

MONSTER ORCHESTRA

made by Mulula VGM Loops

User Manual · Version 1.0.4

80 musical monsters · 9 synthesis engines · 202 factory presets



No sample libraries: every sound is synthesised live by the monsters themselves.
Unlock it once with the licence key from your Gumroad receipt; after that it works offline.

1. Welcome

Monster Orchestra is a virtual instrument populated by a cast of musical creatures. Choose a monster, play notes from your DAW's piano roll (or the built-in keyboard) and watch it perform: singers open their mouths, mallet players strike the bar for the note you played, flautists move their fingers, string players pluck or bow, drummers hit, and stranger creatures pulse, wobble and shake. Every movement is driven by the notes actually sounding.

See **INSTALL.md** for installation. Monster Orchestra is an instrument plug-in: insert it on an instrument/MIDI track.

Activating your licence

The first time you open Monster Orchestra (plug-in or standalone) it shows the **Unlock your monsters** window and stays silent until it is activated. Paste the licence key from your Gumroad receipt (format XXXXXXXX-XXXXXXX-XXXXXXX-XXXXXXX) and click **Activate**. The key is checked online with Gumroad once; after that Monster Orchestra works offline on that computer, in every DAW and in the standalone app. The licence covers up to 3 of your own computers. To move it, open ☰ → **Licence...** → **Deactivate this computer**, then activate on the new one.

2. The Screen at a Glance

Area	What it does
Header	Logo · ◀▶ previous / next monster · dice = random monster · current monster with family and role · preset browser with ◀▶ · disk icon = save preset · ☰ menu (backup, restore, folders, about) · 🌙/☀ night & day stage · Output level · voice count and DSP load.
Stage	The selected monster performing. A spotlight brightens while it plays, footlights pulse with the notes, music notes, sparkles or bubbles float up from the mouth or instrument, and a badge shows the last note name.
Monster browser	Family tabs (All + 8 families), search box, ★ favourites filter and a scrollable grid of illustrated thumbnails. Click a monster to load it; click the star in a tile's corner to mark a favourite. Hover a tile for its description.
Sound panel	Five context macros whose names change with the monster, plus Attack, Release, Tune and Velocity.
Effects	Drive, Chorus (+Rate), Delay (+Time, Feedback), Reverb (+Size), and performance settings: polyphony, pitch-bend range, idle animation, Panic.
Step sequencer	16 steps for auditioning without a piano roll.
Keyboard	C2–C7 audition keyboard. Notes from your DAW light it up too.

The window can be resized from the bottom-right corner (65–170 %). Everything is vector-drawn and stays sharp on high-DPI screens.

3. Playing

- **MIDI notes** from the host, the on-screen keyboard and the step sequencer all play at once; the plug-in never alters the host's MIDI.
- **Velocity** controls loudness and, for most monsters, brightness or attack (harder mallets, louder breath, bigger drum snap). The Velocity knob sets the sensitivity: fully left = every note plays at the same level, centre = the monster's own response, fully right = maximum response.
- **Sustain pedal** (CC64) holds notes. **Pitch bend** range is set in the Effects panel ($\pm 1-24$ semitones). The **mod wheel** (CC1) adds vibrato.
- **Polyphony** 8–64 voices (default 32). When the limit is reached the oldest released note fades out smoothly; the lowest held note is protected so bass lines stay intact.
- **Percussion monsters** are one-shots: they ring out naturally after note-off, and most follow the keyboard so you can play melodic toms, blocks or bongos.
- **Panic** fades every sounding note immediately.

4. Sound Controls

Each monster has five **macros**. Their centre position is the monster's designed sound; turn left or right to push it in either direction. Double-click any knob to reset it. Typical macros per family:

Family	Macros (defaults; some monsters rename or retarget a macro)
VOCAL	Vowel · Throat · Breath · Growl · Vibrato
MALLET	Hardness · Shimmer · Decay · Brightness · Damping
WIND	Breath · Air · Tone · Wobble · Resonance
PERC	Pitch · Snap · Decay · Tone · Noise
STRINGS	Pluck · Damping · Decay · Body · Twang
SYNTH	Timbre · Modulation · Filter · Movement · Distortion
ORGANIC	Mutation · Bubbles · Throat · Drift · Grit
FANTASY	Blend · Shimmer · Tone · Air · Decay (Blend crossfades the monster's sound layers)

Attack and **Release** scale the monster's envelope from 0.25× to 4×; above the centre they also add time (up to +0.35 s attack, +1.2 s release) so even percussive monsters fade in and ring on. On drums and other percussive monsters, **Release** sets how long each hit rings. Both knobs also act on notes that are already sounding. **Tune** transposes ± 24 semitones (also for un-pitched drums such as shakers).

MIDI learn: right-click any knob → *MIDI Learn*, then move a hardware controller. The knob shows the assigned CC number; right-click → *Forget* to remove it. Mappings are saved with your project.

5. Effects

Control	Description
Drive	Warm saturation on the whole orchestra, level-compensated.
Chorus / Rate	Stereo chorus with two modulated taps.
Delay / Time / Feedback	Ping-pong echo, 20 ms – 1.5 s, filtered repeats.
Reverb / Size	Room to hall reverb.
Output	Master level. A safety limiter keeps peaks below –1 dBFS.

