DELIMITED

OctaVega

User manual

By Tony Peters (Delimited)

Version 1.0

OctaVega is an eight-voice synthesizer for drones, chords, interacting FM, rhythmic modulation, and feedback textures - inspired by a Russian drone synth. Each voice has its own tuning and touch envelope. Voices can modulate each other, and a dual delay and distortion process their combined sound.

The eight voices keep their own pitches. MIDI notes select which voice to play. TUNE sets that voice's pitch. Playing a higher MIDI note does not transpose the same sound as it would on a conventional keyboard synthesizer.

This guide covers the VST3 plugin and Standalone app. You can follow the sound examples with the on-screen pads; a MIDI keyboard is optional.

The most important thing is to experiment and have fun!

Contents

Quick start 3

Panel operation 3

Voices and touch controls 4

FM and feedback routing 5

Hyper LFO and tempo sync 7

Mod Delay 8

Distortion and output 8

External audio and CV 9

MIDI playing and automation 10

MIDI mapping and device selection 11

Presets and options 13

Guided sound examples 14

Troubleshooting 16

Quick start

1. Load **OctaVega.vst3** on a MIDI track, or open the Standalone app and select an audio output in its audio settings.
2. Open **PROGRAM** and select **01 Organ**. This restores a known starting patch, including released latches and both HOLD controls at zero.
3. Lower **VOLUME** to about **–18 dB**. Set the **Mod Delay MIX** to **0%** for a dry sound. The Organ preset normally includes some delay.
4. Click and hold pad **1**. Release it and listen to the envelope fade. With the editor focused, holding the computer's **1** key does the same thing.
5. Click the **L** button beside pad 1 to latch the voice. Turn **TUNE 1** to change its pitch, then raise the pair's **SHARP** to brighten it.
6. Latch another voice and tune an interval by ear. Use **Shift-drag** on a TUNE dial for small adjustments.
7. Click each active **L** again to release the voices. Choose **PROGRAM → Save As…** when you want to keep a patch.

For an immediate mute, turn **VOLUME** fully down to **–INF dB**. To let a patch finish naturally, release its pads, MIDI notes, sustain pedal and latches, lower both HOLD controls, and reduce delay FEEDBACK. Slow envelopes and high feedback can keep sounding after you stop playing or stop the DAW transport.

Panel operation

Drag a dial vertically to adjust it. Hold **Shift** while dragging for finer adjustment. The mouse wheel also adjusts dials, with Shift giving finer steps. Double-clicking a dial preserves its current setting; it does not reset it.

Three-way modulation switches select the position you click: **top = VOICES**, **middle = OFF**, **bottom = LFO/CV**. You can jump straight to a position without passing through another source. Two-way switches toggle when clicked anywhere; dragging up or down sets their position directly.

Readouts show frequency in **Hz**, delay time in **ms**, group transposition in **st** (semitones), and drive/output gain in **dB**. Most other dials show a percentage. **Delay FEEDBACK is special:** its readout runs from 0% to 190%, showing the feedback amount rather than the percentage of knob travel. The examples below use the values shown on OctaVega's panel.

Resize the window to make controls easier to use. Hover over controls for tooltips. Display preferences are in **PROGRAM → Options…**.

Voices and touch controls

Voice, pair, and group controls

Scope	Controls
Each voice, 1–8	TUNE, touch pad, and L latch
Each pair, 1–2 / 3–4 / 5–6 / 7–8	SHARP, MOD, modulation source, and SLOW/FAST
Each group, 1–4 / 5–8	HOLD and PITCH
All voices	FM Structure, TOTAL FB, VIBRATO, and HOLD GATE

TUNE and PITCH

TUNE sets an individual oscillator's frequency continuously. Voices 1–2 cover a lower range, 3–6 a middle range, and 7–8 a higher range, with considerable overlap:

Voices	TUNE range
1–2	15–1,500 Hz
3–6	30–3,000 Hz
7–8	60–6,000 Hz

The readout is the base tuning. Group PITCH, envelopes, vibrato, and modulation can change the frequency you hear.

