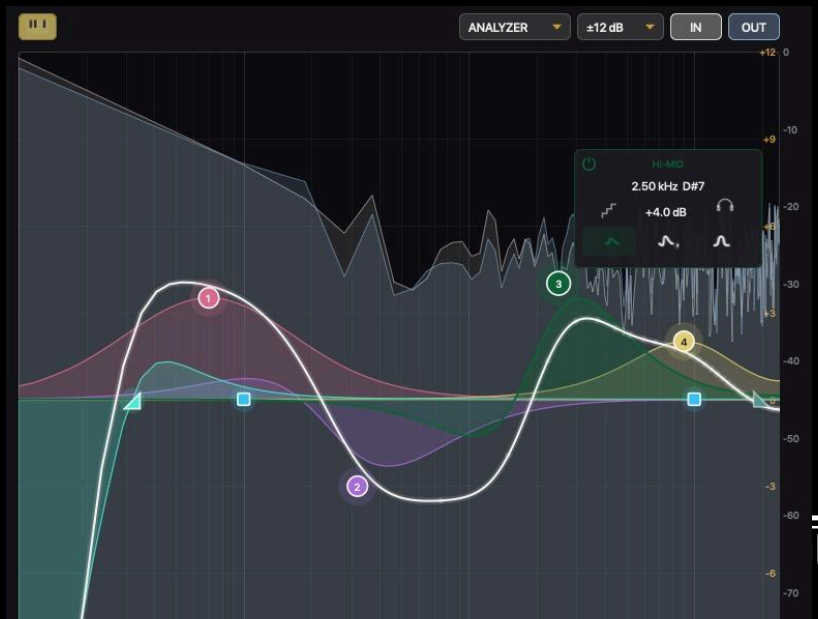
11.2 The ≡ Menu and the Help Strip

Click ≡ at the right end of the top bar:

- **About:** the name, version, build, license and format. Click anywhere to close it.
- **License Status:** opens the license window (17.2).
- **Manuals:** the Quick Guides, and this guide in English, German and Japanese, Print and Dark.
- **Labels are ON / OFF:** ON shows a value while you move a control. Hold Shift to show them all.
- **Tooltip is ON / OFF:** ON shows a line of help about the control under the pointer, in the strip at the bottom of the panel. Click the strip to switch it too.
- **Open Preset Folder:** opens the presets in Finder, Explorer or your Linux file manager.
- **Set Default Size:** resize the window, then click this. Every new instance opens at that size.

12. The Spectrum Visualizer

Click >> at the right edge of the panel to open the visualizer. Click it again to close it.



The white curve is the EQ you are dialing, Hammer included. Each band draws its own curve underneath, in its

color. IN shows the spectrum entering P422, OUT the spectrum leaving it.

12.1 The Dots

Each band is a dot: the four EQ bands as numbered circles, 1 (LOW) to 4 (HIGH), the shelves as squares, the HPF and LPF as triangles.

- **Drag:** frequency and gain at once. A filter dot moves along the frequency only.
- **Shift-drag:** fine movement. **Cmd-drag** (Ctrl on Windows) locks to the first direction you move.
- **Wheel:** steps the gain: 0.1 dB, or 1 dB with Shift. On a filter, it steps the frequency.
- **Double-click empty space:** places the next free band there. Near a spectrum peak, it lands on the peak.
- **Shift-click:** groups dots, so they move together. Click empty space to clear the group.
- **Right-click:** picks the dot's color.

A band that is off keeps a dimmed dot and a dotted outline of its curve. With Step on, a drag follows the stepped frequencies.

12.2 The Band Card



Point at a dot and its card opens: name, power, frequency, gain, shape, Step and headphones. Double-click the frequency or gain to type a value. Frequency takes Hz (1k5, 2500), a note name (A2, C#3) and, for the filters, OFF.

12.3 Solo



Click the headphones, or press S, to hear only the range the band touches. The plot dims outside it, and the icon shows S. Alt-click, or Alt-S, plays this band alone with the other EQ stages out of the way. The icon shows B.

Solo follows your hand to the next band you grab. It is never saved.

12.4 IN, OUT and ANALYZER

IN and OUT switch the two spectra on and off. ANALYZER sets:

- **Freeze:** holds the spectrum, in this window only.
- **Range:** 60, 90 or 120 dB.
- **Resolution:** Auto, 2048, 4096 or 8192. Higher reads the lows finer and moves slower.
- **Speed:** Very slow to Very fast.
- **Tilt:** Off to 6 dB per octave. The default, 4.5, makes music read flat.

12.5 Scale, Keys and Crosshair

- **±dB:** the EQ scale, 3, 6, 12 or 26 dB. The wheel over the scale does the same.

- **Keys:** swaps the frequency labels for a piano keyboard, so a band reads as a note. Click a key to see what the curve does there.
- **Crosshair:** the pointer reads the frequency and level under it, or the nearby peak.

