



# VIBRANIAM

SAMPLER

## Owner's Manual

Oboe · Low latency · 16 pads · Android

Closed beta

# VIBRANIAM Sampler — Owner's Manual (DRAFT v0.1, English master)

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## Contents

- 0. Before you start
- 1. Overview
- 2. Quick start (5 steps)
- 3. Pads
- 4. Sequencer, patterns and song
- 5. Sounds
- 6. Keyboard and MIDI
- 7. Sound shaping
- 8. Projects and files
- 9. Look and feel
- 10. Audio performance
- 11. Troubleshooting
- 12. Specifications
- 13. Glossary
- 14. Links

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## 0. Before you start

### 0.1 Safety and listening precautions

- Keep the volume low at first. Bass-heavy patterns and DRIVE can be loud.
- With headphones connected the app shows a monitoring warning. Lower the volume before you play.
- The microphone (SAMPLE) can cause feedback if the speaker is close to it. Use headphones when sampling.

### 0.2 Requirements

- Android 8.0 (API 26) or later.

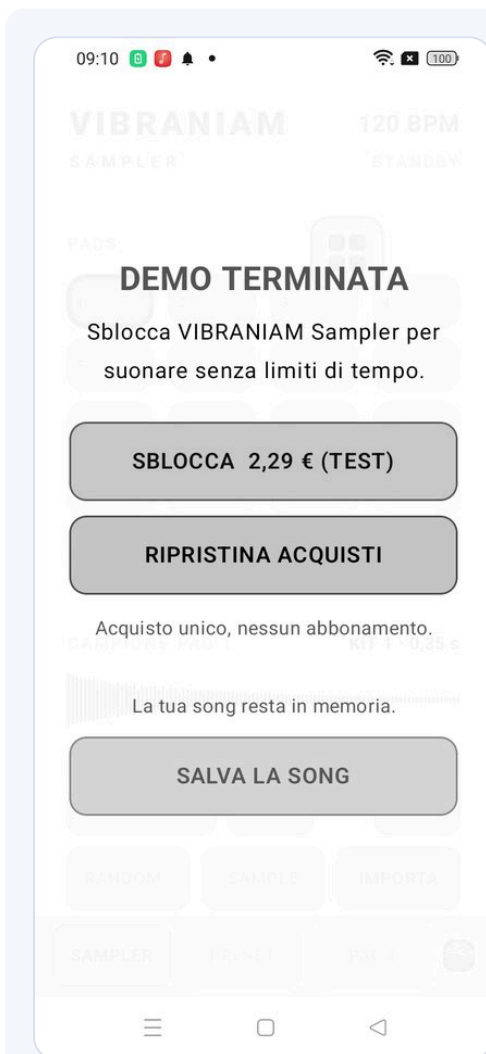
- Stereo output at 44.1 kHz. Wired headphones or a USB audio device give the lowest latency.
- Optional: USB or Bluetooth LE MIDI keyboard.

### 0.3 Permissions

| Permission                    | Why                                 |
|-------------------------------|-------------------------------------|
| Microphone (RECORD_AUDIO)     | SAMPLE: record your own sounds      |
| Modify audio settings         | Output routing and low-latency mode |
| Bluetooth / Bluetooth connect | BLE MIDI devices                    |
| Google Play Billing           | One-time unlock after the demo      |

The app has no internet permission and collects no data.