PITCH 1–4 and **PITCH 5–8** transpose their four voices together, preserving their tuning intervals. **0 st** is the untransposed position, near the upper end of the dial. The range is –21.6 to +2.4 semitones. Lower a group PITCH to move a chord into a bass register without retuning all four voices.

SHARP

SHARP changes both voices in a pair from a mellow, triangle-like tone toward a brighter, square-like tone. It also changes the character of those voices when they act as FM sources. SHARP is a waveform control; the instrument has no separate filter cutoff or resonance knob.

Playing the pads

Each textured pad controls its voice's envelope. A normal mouse press applies 75% pressure; **Shift** applies a lighter 35% touch. Drag vertically on the pad to change pressure, from 20% at the bottom to 100% at the top.

The computer keys **1–8** play the corresponding pads while the plugin editor has keyboard focus. Shift gives the lighter touch here too. If Live intercepts the keys, click a pad or another non-menu area of the editor first, or play the pads with the mouse.

The pad's bar shows the **resulting envelope level**, not the raw pressure being applied. The orange surface responds to touch, latching, and the sounding envelope; a full-pressure touch or latch makes it fully orange. Watch the bar to see the attack build and the release fade after you stop pressing.

Latches

Click a pad's **L** to keep that voice at full pressure. Click it again to release it. Right-click or **Option-click** on the pad also toggles its latch.

LATCH ALL VOICES latches all eight if any are unlatched. When all are latched, clicking it releases all eight. Individual latches are useful for building a drone without holding keys down, and their states save in presets.

Temporary touches made in the editor release when it loses focus, closes, or opens a menu/dialog. Latches and incoming MIDI remain available independently.

SLOW and FAST

The switch beneath each pair selects its envelope response. **SLOW**, up, gives a longer release. **FAST**, down, shortens the release and makes lighter pressure or partial HOLD settings less effective. Switching a ringing pair to FAST is useful for shortening its decay.

Full pressure, a latch, or full effective HOLD can reach a 100% envelope in either mode after the attack. A normal 75% pad press does not necessarily open the envelope fully, especially in FAST mode.

HOLD and HOLD GATE

HOLD 1–4 and **HOLD 5–8** keep their groups sounding without touches. Raise HOLD gradually to bring in a background drone; touches can then lift individual voices above that background.

HOLD GATE scales both HOLD settings. At **100%**, their full settings apply; at **0%**, their automatic sustain is removed and the voices decay. It does not mute a touched or latched voice. MIDI expression, CC11, also scales this gate. For full HOLD, set HOLD GATE and MIDI expression to their maximum values.

FM and feedback routing

FM means frequency modulation: one signal changes an oscillator's pitch at a rate and depth that can turn simple tones into complex sounds.

Pair source switches and MOD

Each pair's source switch selects what modulates **that pair**:

Position	Source
VOICES, top	Another voice pair, according to FM Structure
OFF, middle	No modulation from the pair's MOD control
LFO/CV, bottom	Hyper LFO, TOTAL FB, or the selected external voice CV

MOD sets the depth. Its response gives more room for gentle changes near the bottom and reaches strong modulation toward the top. Start around 10–25% and increase while listening. The same setting can sound much stronger at a low tuning than at a high one. At extreme depths, pitches can become very low, irregular, or difficult to recognize.

Voice modulation sources follow their envelopes: a silent source pair provides little or no FM. Changing the source switch alone may therefore do nothing if MOD is zero or the required voices are not sounding.

FM Structure

The central switch has **34 → 56** and **78 → 12** above it. These describe the two connections added in the up position.

Destination pair	Switch down: two loops	Switch up: one loop
1–2	Receives 3–4	Receives 7–8
3–4	Receives 1–2	Receives 1–2
5–6	Receives 7–8	Receives 3–4
7–8	Receives 5–6	Receives 5–6

With all pair sources set to VOICES, the down position gives two independent loops: **1–2 ↔ 3–4**, and **5–6 ↔ 7–8**. Up joins them into **1–2 → 3–4 → 5–6 → 7–8 → 1–2**. Selecting OFF or LFO/CV on a pair breaks that part of the voice-to-voice loop.