Selecting a monster loads its own effect settings; presets may override them.

6. Presets

- **Factory presets:** 80 *Core Monsters* (one per monster) + 122 curated variations in 10 categories: Cute & Playful, Strange & Nasal, Dark & Monstrous, Fantasy Orchestra, Cartoon Percussion, Alien Choir, Retro Electronic, Dreamy & Atmospheric, Experimental Hybrids, Low-Frequency Monsters.
- **Browse:** click the preset name in the header. Type to search names, monsters or categories; filter by category; click to load. ◀ ▶ step through presets.
- **Save:** the disk icon → name + category. User presets are stored as .mopreset files in Documents/Monster Orchestra/User Presets and never overwrite factory presets.
- **Backup / restore:** ≡ → *Back up user presets to a .zip* / *Restore*. Damaged or unknown preset files are skipped with a message instead of crashing.
- Your DAW project stores everything: monster, knob positions, effects, sequencer pattern and MIDI-learn mappings.

7. Step Sequencer

Press ▶ to play the 16-step pattern. Click a step to switch it on/off; drag a step up or down to change its pitch. On the right choose the step length (1/8, 1/16, 1/32), the **root note** and the **scale**, and the audition velocity. When your DAW is playing, the sequencer follows the host tempo and position; otherwise it runs at the host tempo (or 120 BPM).

- **Scale lock:** 15 scales – Chromatic (no lock), Major, Natural/Harmonic/Melodic Minor, Major and Minor Pentatonic, Blues, Dorian, Phrygian, Lydian, Mixolydian, Whole Tone, Japanese (In) and Arabic (Hijaz). Dragging a step moves it by scale degrees, choosing another scale snaps the whole pattern to it, and playback is always in key. Steps on the root note are drawn in full colour.
- **Dice:** generates a new melody inside the chosen scale.
- **Drag MIDI:** grab the **MIDI** handle and drop it onto a track in your DAW (or onto the desktop) – the pattern arrives as a MIDI clip, scale-locked and at the current host tempo. Click the handle instead to save it as a .mid file.

8. The Stage

- **Night / Day** theme: ☀/🌙 in the header (remembered for new instances).
- **Idle animation** (Effects panel): when on, monsters breathe, blink, look around and their antennae, tails and leaves sway. Turn it off for a calmer screen; monsters still perform when notes play.
- With several notes held, multi-mouth monsters open one mouth per sounding voice, mallet players hit the bar for the newest note, and flautists finger the newest pitch.



9. The Monsters

All 80 monsters with their families, roles, synthesis engines and macros are listed in **MonsterCatalog.md**; every factory preset is listed in **FactoryPresets.md**.



Synthesis engines

Engine	How it makes sound
Formant Voice	Glottal buzz (saw/pulse) → four vowel formant filters, breath noise, subharmonic growl, delayed vibrato; nasal, hum and squeak variants.
Modal Resonator	A noise/impulse exciter rings a bank of up to 8 tuned resonators (wood, hollow block, ceramic, plate, glass, tube, bowl...); can be bowed continuously.
Mallet & Bell	Additive decaying partials from bar/bell spectra plus a mallet transient; tremolo and partial beating.
Wind & Breath	Morphing tone oscillator + breath noise through a pitched resonance, chiff, pitch wobble; reed, horn-swell, ocarina and alien ring-mod variants.
Percussion	Membrane with pitch envelope, resonant blocks, six-oscillator metal, grain rattles, electronic and "creature" bonks; velocity changes attack and colour.
Plucked String	Karplus–Strong delay-line strings with pick position, exciter shape, damping, dispersion (stiffness), doubled strings, bowing noise and spring pitch-drop. A musical approximation, not a physical model.
FM Operators	Three-operator phase modulation with index envelope and feedback; stack, parallel, dual-carrier and ring-style algorithms.
Analog	PolyBLEP oscillators, sub, noise, 24 dB filter with envelope; wobble, chip-tune, glitch and PWM-drone variants.
Organic	Wandering formants with rising bubble chirps, alien choirs, squelchy filter sweeps, whining voices and drifting resonator textures.

Random-sounding behaviour (bubbles, glitches, drift) uses seeded generators: the same MIDI input always renders the same audio.

10. Tips & Troubleshooting

- **Activation fails:** check that the computer is online and that a firewall isn't blocking the plug-in or your DAW, and copy the key exactly from the Gumroad receipt (spaces and line breaks are ignored). "Not recognised" means the key doesn't belong to Monster Orchestra; contact Mulula VGM Loops if you are sure it does.
- **No sound:** if the activation window is showing, the plug-in is not unlocked yet. Otherwise make sure the track is armed/monitored and MIDI is routed to the plug-in; check the Output knob; try Panic.
- **Plug-in not found:** the whole `Monster Orchestra.vst3` folder must be in `C:\Program Files\Common Files\VST3`; rescan in your DAW.
- **High CPU:** lower the polyphony; layered monsters (Fantasy family, Choralune, Trillo, Quartettle) use more CPU than single-engine monsters. Long releases keep voices alive longer.
- **Clicks when switching monsters:** notes of the previous monster fade in ~10 ms by design; if you hear clicks, please report your host and buffer size.
- **Factory presets cannot be deleted;** user presets can (☰ → Delete current user preset).

11. Credits

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