### 0.4 Demo and unlock

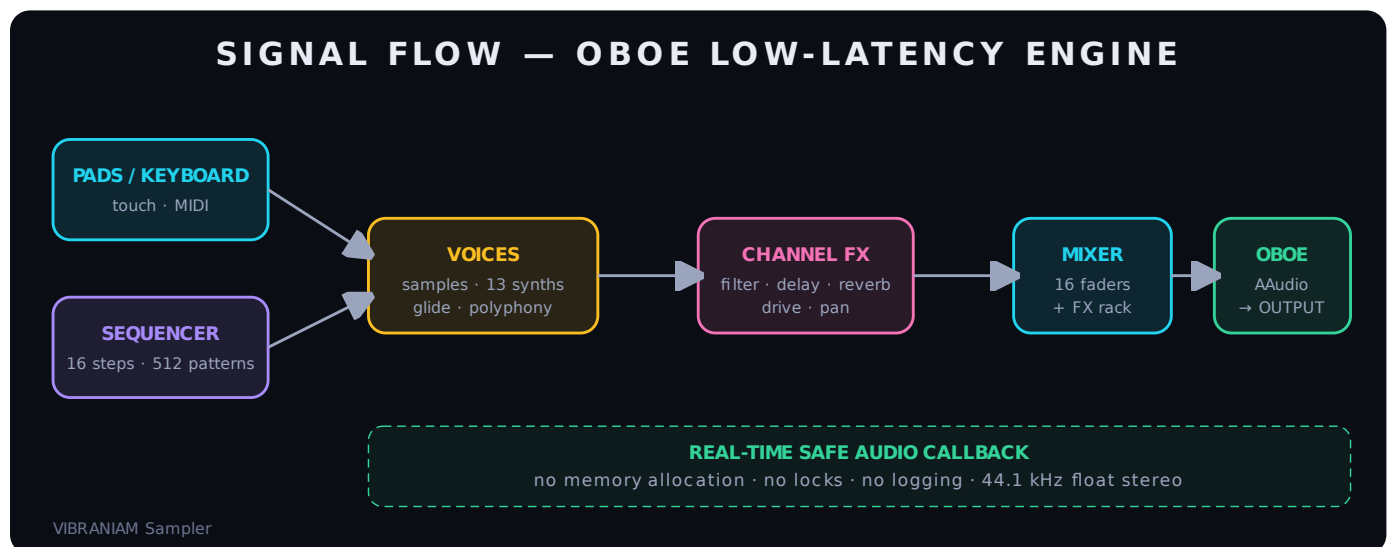


Unlock screen at the end of the demo

The app is free to try. Each session allows **10 minutes of active use**. The remaining time is shown as `DEMO m:ss` in the header; a banner appears one minute before the end. When the demo ends, the **DEMO TERMINATA** screen appears. Press **SBLOCCA** (price shown by Google Play) for the one-time purchase, or **RIPRISTINA ACQUISTI** if you already bought it. You can use **SALVA LA SONG** before leaving so nothing is lost.

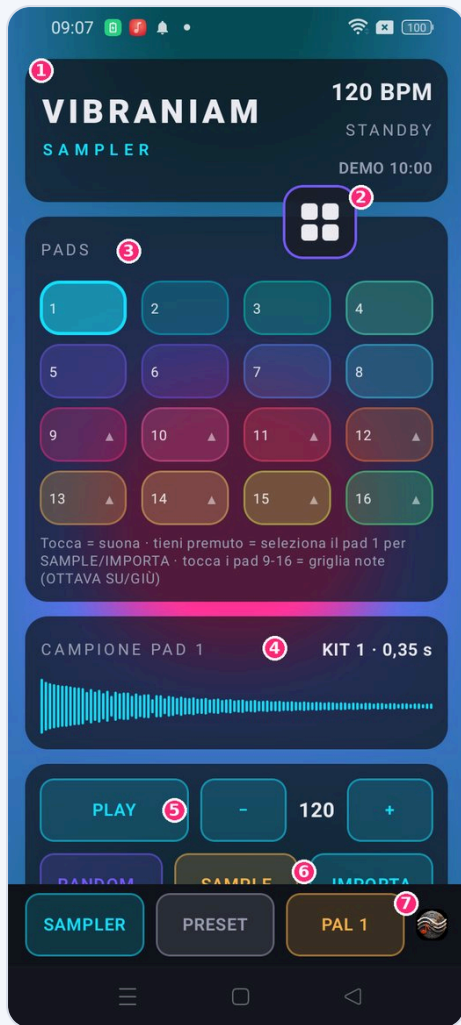
## 1. Overview

**Built on Oboe — minimum latency.** The whole audio engine is written in native C++ on Google's **Oboe** library (AAudio low-latency path, Exclusive mode requested, float stereo at 44.1 kHz). The audio callback never allocates memory, takes locks or writes logs, so pads respond the instant you touch them. Actual latency depends on your device and output; the AUDIO OUTPUT panel (section 10) shows the real measured value on your phone.



VIBRANIAM Sampler is a 16-pad sampler and step sequencer with a native low-latency audio engine (Oboe, C++). It combines:

- 16 pads: 8 drum pads (1–8) and 8 pitched pads (9–16)
- 16-step sequencer with 512 patterns and a 512-slot song chain
- 13 built-in synth instruments plus your own samples
- Floating 2-octave keyboard with pitch-bend and mod wheels, MIDI input
- Per-pad channel FX, global FX rack, 16-channel mixer
- Export to WAV, FLAC, M4A (master or 16 stems) and MIDI; import of MIDI and audio files



## Main screen

1. Header: name, tempo (BPM), status and DEMO counter
2. Movable keyboard button
3. The 16 pads (tap = play, long press = select)
4. Sample panel: waveform, name and length
5. Transport: PLAY/STOP and tempo – / +
6. RANDOM BEAT · SAMPLE · IMPORTA (scroll down)
7. Bottom bar: SAMPLER · PRESET · PAL · logo