Only the inputs to pairs **1–2** and **5–6** change when you move FM Structure. Listen to one of those destinations to hear the difference. See the guided FM test.

TOTAL FB

With **TOTAL FB** on, pairs set to **LFO/CV** use the combined sound after distortion as their modulation source. Voice levels, external audio, delay resonance, and distortion can all influence the result. Raise MOD gradually.

An enabled **CV VOICES** source takes priority over TOTAL FB and the internal LFO. TOTAL FB does not change pairs set to VOICES or OFF. Its feedback tap is before the final VOLUME control, so lowering VOLUME changes the listening level without reducing the internal modulation loop.

VIBRATO

VIBRATO adds a small, smooth pitch movement to every voice. Each voice has its own independent rate. It works without raising MOD and is independent of Hyper LFO, LINK, and tempo sync.

For a clear comparison, use one higher voice with pair modulation OFF and both effects MIX controls at zero. Latch voice 8, tune it around 600–800 Hz, and switch VIBRATO on and off. Listen for a gentle pitch shimmer, its depth is fixed.

Hyper LFO and tempo sync

Hyper LFO combines two oscillators, **A** and **B**, to produce a shared voice modulation source and separate delay modulation signals.

FREQ A and **FREQ B** set their free-running rates from 0.08 to 120 Hz. Slow rates produce audible pitch steps or movement; high rates can enter the audio range and change timbre. To hear voice modulation, sound a voice, set its pair to **LFO/CV**, raise MOD, and leave TOTAL FB and CV VOICES off.

AND/OR combines A and B's square waves. **OR**, down, adds them to produce a stepped signal with intermediate levels. **AND**, up, produces a pulse when both operators are high. Different rates give changing pulse patterns.

LINK, up, lets A alter B's rate. This changes the combined pattern. LINK has no effect on B's rate while B is synced to the host.

SYNC A and SYNC B

Each vertical SYNC switch sits above its frequency dial. Both default off, down. Enable either independently to run that oscillator at **one cycle per host beat**. At 120 BPM it runs at 2 Hz; at 90 BPM, 1.5 Hz.

A synced dial displays **1 BEAT** and cannot be adjusted. Switching sync off restores its remembered free-running frequency. Sync follows tempo while keeping the oscillator's phase continuous; it does not reset the waveform to a particular phase when you press Play.

If the host does not provide tempo, the readout shows **NO BPM** and the remembered free rate continues. Standalone does not supply an artificial tempo.

LFO chart

Enable **PROGRAM → Options… → Show LFO chart** to see the voice LFO output. The chart is hidden by default; hiding it restores the larger frequency dials and stops collecting and drawing chart history. Audio modulation continues.

The chart shows the internal LFO signal even if a pair is using TOTAL FB or external CV. It is not a meter for every possible modulation source.

Mod Delay

The two delay lines receive the combined voices and external audio. Their feedback paths cross between the lines, allowing echoes, dense reverberant textures, and resonant tones.

TIME 1 and **TIME 2** set the base delay times, approximately 31–1,161 ms. Similar times can create strong resonances; unequal times make more complex echo patterns. Turning TIME while sound is circulating also changes its pitch. The readouts show base times, before modulation.

MOD 1 and **MOD 2** set each line's time modulation depth. At zero, the modulation source switches make no audible difference to delay time.

SELF/LFO selects the source. Up, **SELF**, lets each line's filtered output modulate its own time. Down, **LFO**, uses Hyper LFO. An enabled **CV DELAY** source replaces either internal choice.

SQR/TRI selects the internal delay LFO waveform. Up, **SQR**, uses the AND combination of A and B's square waves. Down, **TRI**, combines their triangle waves for smoother movement. The voice AND/OR switch does not change the delay square source. SQR/TRI has no effect while SELF or external CV is driving the delay.