12.6 Keys After a Grab

The keys work only after you grab a dot, until you click away or press Escape. While you only hover, the host keeps its shortcuts.

- **Arrows:** gain by 0.1 dB, frequency by 1 %. With Shift: 1 dB and a semitone.
- **S / Alt-S:** solo the range / this band only.
- **E:** the band on or off.
- **Delete or Backspace:** gain back to 0, and the band freed.
- **Escape:** hides the card and gives the keys back to the host.

12.7 What It Remembers

Colors, the dB scale, the keys, IN, OUT and the ANALYZER settings apply to every instance in every session. A new instance opens the visualizer the way you left the last one.

PART III · WORKING WITH P422

13. A/B and Presets

13.1 A/B

Click A/B in the top bar to switch slots. The slot you leave keeps its settings. The arrow next to it copies the slot you are on over the other one. Loading a preset fills both slots. Neither the session nor a preset stores them.

13.2 The Browser

Click the preset name in the top bar to open the browser; the arrows beside it step through the whole bank, folder by folder, and wrap around at the ends. When the browser is on Favorites or a search, they step through that list. Folders are on the left, presets on the right. Click a preset to load it. The strip at the bottom shows its note.



- **SAVE:** saves over the preset you loaded, in its own folder, keeping its name and note. Nothing loaded? Use SAVE AS.
- **SAVE AS:** saves a new preset under the name you type, into the folder selected on the left.
- **NEW FOLDER, RENAME, DELETE:** manage presets and folders. Deleting a folder always asks first.
- **TAGS:** the tags of the selected preset. The menu lists the bank's tags by count and ticks the preset's own; click one to add or remove it, or choose New tag... to type a new one.
- **Star:** adds a preset to Favorites, at the top of the folder list.
- **Drag:** moves a preset or folder into another folder.

Right-click a preset for everything else: Load preset, Save here (SAVE AS into this folder), Rename, Edit description and tags, Tags, Delete, Save these settings as the startup default, and Reveal in Finder (Show in Explorer on Windows, Show in file manager on Linux).

> Tip: *The browser takes the keyboard while it is open, so the spacebar does not reach the host. Start playback first, then open the browser.*

13.3 Search, Tags and Notes

Type in the search field to find presets whose name, folder, note or tags contain every word. Start a word with # to search tags only, as in #vocal.

Edit description and tags writes your own note, up to 200 characters, and your own tags, separated by commas.

13.4 What a Preset Stores

A preset stores every control on the panel, Bypass, OS, Dual Mono and the HPF position included. It also stores whether the visualizer is open and the meter mode. It never stores the A/B slots or the global settings (12.7).

13.5 Factory Presets and Updates

The factory library holds 276 presets in sixteen folders, from Acoustic Guitar to World Strings. Every preset has a note on what it does to the track. Default is what a new instance loads. INIT is a neutral start.

An update overwrites factory presets of the same name, Default included, unless you deselect Presets in the installer. Your own presets are never touched. Before you update, save an edited factory preset, and your own Default, under a new name; after the update, load your copy and choose Save these settings as the startup default.

13.6 Where Presets Live

- **macOS:** /Users/Shared/Pulsar Modular/P422 Fairuz/Presets
- **Windows:** C:\Users\Public\Documents\Pulsar Modular\P422 Fairuz\Presets
- **Linux:** ~/.local/share/Pulsar Modular/P422 Fairuz/Presets

Presets are files: copy the folder to back them up. Open Preset Folder in the ≡ menu takes you there.

14. Sessions and Hosts

- **The session:** saves every control, Bypass included, the window size, the meter mode, whether the visualizer is open, and the name of the loaded preset.
- **Global:** Labels, Tooltip, the default window size and the visualizer settings (12.7) apply to every instance.
- **Automation:** every control on the panel is a host parameter.
- **Bypass:** the host's bypass and the Bypass button are one switch.

- **Latency:** reported to the host and the same with OS on or off, so you can switch OS while the session plays (chapter 21).
- **Window:** drag the corner to resize. Set Default Size keeps that size for new instances.

PART IV · IN PRACTICE

15. Recipes

- **Instant warmth:** Hammer on, raise OUT until the LED glows amber, match with TRIM OUT. You hear low-mid body without mud.
- **Presence on a snare or vocal:** HI-MID on Contour, gain up. You hear presence without harshness.
- **The Play-Dough low-end method:** TREMOR up until the low end feels supported, cut with LOW to remove the boom, then set the HPF to tighten the floor. Try both HPF positions. You get a low end you can shape like dough.
- **Surgical resonance removal:** cut with Bell, boost either side with Contour or Contour X2. The resonance goes; the tone around it stays.
- **Full saturation unit:** all four bands off, gains up, Hammer on, VOICE clockwise. Blend with MIX. P422 becomes a full-band exciter.
- **Clean weight:** Hammer on, VOICE turned left. Try it on bass and on the mix bus. The body stays, the grit goes.
- **Sharp transients:** OUT down, TRIM OUT up to match, VOICE at 0. The drive barely works and the attack stays sharp.
- **Hunt in the graph:** double-click the peak that bothers you, press S to hear it, cut, press S again.