## 1.1 Screen map

| Area         | What it does                                                                  |
|--------------|-------------------------------------------------------------------------------|
| Header       | App name, tempo (BPM), status INITIALIZING / PLAYING / STANDBY · demo counter |
| PADS         | 4x4 grid, tap to play                                                         |
| Transport    | PLAY/STOP, BPM – / +, RANDOM BEAT, SAMPLE, IMPORTA                            |
| Sample panel | Waveform, name and length of the selected pad's sample                        |
| Bottom bar   | SAMPLER · PRESET · PAL (palette) · logo                                       |

## 2. Quick start (5 steps)

1. Tap a pad: it plays. Pads 1–8 are drum sounds, 9–16 are pitched.
2. Press **PLAY** to start the sequencer; press **RANDOM BEAT** for an instant groove.
3. Tap cells in the sequencer grid to switch steps on or off.
4. Long-press a pad to select it, then use **SAMPLE** to record, or **IMPORTA** to load a file.
5. Use **SAVE** to keep your song, and the export panel to render audio.

## 3. Pads

### PAD MAP — 16 PADS

|      |      |      |      |
|------|------|------|------|
| 1    | 2    | 3    | 4    |
| 5    | 6    | 7    | 8    |
| 9 ▲  | 10 ▲ | 11 ▲ | 12 ▲ |
| 13 ▲ | 14 ▲ | 15 ▲ | 16 ▲ |

**PADS 1-8 · DRUMS**  
Step on / off · tap to play  
Sample, import or preset

**PADS 9-16 · PITCHED**  
▲ swipe up / tap = note grid  
16 steps × 48 rows (4 octaves)  
OCTAVE UP / DOWN · polyphonic · GLIDE

**GESTURES**  
Tap = play · Long press = select pad

VIBRANIAM Sampler

### 3.1 Playing and selecting

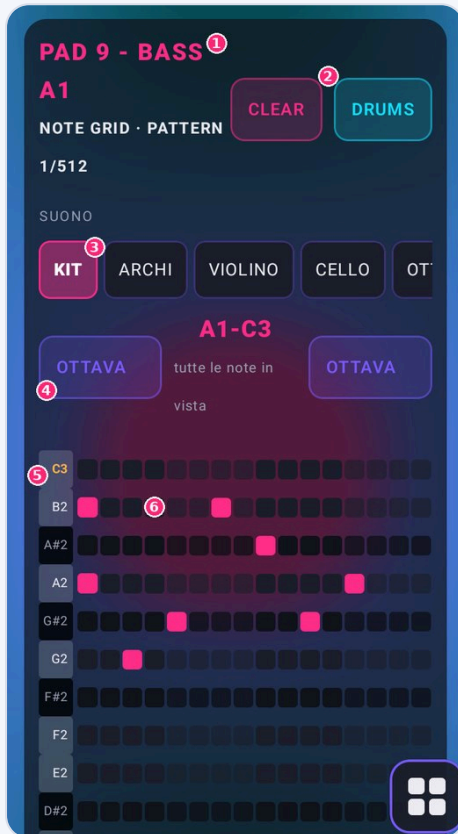
- **Tap** = play the pad.
- **Long press** = select the pad (target of SAMPLE, IMPORTA, CHANNEL FX, keyboard).
- On pads **9–16**, **tap the ▲ area or swipe up** to open the note grid; ▼ marks the pad whose grid is open.
- Each pad has its own colour; the selected pad is brighter with a thicker border.

### 3.2 Drum pads (1–8)

Each step is on or off. The step grid below the pads shows all 16 pads over 16 steps.

### 3.3 Pitched pads (9–16) and the note grid

- 16 steps × a 16-row window over a 48-row range (4 octaves).
- **OTTAVA SU / GIÙ** moves the window by one octave. Notes outside the window stay stored, keep playing and are included in MIDI export.
- Rows show real note names (base note + transpose); black keys are shaded.
- Polyphonic: several notes can be on the same step.
- **GLIDE** on/off with **TIME** sets portamento between notes.



#### Note grid (pads 9–16)

1. Pad number, name and base note
2. CLEAR (empties the notes of this pad) · DRUMS (back to the drum grid)
3. SOUND selector (KIT and instrument sounds)
4. OTTAVA – / + and the visible range
5. Note names (black keys shaded)
6. Step cells: tap to add or remove a note

## 4. Sequencer, patterns and song

### 4.1 Step sequencer

- **SEQUENCER — 16 STEPS × 16 PADS.** The cyan playhead shows the current step. Numbers above the grid mark groups of steps.
- Tap a cell to toggle it.