FEEDBACK controls how much sound returns through the lines. Its readout is **0–190%**; halfway through the knob's travel is about **95%**, not 50%. Increase gradually toward 100% to explore longer tails and resonance. The exact point where a tone sustains or grows depends on the delay times and signal. High settings can keep the delay sounding without any voices being held.

MIX blends the dry input and delayed sound. At 0%, you hear the dry path; at 100%, only the delay output. Lowering MIX hides the delay but does not clear its circulating sound. Lower FEEDBACK to let that sound die away before bringing MIX back up.

Distortion and output

The main audio path is:

```
Voices + EXT IN → Mod Delay → Distortion → VOLUME → Output
```

DRIVE increases the gain into the distortion. Its readout is in dB. **MIX** in the distortion section blends the signal arriving from the delay with its distorted version. At 0% MIX, changing DRIVE will not change the audible blend. Raise MIX to hear the effect.

VOLUME sets the final level of the whole instrument, including external audio processing. Fully down, **–INF dB**, mutes the output.

NOISE & BLEED adds background character and slight leakage from unplayed voices. Long delay settings can make the noise more prominent. Switch it off for cleaner patches or isolated listening tests. Existing delay tails still need time to decay after switching it off.

The sound is mono, sent to both channels of a stereo output. Routing the plugin in stereo does not turn its two delay lines into independent left/right echoes.

External audio and CV

Processing external audio

EXT IN mixes incoming audio with the voices before delay and distortion. At **50%**, the input gain is unity; the full setting applies twice that gain. Stereo input is combined to mono.

Release the voices and lower HOLD to use OctaVega as an effects processor. Keep both CV selectors **Off**, route audio into the plugin, raise EXT IN, and set the effects' MIX controls. You can also combine external audio with a drone. With TOTAL FB or delay SELF enabled, that audio can influence the modulation and feedback textures.

What CV means here

CV uses an incoming signal as a control source. Inside a DAW this is a routed audio stream; it does not require a physical voltage connection or a special audio interface.

Selector	Input channel	Destination	Required depth control
CV VOICES: Sidechain L	Left	Pairs set to LFO/CV	Their voice-pair MOD
CV DELAY: Sidechain R	Right	Delay time	Delay MOD 1 and/or MOD 2

CV VOICES overrides the internal LFO and TOTAL FB for LFO/CV pairs. CV DELAY overrides SELF/LFO. The signal supplies modulation, so you still need an audible voice for a voice test, or audible delayed material for a delay test.

The inputs use positive sample values from 0 to 1; negative values contribute zero. A normal audio recording therefore modulates through its positive portions. Input level changes the strength of modulation. CV VOICES is not a calibrated note-pitch input: use TUNE and PITCH for musical tuning.

Ableton Live routing

Live exposes a sidechain panel on supported plugin devices. Expand that panel, enable **Sidechain**, and use **Audio From** to choose the source track. See Ableton's sidechain instructions for locating these host controls.

For OctaVega, use this setup:

1. Put a playing audio clip on an audio track. Set its **Audio To** to **Sends Only**, with its sends down, to keep the source out of the main mix.
2. Load OctaVega on a MIDI track. In Live's plugin sidechain panel, enable **Sidechain** and select the audio track in **Audio From**. Choose **Post FX** as the source point.
3. For **external audio effects**, leave CV VOICES and CV DELAY **Off**. Set EXT IN to 50%, release the voices, and adjust delay/distortion MIX.

4. For **voice CV**, select **CV VOICES → Sidechain L**. Latch a voice, put its pair source at LFO/CV, and raise that pair's MOD. Leave CV DELAY Off for this test.
5. For **delay CV**, select **CV DELAY → Sidechain R**. Feed sound into the delay with a latched voice, raise delay MIX, and raise MOD 1 or MOD 2.

Live's routing reference explains Sends Only and the available input tap points. With Post FX selected, adjust the source clip or an effect before the tap to change the CV signal level; the source track's output fader is after that tap.