16. Gain Staging

- **Drive with OUT, match with TRIM OUT.** Shift-drag links them so the level holds (chapter 8).
- **Watch the OUT LED.** Dim amber means the op-amp is biting; full amber means hard drive.

- **Compare on RMS.** It reads close to loudness. Switch to PEAK to catch clipping (11.1).
- **Expect level changes.** OUT, VOICE, a band's drive (chapter 4) and the Hammer all raise the level. Match before you judge.
- **Set MIX last.** TRIM OUT comes after MIX, so it sets the final level of the blend.

PART V · REFERENCE

17. Installation and License

17.1 Installing

Run the installer for your system and choose the formats you need. Then rescan the plug-ins in your host. For iPad and iPhone see chapter 19, for Linux chapter 20.

17.2 License

Click License Status in the ≡ menu. The window shows the status, your key, how many computers use the license, and the days left of a demo or the paid-through date.

- **Activate:** paste your key and click Activate. This computer joins the license.
- **Refresh:** checks the license again. Use it after a purchase or a renewal, or when the status reads Lapsed.
- **Account:** opens your Pulsar Modular account, where you manage computers and subscriptions.
- **Deactivate:** frees this computer for another one.

Until P422 is licensed it plays a soft noise instead of your audio, and the window opens by itself. A banner under the top bar names the problem; click it for details. Activation needs the internet. Later checks run now and then; if one is overdue, go online and click Refresh. If you used an earlier version of P422 on this computer, version 3 keeps your activation by itself, the first time it runs online. If it does not, paste your key and click Activate.

17.3 Uninstalling

- **macOS:** delete P422 Fairuz.component from /Library/Audio/Plug-Ins/Components, P422 Fairuz.vst3 from /Library/Audio/Plug-Ins/VST3/Pulsar Modular, and P422 Fairuz.aaxplugin from /Library/Application Support/Avid/Audio/Plug-Ins/Pulsar Modular.
- **Windows:** delete P422 Fairuz.vst3 from C:\Program Files\Common Files\VST3\Pulsar Modular and P422 Fairuz.aaxplugin from C:\Program Files\Common Files\Avid\Audio\Plug-Ins\Pulsar Modular.
- **Shared files:** the P422 Fairuz folder in /Users/Shared/Pulsar Modular or C:\Users\Public\Documents\Pulsar Modular. It holds your presets.

18. Keyboard and Mouse

The panel's shortcuts. The visualizer's are in 12.1 and 12.6. On Linux, use the Windows keys.

Action	Shortcut
Fine adjustment	Control-drag (macOS) or Ctrl-drag (Windows). Right-drag works too, except on a frequency knob.
Reset to default	Double-click, or Option-click (Alt-click).
Temporary bypass	Hold Cmd-Option (Ctrl-Alt) over a band, a shelf, the HPF, the LPF, TREMOR, VOICE or MIX. Release to bring it back.
Show all values	Hold Shift.
Link OUT and TRIM OUT	Shift-drag either: the other moves the opposite way.
Move OUT and TRIM OUT together	Shift-Option-drag (Shift-Alt).
Resonance Hunt	Right-click, hold and drag a frequency knob (3.4).

19. iPad and iPhone

P422 is on the App Store for iPad and iPhone, iOS 15 or later. It has the same sound, controls and presets. One purchase gives you:

- **AUv3 plug-in:** for GarageBand, Logic Pro for iPad, AUM, Cubasis and other hosts.
- **Standalone app:** processes the microphone or an interface. It starts with the input muted against feedback: tap Unmute Input.

19.1 Touch

- **Adjust:** drag up or down. **Reset:** double-tap.
- **Touch and hold:** a preset or a folder in the browser opens its menu, the one a right-click opens on a computer (13.2).
- **Move:** Move to folder… in that menu puts a preset or a folder into another folder. A finger only scrolls the browser's lists; nothing is dragged.
- **Link Out & Trim:** this ≡ menu entry replaces Shift-drag.
- **Not on touch:** fine adjustment, showing all values, temporary bypass, Resonance Hunt and the visualizer's keys and wheel. Drag the dots and use the band card instead.

Turn the device sideways for the largest view. On iPhone the visualizer shows only sideways; held upright, the panel fills the screen. The App Store purchase is your license, so the menu has no License Status. Open Preset Folder and Set Default Size are desktop only. In Manuals, User Guides opens these guides online. Inside a host app, Quick Guides and User Guides copy their link instead: paste it into your web browser.