## 4.2 Transport

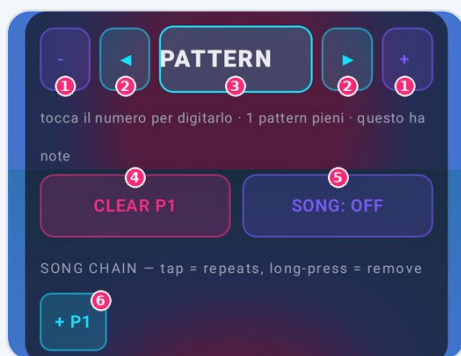
- **PLAY / STOP.** – / + change tempo in steps of 2 BPM.
- **RANDOM BEAT** generates a drum pattern for the current pattern.

## 4.3 Patterns (512)

- **PATTERN n/512:** the one you are editing. Use ◀▶ (±1) and –10 / +10, or tap the number to type it (**VAI AL PATTERN**).
- **PLAYING m** shows which pattern the engine is rendering.
- **CLEAR Pn** empties the pattern being edited.

## 4.4 Song chain (512 slots)

- **SONG: ON/OFF** switches between looping one pattern and playing the chain.
- **+ Pn** appends the current pattern; tap a slot to increase its repeats ( P3×4 ); long-press to remove; **CLR** clears the chain.



### Pattern bar and song chain

1. Pattern –10 / +10
2. Previous / next pattern (◀▶)
3. Tap the pattern number to type it
4. CLEAR: empties the pattern being edited
5. SONG: ON/OFF
6. + Pn: adds the current pattern to the song chain

## 5. Sounds

### 5.1 Your own samples

- **SAMPLE** records from the microphone into the selected pad. Use headphones to avoid feedback.
- **IMPORTA** loads WAV, MP3, OGG or M4A. **Maximum 6 seconds per pad**; longer files are cut and a notice is shown.
- The waveform panel shows CAMPIONE PAD n , name and length.

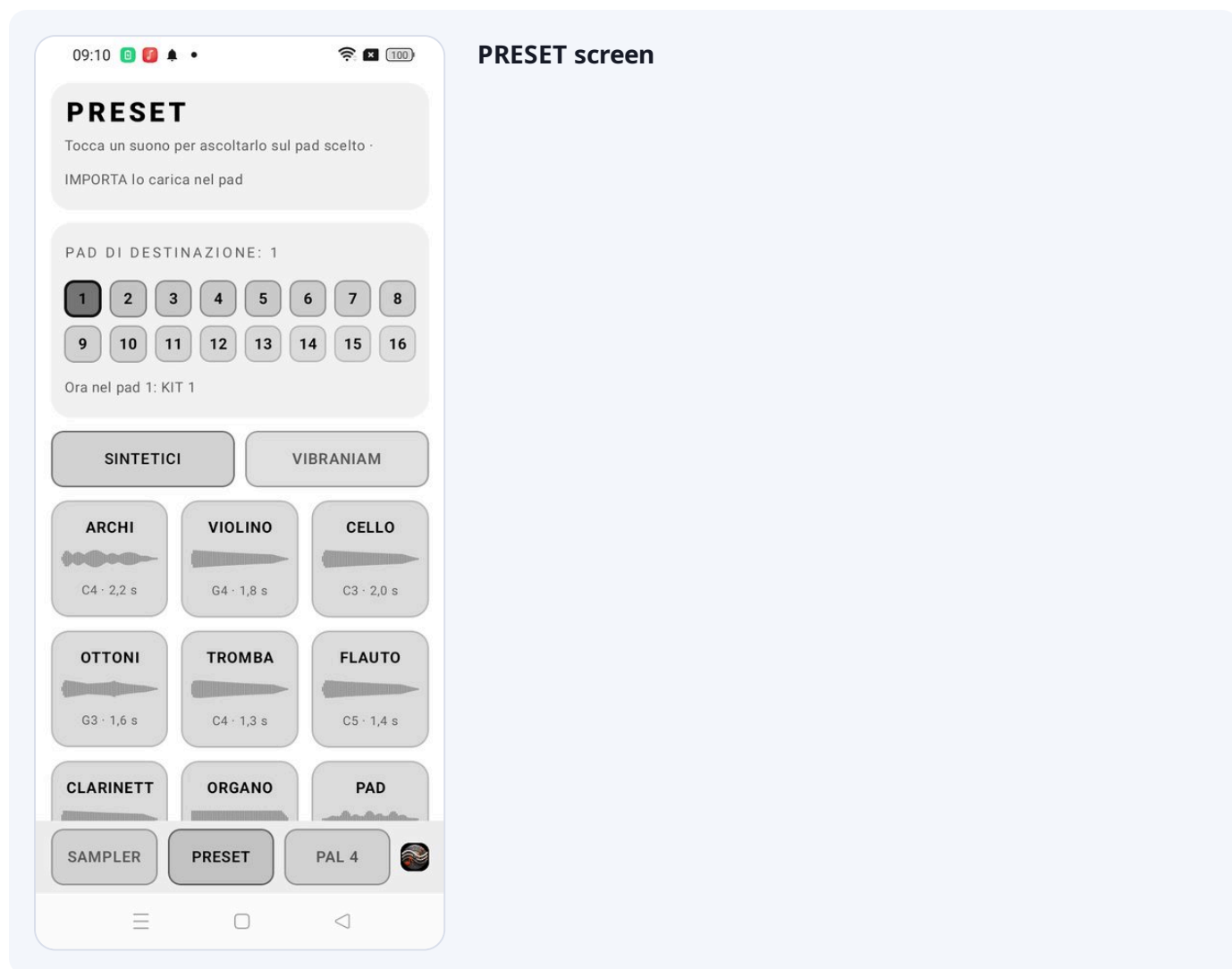
## 5.2 SUONO (built-in instruments)