In Live, enabling either CV selector repurposes the routed input for control only. The WAV should disappear from OctaVega's audible EXT IN path. Raising EXT IN will not bring it back while CV is enabled. Turn both selectors Off to use the stream as audible external audio again. This shared stream cannot provide external audio and CV at the same time in Live.

CV DELAY needs a right channel. If the host delivers a genuinely mono input, route a stereo stream containing the control signal on the right as well. Other hosts that expose OctaVega's Ext In and CV In buses independently can route external audio and control signals separately.

MIDI playing and automation

Sensor and latch notes

MIDI BASE defaults to note number **60**. The next eight notes trigger the eight voices. The eight notes beginning one octave below BASE toggle latches:

Voice	Sensor note, default	Latch note, default
1	60	48
2	61	49
3	62	50
4	63	51
5	64	52
6	65	53
7	66	54
8	67	55

Use note numbers when comparing hosts, since octave names can differ. For a different BASE, sensor notes are BASE through BASE+7, and latch notes are BASE–12 through BASE–5. Choose a BASE of at least 12 to make all latch notes reachable.

Note velocity sets pressure. Releasing a sensor note starts its envelope release. Pressing a latch note

toggles that voice's latch; releasing the note does not turn the latch off. MIDI from all channels is accepted.

Expression controls

Message	Built-in action
Sustain, CC64	Holds MIDI-triggered voices after note release until the pedal releases
Expression, CC11	Scales HOLD GATE for the HOLD controls
Channel pressure	Can raise pressure on held notes above their original velocity
Polyphonic pressure	Sets pressure for its held voice
CC120 / CC123	Releases MIDI notes and sustain on that channel; leaves parameter latches and HOLD intact

Pitch bend has no built-in tuning action. You can assign it to a control with MIDI Mapping. Transposing a MIDI clip selects different sensor voices; automate TUNE or group PITCH to change their tuning.

Host automation

Sound controls are exposed as host parameters. Live can configure and automate them in its device panel, and can use its own MIDI mapping. OctaVega's internal MIDI assignments start empty so this remains the default workflow. An armed track or **Monitor In** lets Live deliver live MIDI input to the plugin.

Automation can move a control back after you edit it. If a dial will not stay where you put it, check the host's automation and any MIDI assignment.

MIDI mapping and device selection

Open **PROGRAM → Options…** and use **MIDI MAPPING**:

1. Choose **Normal layer** or **Shifted layer**, then select the destination in **Control**. All sound controls are available, including pads, latches, switches, CV choices, and MIDI BASE.
2. Select **MIDI input**. **Host MIDI** receives MIDI routed through Live or Standalone. A named hardware input opens that device directly for its assigned controls.
3. For a switch or Latch 1–8, choose **CC behavior**: **Button (toggle)** for a MIDI button, or **Dial/fader (pickup)** for a continuous controller. New switch assignments default to Button. Existing CC assignments retain their behavior; you can change this choice without relearning them.
4. Click **Learn**, then move the controller or press a key/button. The assignment displays its device, channel, and message. Learning a button preserves the switch's setting. Release it, then press again to toggle. A dial/fader must pass through the app's current value to pick it up.
5. Use **Clear** for the selected control in the selected layer, or **Clear All** for both layers and the Shift modifier. **Cancel Learn** stops waiting without clearing an existing assignment.

6. **Save Mappings…** writes an `.octavegamidi` file; **Load Mappings…** restores a saved set of assignments.

Supported inputs include CC, note velocity, pitch wheel, channel pressure, and polyphonic pressure. Notes mapped to switches work as buttons automatically: each press flips a two-way switch or Latch on/off, or advances a three-way switch through its choices and back to the first. Releases and repeated held messages leave the setting unchanged. Fast press/release pairs are counted even between display updates. Notes mapped to continuous controls, such as pads, still send velocity on press and zero on release.

For a CC button, use **Button (toggle)** and configure the controller button as momentary: a press sends 64–127 and release sends 0–63 (usually 127 and 0). Release re-arms the button; the next press changes the switch again. This button mode is saved with mapping files and host projects. Pressure controls retain their direct value behavior.