19.2 Presets on iOS

Your presets live inside the app, shared by the plug-in and the app. Updates never touch them. Export shares a preset through the share sheet; Import brings one in from Files. Deleting the app deletes your presets: export them first. An update with a new factory library replaces only the factory presets you never changed; the ones you edited stay where they are.

20. Linux

P422 runs on 64-bit Intel and AMD Linux as VST3 and LV2, with glibc 2.34 or newer: Ubuntu 22.04, Debian 12, Fedora 35 or later, Arch and others. Check with getconf GNU_LIBC_VERSION.

20.1 Installing

Install one form, not both:

- **Package (.deb):** sudo apt install ./p422-fairuz_*_amd64.deb. For every user on the computer.
- **Archive (.tar.gz):** unpack it and run ./install.sh. For your account only, with no admin rights.

Then rescan the plug-ins in your host. Ardour and Mixbus load the LV2 when they start; for a new or updated VST3, choose Window > Plugin Manager > Discover New/Updated. Every install and update writes the factory presets again, Default included, as on macOS and Windows: a factory preset you saved over under its own name, and your Default, return to the factory version, while presets you saved under your own names stay.

20.2 VST3 or LV2

Both sound the same and share presets, settings and the license. Use the VST3 in REAPER, which cannot automate the LV2, and in Bitwig, which does not load LV2. In Ardour and Mixbus both work. In the LV2, the host's bypass and the Bypass button are separate switches.

20.3 Activating

Click into the key field and press Ctrl-V. One activation covers both formats and every host for your account. Before you reinstall Linux, click Deactivate: a new installation may count as a new computer.

20.4 Files and Removing

- **Presets:** ~/.local/share/Pulsar Modular/P422 Fairuz/Presets
- **Settings:** ~/.config/Pulsar Modular/P422 Fairuz
- **License:** ~/.config/Pulsar Modular/Licensing, shared by every Pulsar Modular plug-in. Leave it in place.
- **Remove:** sudo apt remove p422-fairuz, or ./uninstall.sh in the archive folder. Both keep your presets.

21. Specifications

- **Formats:** AU, VST3 and AAX on macOS; VST3 and AAX on Windows; VST3 and LV2 on Linux; AUv3 and a standalone app on iOS.
- **Channels:** mono or stereo, the same in and out.
- **Latency:** 18 samples at 44.1 and 48 kHz, 12 at 88.2 and 96 kHz, none above. The same with OS on or off.
- **Oversampling:** the OS button, up to 96 kHz. Above 96 kHz it has no effect.
- **Presets:** 276 factory presets in sixteen folders.

22. Troubleshooting and FAQ

- **I hear a soft noise instead of my audio.** P422 is not licensed on this computer. Activate it (17.2).
- **My preset got louder.** Drive, VOICE and the Hammer add level. Match with TRIM OUT (chapter 16).
- **My preset switched P422 off.** A preset stores Bypass (13.4). Re-save it with Bypass off.
- **A band's frequency knob does nothing.** The band is off and driving (chapter 4). Click its LED.
- **Negative VOICE changes nothing.** It needs the Hammer on (chapter 8).
- **The spacebar does not start playback.** The preset browser has the keyboard (13.2).
- **A guide in Manuals is greyed out.** Run the installer again with the user guides selected.
- **Alt-click moves the window on Linux.** Your desktop catches it. Double-click to reset, and use Alt-S for the headphones (12.3).
- **Ardour or Mixbus crashes while scanning.** P422 is installed twice, from the package and the archive. Remove one (20.4).
- **Crackles at small buffers on Linux.** Give your user real-time audio rights, then log in again.
- **Meters run ahead of the sound on Linux.** The host's PulseAudio backend buffers. Use ALSA or JACK.
- **No VST3 for a new Linux account.** Run sudo dpkg-reconfigure p422-fairuz once.
- **The LV2 and the VST3 differ in size on Linux.** On a HiDPI screen the LV2 follows the host's scale, the VST3 the desktop's. Set the host's scale to the desktop's.
- **Black bars beside P422 in Ardour or Mixbus.** The host's VST3 window is never narrower than its toolbar, so P422 sits centered and keeps its shape. Widen P422, or open the visualizer, and they go.

Appendix A · Credits and Independence

Independence

P422 Fairuz is a Pulsar Modular product.

P422 Fairuz is not affiliated with, and is not endorsed by, API or its owners. API, the 550 and the 2520 are named only to identify the original design. All trademarks belong to their respective owners.

Credits

P422 Fairuz is a product of **Pulsar Modular**.

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iOS & Linux Porting:	Burak Öztop
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Please kindly report any errors or omissions in this user guide to psupport@pulsarmodular.com.

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