Pitched pads (9–16) can use 13 built-in instruments. They are synthesized by the app, not recorded: recognizable instrument families rather than sampled realism.

| Family    | Instruments (name shown in the app)       |
|-----------|-------------------------------------------|
| Strings   | ARCHI (ensemble), VIOLINO (violin), CELLO |
| Brass     | OTTONI (brass section), TROMBA (trumpet)  |
| Woodwinds | FLAUTO (flute), CLARINETTO (clarinet)     |
| Keys      | ORGANO (organ), PIANO                     |
| Synth     | PAD, PLUCK, LEAD                          |
| Bass      | BASSO                                     |

MIDI export writes a matching General MIDI program for each instrument, and importing a MIDI file picks the closest one.

## 5.3 PRESET screen



Open from the bottom bar. Presets appear as 3-column squares with a waveform preview. Tap to preview; **IMPORTA** loads the preset into the selected pad. Categories are defined in `presets.json`; the VIBRANIAM category is reserved for future packs.

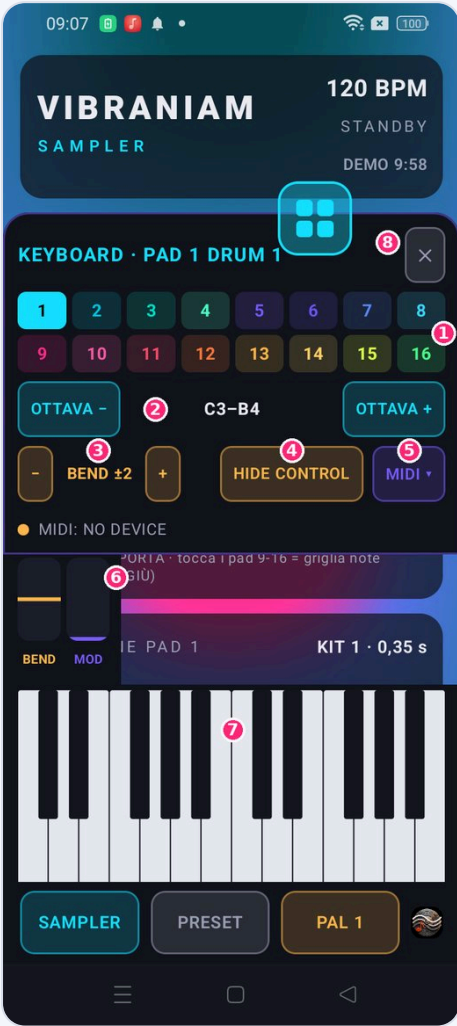
## 6. Keyboard and MIDI

### 6.1 Floating keyboard

- Open it with the movable keyboard button; drag the button anywhere.
- **Pad selector 1–16** chooses which pad you play.
- 2 octaves; **OCTAVE** shift.
- **BEND** and **MOD** wheels sit above the keys, on the left.
- **HIDE CONTROL / SHOW CONTROL** collapses the controls to leave more room.

## 6.2 MIDI input

Connect a USB (OTG) or Bluetooth LE MIDI device. Supported: notes, pitch-bend, CC1 (mod wheel), CC64 (sustain).