CC mappings in **Dial/fader (pickup)** mode and pitch wheels use **pickup (soft takeover)**. If the hardware position differs from the app's value, moving it has no effect until it reaches or crosses that value. For example, with the app at 70% and a fader at 20%, move the fader up to 70% before it takes control. This prevents a jump on learning a mapping or recalling a patch. Editing the control on screen or through host automation re-arms pickup. Loading mappings, restoring a project, or using Refresh Devices also starts with pickup waiting; controller positions are not saved. Button mappings do not wait for pickup; they act on presses.

This applies to OctaVega's own MIDI assignments, whether routed through Host MIDI or opened directly from a named device. Assignments made in the host's own MIDI mapping system use the host's takeover behavior.

An explicitly mapped Host MIDI message performs its assigned action in place of its built-in sensor/expression action. Direct hardware assignments operate independently of the host's ordinary note routing. To avoid an unwanted extra sensor note, avoid sending the same controller through both paths.

No hardware ports are opened by default. If a mapped device is disconnected, its assignment remains saved. Reconnect it and choose **Refresh Devices**. Mappings work with the plugin window closed. Host MIDI learning requires the host to pass input; direct-device learning can work with transport stopped.

MIDI Shift: two controls from one input

One momentary MIDI button can act as Shift. It changes which assignments receive incoming MIDI; pressing it does not change sound controls by itself.

1. Select the button's **MIDI input**, click **Learn Shift**, and press the button. A note button or momentary CC button works. Release it afterwards. The Shift row shows its assignment and displays **(held)** while pressed.
2. Choose **Normal layer**, select a sound control, and use **Learn** to assign a knob, fader, or button as usual.
3. Choose **Shifted layer** and a second sound control. Hold Shift, click **Learn**, and move or press the same hardware input. You can use a different CC behavior in each layer.
4. Release Shift to use the normal assignment. Hold Shift to use only the shifted assignment. If that

input has no shifted assignment, it does nothing while Shift is held; it never falls back to its normal assignment.

For example, assign one fader to **Hold 1–4** in Normal and **Hold 5–8** in Shifted. Without Shift it controls only Hold 1–4. Hold Shift to control only Hold 5–8. Each layer uses pickup when activated, so the other control keeps its value and the fader must reach the newly active control's setting first.

Buttons keep their physical held state across layer changes. Holding a button while pressing or releasing Shift is not another button press. A note release still releases the continuous control that received its original press, even if the layer has changed, preventing stuck pads.

The Shift input is reserved as a modifier and does not play a voice or activate a sound-control mapping. It can come from a different MIDI device than the controls. **Clear Shift** removes the modifier but preserves both sets of assignments; Normal stays active. **Refresh Devices** releases Shift and re-arms pickup. The Shift assignment and both layers are saved in mapping files and host projects, but held state and pickup history are not. Older mapping files load into Normal; new files use mapping format version 2.

Presets and options

Factory patches

Preset	Starting point
01 Organ	Unmodulated voices with some delay
02 FM Two Loops	All pairs using voice FM, with FM Structure down
03 LFO	LFO modulation on pairs 1–2 and 5–6
04 Delay Reverb	A delay-focused patch
05 Distortion	Delay with a stronger distortion blend

These patches do not latch voices automatically. Play pads, use latches, or raise HOLD to hear them. Selecting a preset again reloads its saved settings.

Saving and managing patches

Open **PROGRAM**:

Action	Result
Save As…	Saves the current patch as a new user preset
Update Selected User Preset…	Replaces that preset with the current settings, after confirmation
Rename Selected User Preset…	Changes its saved name

Action	Result
Delete Selected User Preset…	Removes its library file after confirmation; the current sound remains loaded
Import Preset…	Adds and loads a preset file; duplicate names receive a numbered suffix
Export Current Patch…	Writes the current settings to a shareable `.octavegapreset` file
Show Preset Folder	Opens the user library in Finder

A * after a user preset name indicates unsaved sound changes. Factory presets cannot be overwritten; use Save As to make your own version.

