MELISMA

Audio to MIDI for music that does not stand still

SnowTec · version 0.1.0 · VST3 · AU · standalone

What it is

MELISMA listens to a monophonic recording and writes it down as notes. It is made for music where the pitch does not stand still: duduk, clarinet, zurna, voice, saxophone. An ordinary converter turns such a phrase into the steps of an equal-tempered ladder and loses exactly what it was played for — the slides, the ornaments, the quarter-tone degrees.

Here the path is different. The pitch is followed as one continuous contour first, and only then cut into notes; everything that happens inside a note goes into the MIDI as pitch bend. The degrees of the scale it finds are drawn on screen, and a degree further than a quarter tone from the piano grid is marked — it is a degree, not an out-of-tune note.

Installation

macOS

- VST3 — `/Library/Audio/Plug-Ins/VST3/MELISMA.vst3`
- Audio Unit — `/Library/Audio/Plug-Ins/Components/MELISMA.component`
- Standalone — `MELISMA.app` in Applications

macOS 11 or newer, Apple Silicon. The installer is not signed yet, so the first time open it with a right-click → Open.

Windows

The installer puts the VST3 into `Program Files\Common Files\VST3` and, if you choose, the standalone with a Start-menu entry. 64-bit. Restart your DAW afterwards so it rescans plug-ins.

Licence

The first **7 days** are a full trial, export included. When it ends the transcription is still computed and shown on screen, but you cannot take it away: the drag zone and `Export MIDI` return nothing. That is the honest shape of a trial — you see exactly what you would be buying.

To activate: `SETUP` → `Activate license…` and your 24-character key. The key is bound to the computer, and the binding is cryptographic: the server's answer is signed, and on another machine the signature simply does not match. The licence lives in `~/Library/SnowTec/MELISMA` on macOS — one folder for every SnowTec plug-in.

Quick start

1. Drop an audio file onto the dark screen — or `FILE` → `Open Audio…`
2. Analysis starts by itself. The notes appear over the contour.
3. Listen: ▶ or the space bar. The `MIX` control crossfades between the original and what came out.

4. Take the MIDI: drag it from the `DRAG & DROP MIDI` field straight into a track — or `FILE` → `Export MIDI…`

Formats: WAV, AIFF, FLAC, MP3, OGG, CAF. Up to five minutes; a longer file is truncated and the screen says so.

Recording from the project

Put the plug-in on the track carrying the sound, press ●, start playback, press ● again — analysis follows by itself. Recording begins when sound appears rather than when the button is pressed, so silence at the top does not end up in the material.

The screen

The amber line is the pitch contour. The green rectangles are the notes. The dashes across are the degrees of the scale it found.

- **Left of the window** — the input meter: you can see whether signal is arriving.
- **Note names down the left**, seconds along the bottom; the density of the labels follows the zoom.
- **Degrees of the scale** are dashed across the screen. An amber dash means that degree is further than 25 cents from the piano grid.
- **Blue** marks the notes the engine considered ornaments.
- **The top line**: how many notes, the concert-A it measured, the tuning system, the tempo, the file name and the project tempo.

Transport and editing

Button	What it does	Key
|◀	Back to the start	
▶	Play / stop	space
●	Record the track the plug-in sits on	
– +	Zoom out, zoom in	– +
↔	Fit the whole take	0
✂	Cut the note where you point	S
→|←	Glue to the next one	J
∿	Draw vibrato in	V
↶	Undo the last edit	

A note can be moved in pitch by dragging it up or down, a semitone at a step. Corrections are kept as "where and how far" rather than as a patched note list, so they survive a turn of a knob: the notes are recomputed and the corrections re-applied on top.

Tempo

The tempo is detected and shown in the `BPM` field, where it can also be typed. The button beside it takes the project's tempo; another pulls the start of the phrase to the nearest beat.

The controls

Control	What it changes
MIX	What you hear while auditioning: the original, the MIDI, or a blend. It does not affect the result.
ORNAMENT	The shortest length the engine still calls a note. Lower gives more small ornaments; higher is calmer and coarser.
SLIDE	How readily a movement between notes counts as a slide rather than as a new note.
VIBRATO	Which wobble stays inside the note and which counts as a change of pitch.
SENSITIVITY	The level threshold: where sound ends and breath, key noise and hiss begin.
NEURAL	How much to trust the neural tracker against the classical one. See the note below.

Switches

- **AI** — turns the network on at all. With it off the NEURAL control is not read and the network does not run, rather than running invisibly.
- **MPE** — one note per channel so each keeps its own pitch curve. Use it if the receiving instrument understands MPE.
- **ORNAMENTS** — keep ornaments as notes of their own.

MODE and BEND

MODE: `Expressive` passes the pitch movement through as it is, `Scale` pulls it towards the scale it found, `Clean` leaves plain notes with no bend.

BEND — the pitch-bend range: ±2, ±12, ±24, ±48 semitones. Set the same in the receiving instrument.

> **Worth knowing about ±2 before you start.** It is what most synthesizers ship with, but for a duduk it is tight: the portamento travels further than two semitones, and the engine is forced to break the gesture into pieces. On our own reference material ±2 against ±12 gave twice as many notes and a visibly worse match with the ground truth. If the receiving instrument allows it, use ±12 or ±24 — and set the same range there.

The standalone

The same job without a DAW. `FILE` → `Open Audio…`, listen, correct, `FILE` → `Export MIDI…` The recording input and the sound card are chosen with the `Options` button in the window title — `Audio/MIDI Settings`.

About the material

- The recording must be **monophonic** and as dry as possible. Reverb smears the ends of notes; chords and choirs are not transcribed at all.
- The cleaner the signal, the less SENSITIVITY needs touching.
- For fast ornaments lower ORNAMENT, or they collapse into a single note.

> **The network is not always better.** On our reference material, with the network at 0.7 the accuracy fell: on the duduk with vibrato F1 0.667 against 0.632, on glissando 0.762 against 0.700, and the mean pitch error grew from 2.4 to 3.0 cents. The network was trained on Western instruments and voice and pulls the estimate towards equal temperament. For Eastern material try 0.3, or switch it off — the classical engine was fitted on exactly these recordings.

If something is wrong

What you see	What to do
The input meter stays silent while recording	The plug-in must sit on the track carrying the sound, that track must have input monitoring on, and the transport must be running.
Logic will not let you drop a file from the arrange page	Logic hands a plug-in nothing when a region is dragged off the arrange page. Use `FILE → Open Audio…` or click the empty screen.
Auditioning is silent and the playhead does not move	The host is not calling the plug-in — this happens on an instrument track with an empty instrument slot. Put it on an audio track, or use the standalone.
Windows: the plug-in does not appear in the DAW	Check that the DAW scans `Program Files\Common Files\VST3`, and rescan.
Activation says "no answer from the server"	Check the internet and the firewall. Enter the whole 24-character key; case and hyphens do not matter.
An update lost the activation	It should not: the licence lives outside the plug-in. If it did, activate again with the same key — the computer is already counted.

Support

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