The screenshot shows the VIBRANIAM SAMPLER app interface. At the top, it displays '120 BPM' and 'STANDBY'. Below this is a 'KEYBOARD · PAD 1 DRUM 1' section. A grid of 16 colored pads is shown, with a blue square icon above it. Below the pads are controls for 'OTTAVA -' and 'OTTAVA +', a 'BEND ±2' knob, and a 'HIDE CONTROL' button. A 'MIDI' menu is visible, showing 'NO DEVICE'. A 'BEND MOD' section is also present. At the bottom, there is a piano keyboard and buttons for 'SAMPLER', 'PRESET', and 'PAL 1'. Numbered callouts 1-8 point to specific features: 1. Pad selector 1-16, 2. Octave shift (OTTAVA - / +) and current range, 3. Pitch-bend range (- / +), 4. HIDE CONTROL / SHOW CONTROL, 5. MIDI input menu, 6. BEND and MOD wheels, 7. Keys (2 octaves), 8. Close the keyboard.

### Floating keyboard

1. Pad selector 1–16
2. Octave shift (OTTAVA – / +) and current range
3. Pitch-bend range (– / +)
4. HIDE CONTROL / SHOW CONTROL
5. MIDI input menu
6. BEND and MOD wheels
7. Keys (2 octaves)
8. Close the keyboard

## 7. Sound shaping

### 7.1 CHANNEL FX (per pad)

Select a pad, then adjust:

| Control             | Function                              |
|---------------------|---------------------------------------|
| FLT OFF / LP / HP   | Filter mode: off, low-pass, high-pass |
| CUTOFF              | Filter frequency                      |
| RES                 | Filter resonance                      |
| DLY TIME / FB / MIX | Delay time, feedback, wet amount      |
| REV MIX / DEC       | Reverb amount and decay               |
| DRIVE               | Saturation                            |
| PAN                 | Stereo position                       |

## 7.2 FX RACK (global)

Same families of controls applied to the whole mix, plus **VOL** (master).

## 7.3 CHORD MATRIX — harmonic transpose

The 12 note names on a circle set the root (0 to +11 semitones). Interval buttons: **UNI**, **OCT+**, **OCT-**, **5TH**, **4TH**, **MAJ3**, **MIN3**, **MIN6**, **ROOT**. The hub shows the exact transposition in semitones.

## 7.4 MIXER — 16 channels

One fader per pad. **MUTE ALL** silences every channel, **ALL** restores them.

# 8. Projects and files

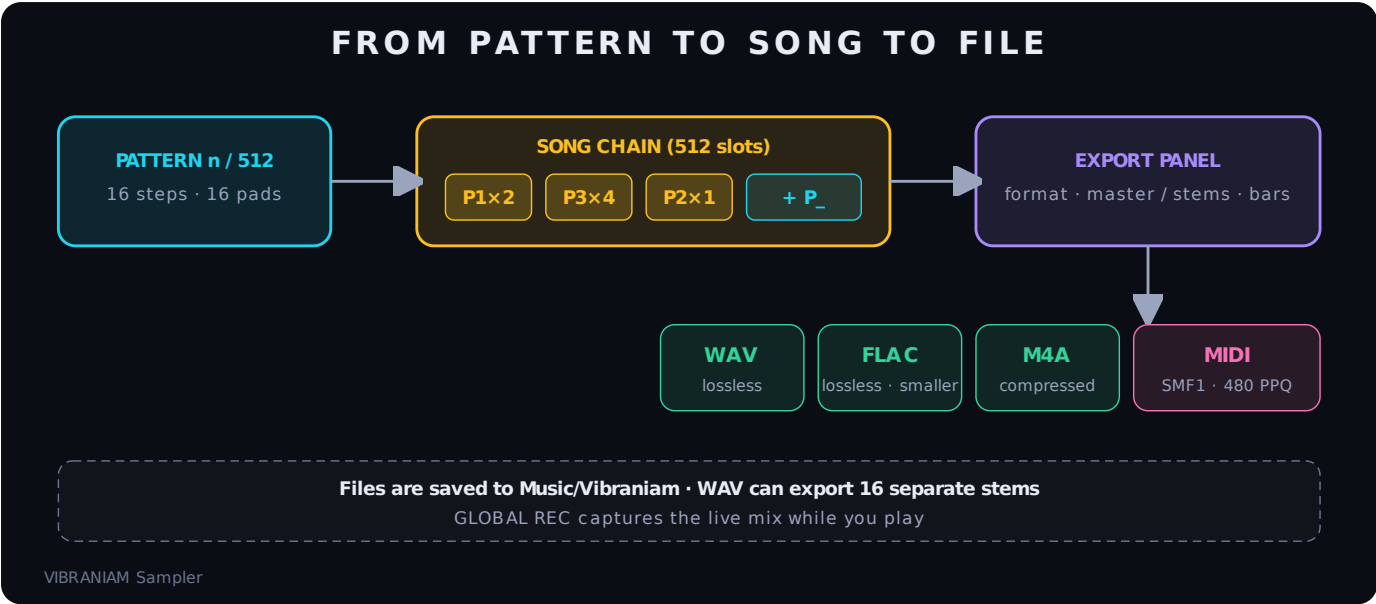
## 8.1 SAVE / LOAD

Saves and loads the whole song (patterns, song chain, sounds, settings). **SAVE PRESET / LOAD PRESET** store a single sound setup.