Presets include tuning, effects, latches, CV source choices, and LFO sync. They do not include host routing, notes currently being held, or recorded audio in the delay buffers. Latch a voice if you want a recalled patch to drone without a new note.

VST3 and Standalone share the macOS library at `~/Library/Application Support/OctaVega/Presets/`. Import also accepts legacy `.octalyrepreset` and `.lyra8preset` files. OctaVega uses new plugin identifiers and storage folders; it loads as a new instrument in the host.

Projects, mappings, and display preferences

The host project saves the current sound, including unsaved patch edits, along with OctaVega's MIDI assignments and display options. It can restore a sound even when that preset's library file is missing. A preset marked **(unlisted)** can be added back to the library with Save As.

Reopening Standalone or restoring a host project starts with all latches off, both HOLD knobs at zero, and touch-pad pressure, MIDI notes, and sustain released. Other settings are restored, including when opening older sessions. Explicitly loading a user preset still recalls its saved latches and HOLD.

Sound presets leave the instance's MIDI mappings and display preferences unchanged. To share a controller setup, save a mapping file as well as a sound preset.

In **Options…**, **Enable tooltips** defaults on and **Show LFO chart** defaults off. Hidden charts stop collecting display history while the LFO keeps running. **About OctaVega…** in PROGRAM shows the author and inspiration text.

See Presets, options, and MIDI mapping for additional file management details.

Guided sound examples

A tuned drone

Start with the quick-start dry Organ patch: delay MIX 0%, distortion MIX 0%, pair modulation sources OFF, and VOLUME around −18 dB. Turn NOISE & BLEED off for these isolated comparisons.

Latch voice 1 and tune it to approximately **110 Hz**. Latch voice 3 and tune it to **165 Hz** for a fifth, then

voice 5 around **220 Hz** for an octave above voice 1. Keep group PITCH at **0 st**. Fine-tune with Shift-drag to hear the beating slow down or speed up.

Raise SHARP gradually on one pair. Then unlatch the voices and bring up HOLD 1–4 to hear how a group drone differs from individual latches. Compare SLOW and FAST at partial HOLD, then at full HOLD with HOLD GATE at 100%.

Hearing the FM Structure switch

1. Reload the dry Organ starting point. Latch **only voices 1 and 3**. Tune voice 1 around 220 Hz and voice 3 around 330 Hz.
2. Leave the other pairs' modulation sources OFF. Put pair **1–2** at VOICES and raise its MOD to about **25%**, then higher if needed.
3. Put FM Structure **down**. Voice 3 now modulates pair 1–2. Adjust TUNE 3 and SHARP 3–4 to hear the effect on voice 1 as well as on voice 3 itself.
4. Switch FM Structure **up**. Pair 1–2 now receives pair 7–8, which is silent, so voice 1 should become much cleaner. The directly audible voice 3 remains.
5. Latch voice 7 and retune it. With Structure up, it now supplies the modulation to pair 1–2. Switch between the two structures to compare the sources.

For mutual FM, latch voices 1 and 3, set both their pairs to VOICES, and raise both MOD controls from zero with Structure down. Each pair now changes the other. Add voices 5 and 7, enable their pairs' modulation, and switch Structure up to explore a larger feedback loop.

Rhythmic LFO and subtle vibrato

Reload the dry starting patch and latch voice 8. Set its pair to LFO/CV, MOD around 20–30%, FREQ A near 1 Hz, FREQ B near 1.5 Hz, AND/OR to OR, and LINK off. Keep TOTAL FB and CV VOICES off. Compare OR and AND, then enable LINK.

In a host supplying tempo, enable SYNC A. Change the host tempo and listen to the rate follow it. Enable SYNC B too, then turn either sync off to return to independent rates. You can show the LFO chart in Options while exploring.