## 8.2 GLOBAL REC

Captures the final mix while you play. The banner **● GLOBAL REC – CAPTURING MIX** blinks while active; press **REC ● STOP** to finish.

### 8.3 Export



| Format | Notes                                               |
|--------|-----------------------------------------------------|
| WAV    | Lossless; master stereo or 16 stems                 |
| FLAC   | Lossless, smaller                                   |
| M4A    | Compressed                                          |
| MIDI   | Standard MIDI File, 480 PPQ, pattern data and tempo |

Choose format, master or stems, and the number of bars, then export. Files go to `Music/Vibraniam` . MIDI can be shared directly.

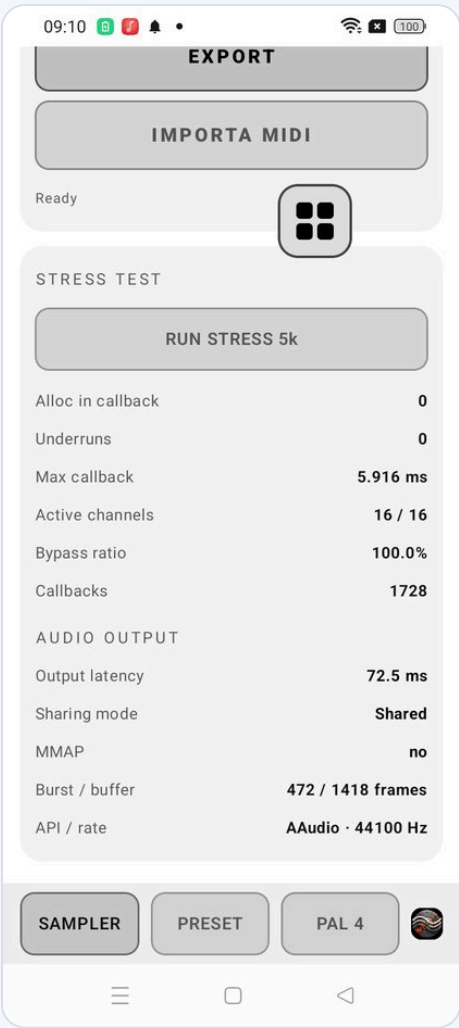
### 8.4 Import MIDI

**IMPORTA MIDI** reads a .mid file into patterns. A dialog shows bars and BPM and any warnings; if the current song is unsaved you can confirm replacement.

## 9. Look and feel

**PAL** cycles four palettes: 1 original, 2 pastel, 3 white, 4 black & white.

## 10. Audio performance



The screenshot shows a mobile application interface with a status bar at the top displaying the time 09:10, signal strength, and battery level at 100%. The app has a dark theme. At the top, there are two large buttons: 'EXPORT' and 'IMPORTA MIDI'. Below these is a 'Ready' status and a four-dot menu icon. The main content area is divided into two sections. The 'STRESS TEST' section has a 'RUN STRESS 5k' button and a list of performance metrics. The 'AUDIO OUTPUT' section displays system-level audio parameters. At the bottom, there are three buttons: 'SAMPLER', 'PRESET', and 'PAL 4', along with a small circular icon. The Android navigation bar is visible at the very bottom.

| STRESS TEST       |          |
|-------------------|----------|
| Alloc in callback | 0        |
| Underruns         | 0        |
| Max callback      | 5.916 ms |
| Active channels   | 16 / 16  |
| Bypass ratio      | 100.0%   |
| Callbacks         | 1728     |

| AUDIO OUTPUT   |                   |
|----------------|-------------------|
| Output latency | 72.5 ms           |
| Sharing mode   | Shared            |
| MMAP           | no                |
| Burst / buffer | 472 / 1418 frames |
| API / rate     | AAudio · 44100 Hz |

### AUDIO OUTPUT and STRESS TEST panels

The **AUDIO OUTPUT** and **STRESS TEST** panels show output latency, sharing mode (Exclusive/Shared), MMAP, burst/buffer and sample rate. Latency depends on the device and output: wired/USB gives best results; Bluetooth adds delay. The engine uses no memory allocation or locks in the audio callback.