For vibrato, return the pair source to OFF, tune voice 8 near 660 Hz, and compare VIBRATO off/on. This is a gentler effect than the stepped Hyper LFO modulation.

Echoes, resonance, and moving delay

Reload the dry starting patch. Set TIME 1 near 150 ms, TIME 2 near 230 ms, FEEDBACK near **60% on its readout**, and delay MIX near 40%. Tap a pad and listen to the repeats. Move the times closer together, then farther apart.

Raise FEEDBACK slowly toward 100% to hear the tail lengthen and resonances emerge. Lower FEEDBACK when you want the tail to subside. Keep final VOLUME within a comfortable listening level as the feedback builds.

For smooth movement, choose delay LFO and TRI, set the LFO rates below 1 Hz, and raise MOD 1 and MOD 2 gradually. Compare SQR for more abrupt time changes. Then select SELF and listen to the modulation respond to the delay's own circulating sound.

Distortion and total feedback

Begin with one latched voice, voice-pair modulation OFF, moderate delay MIX, and low delay FEEDBACK. Raise distortion MIX to about 40%, then raise DRIVE. Compare the dry and distorted blends with MIX.

To explore TOTAL FB, keep external CV off, set the sounding pair to LFO/CV, enable TOTAL FB, and raise that pair's MOD gradually from zero. Change DRIVE, delay TIME, or FEEDBACK to hear the effects feed back into the voice's pitch. Disable TOTAL FB to return that pair to the internal Hyper LFO.

Troubleshooting

Symptom	What to check
No sound	Raise VOLUME; play or latch a voice. Check host audio output. A fully wet delay takes time to sound. At extreme MOD depths, lower MOD or raise tuning for comparison.
Sound continues after releasing a note	Check latches, HOLD, sustain, slow release, and delay FEEDBACK. VOLUME fully down gives an immediate mute. Stopping transport does not release an intentional drone.
FAST gives a lower pad level	A normal press is 75% pressure. Drag to the top for full pressure, latch, or use full effective HOLD to reach 100%.
HOLD will not fully open a group	Set HOLD and HOLD GATE to 100%; restore CC11 expression to full if it was lowered.
MOD does nothing	Check the pair source is not OFF. For VOICES, sound the required source pair; for LFO/CV, check the active source and raise MOD.
FM Structure seems unchanged	Its changed destinations are pairs 1–2 and 5–6. They need VOICES selected and MOD raised. Try the guided FM test.
LFO rates do not affect the voices	Check LFO/CV, MOD, TOTAL FB, and CV VOICES. A synced dial is replaced by the host beat rate.
AND/OR does not change delay modulation	Delay SQR always uses AND; TRI uses the triangle combination. The switch changes the voice LFO output.
SYNC shows NO BPM	The host has not supplied a valid tempo. The remembered free rate continues; Standalone has no host BPM.
Vibrato is hard to hear	Isolate a higher voice with modulation and effects off. The fixed vibrato depth is deliberately small.

Symptom	What to check
A routed WAV is audible instead of controlling pitch	In OctaVega choose CV VOICES: Sidechain L, set the pair to LFO/CV, and raise MOD. Keep the source track out of the main mix.
The WAV disappears after enabling CV	This is expected in Live: the shared input becomes control-only. Disable both CV sources to process it as audible EXT IN audio.
Voice or delay CV does nothing	Confirm the source is playing, input level is sufficient, the destination MOD is raised, and the relevant channel reaches the plugin. Delay CV requires a right channel and audible delayed material.
DRIVE does nothing	Raise the distortion MIX; at zero you hear the clean branch.
A controller cannot learn	Select the correct device, click Learn, and deliver MIDI. Host MIDI needs the host to pass input. Reconnect named devices with Refresh Devices.
A dial changes back by itself	Check host automation and MIDI mappings. Recalling a preset also restores its saved parameter values.
Computer keys do not trigger pads	Give the editor focus, close menus/dialogs, or use the pads with the mouse.
Extra background sound	Switch NOISE & BLEED off, release latches and HOLD, then lower delay FEEDBACK and let its tail decay.