## 11. Troubleshooting

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| Problem              | What to do                                          |
|----------------------|-----------------------------------------------------|
| No sound             | Check volume and mute in MIXER; check output device |
| Crackling            | Lower DRIVE and volume; close other audio apps      |
| High latency         | Use wired headphones or USB audio; avoid Bluetooth  |
| Sample too short     | Imports longer than 6 s are cut                     |
| MIDI device not seen | Reconnect, check OTG cable or Bluetooth pairing     |
| Demo ended           | SBLOCCA or RIPRISTINA ACQUISTI                      |

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## 12. Specifications

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- Audio engine: native C++ on **Oboe 1.8** (AAudio, low-latency, Exclusive requested), real-time safe callback
- Pads: 16 · Steps: 16 · Patterns: 512 · Song slots: 512
- Sample limit: 6 s per pad · Sample rate: 44.1 kHz float stereo
- Export: WAV, FLAC, M4A, MIDI (SMF1, 480 PPQ)
- Android 8.0+ · ABIs: arm64-v8a, armeabi-v7a, x86\_64

## 13. Glossary

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| Term               | Meaning                                                                     |
|--------------------|-----------------------------------------------------------------------------|
| Pad                | A touch button that triggers one sound                                      |
| Step               | One of the 16 time slots of a pattern                                       |
| Pattern            | A 16-step sequence for all 16 pads (512 available)                          |
| Song chain         | An ordered list of patterns with repeat counts (512 slots)                  |
| BPM                | Beats per minute, the tempo                                                 |
| Sample             | A recorded or imported sound (max 6 s per pad)                              |
| Stem               | A separate audio file for a single channel                                  |
| Master             | The final stereo mix of all channels                                        |
| Cutoff             | Frequency where the filter starts to act                                    |
| Resonance (RES)    | Boost around the cutoff frequency                                           |
| LP / HP            | Low-pass / high-pass filter                                                 |
| Delay              | Repeating echo of the sound                                                 |
| Reverb             | Simulated room or space                                                     |
| Drive              | Saturation that adds harmonics                                              |
| Pan                | Position between left and right                                             |
| Glide              | Smooth slide in pitch between notes                                         |
| Transpose          | Shift of pitch in semitones                                                 |
| Semitone (st)      | The smallest step between two piano keys                                    |
| Latency            | Delay between touch and sound                                               |
| Oboe               | Google's C++ library for low-latency audio on Android                       |
| AAudio             | Android's native low-latency audio API                                      |
| MMAP               | Direct memory path that lowers latency further, when the device supports it |
| Exclusive / Shared | Audio stream owned by the app / mixed with other apps                       |
| Burst / buffer     | Audio block sizes in frames                                                 |

| Term             | Meaning                                                         |
|------------------|-----------------------------------------------------------------|
| MIDI             | Standard protocol for notes and controllers                     |
| PPQ              | Pulses per quarter note (MIDI resolution, 480 here)             |
| SMF              | Standard MIDI File                                              |
| BLE MIDI         | MIDI over Bluetooth Low Energy                                  |
| CC               | MIDI Control Change message                                     |
| WAV / FLAC / M4A | Lossless / lossless compressed / lossy compressed audio formats |

## 14. Links

| Resource                         | Link                                                                                                                                                                  |
|----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Website                          | <a href="https://www.vibraniam.it">https://www.vibraniam.it</a>                                                                                                       |
| itch.io                          | <a href="https://vibraniam.itch.io">https://vibraniam.itch.io</a>                                                                                                     |
| NOVA Synth Studio on KVR Audio   | <a href="https://www.kvraudio.com/product/nova-synth-studio---vibraniam-by-vibraniam">https://www.kvraudio.com/product/nova-synth-studio---vibraniam-by-vibraniam</a> |
| Community (Discord)              | <a href="https://discord.gg/zWzAAwETab">https://discord.gg/zWzAAwETab</a>                                                                                             |
| Support                          | <a href="mailto:megatutorialplus@gmail.com">megatutorialplus@gmail.com</a>                                                                                            |
| VIBRANIAM Sampler on Google Play | <a href="https://play.google.com/store/apps/details?id=com.vibraniam.chladnisampler">https://play.google.com/store/apps/details?id=com.vibraniam.chladnisampler</a>   |

### Get the app free for life: become a BETA TESTER

First write to [megatutorialplus@gmail.com](mailto:megatutorialplus@gmail.com) to be authorized for the closed testing, then sign up as a Beta Tester on Google Play: <https://play.google.com/store/apps/details?id=com.vibraniam.chladnisampler>. Beta testers get the app free for life.

More VIBRANIAM products on Google Play: <https://play.google.com/store/apps/developer?id=VIBRANIAM>