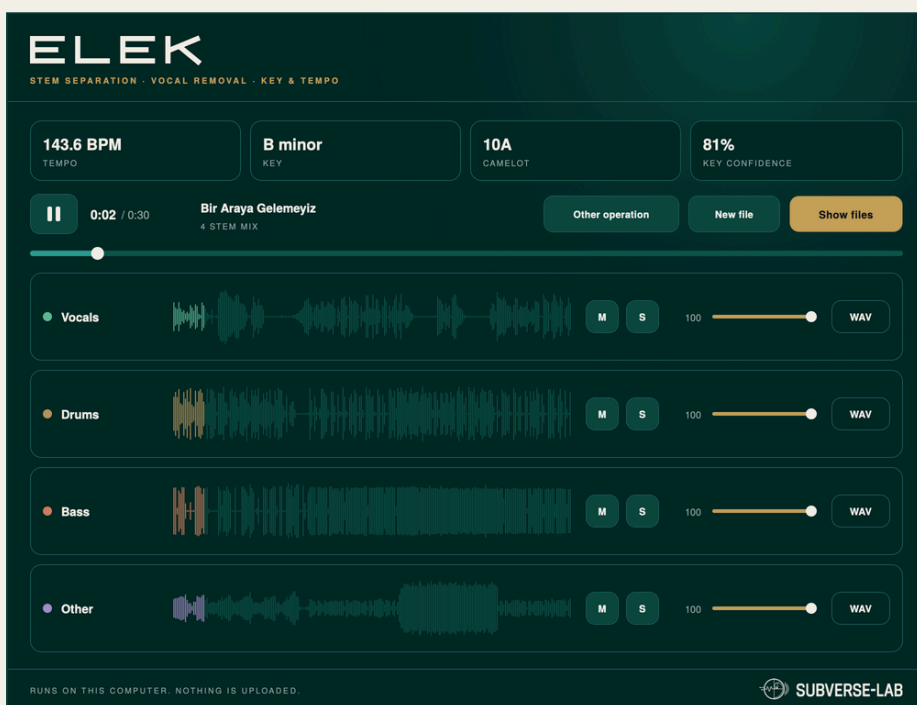




ELEK

STEM SEPARATION · VOCAL REMOVAL · KEY & TEMPO



MODEL EK-84

OWNER'S MANUAL

STANDALONE APP · VST3 · AU

SUBVERSELAB

1. WHAT ELEK IS

EK-84

ELEK takes a finished track apart. It writes the vocals, drums, bass and everything else as separate files, takes the vocal out of a song, or tells you its tempo and key. “Elek” is Turkish for sieve.

THREE OPERATIONS, ONE CHOICE

Stem separation writes four files: vocals, drums, bass and other. **Vocal removal** writes two: the vocal and the instrumental. **Key & BPM** reads the tempo, the key, its Camelot code and how sure the reading is, without separating anything. Dropping a file only loads it; nothing runs until you choose an operation and press Run.

EVERYTHING STAYS ON YOUR COMPUTER

The separation runs on your own processor. No file is uploaded, no account is needed to use the app, and it works offline.

EVERY RESULT IS KEPT

Each run gets its own folder in Music/ELEK, with the track name, tempo and key in the file names. The start screen lists your earlier runs, so a separation you made last week opens again with one click.

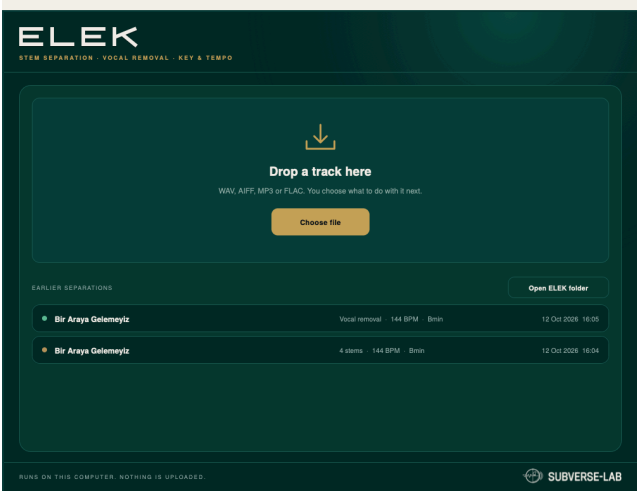
2. QUICK START

ONE MINUTE

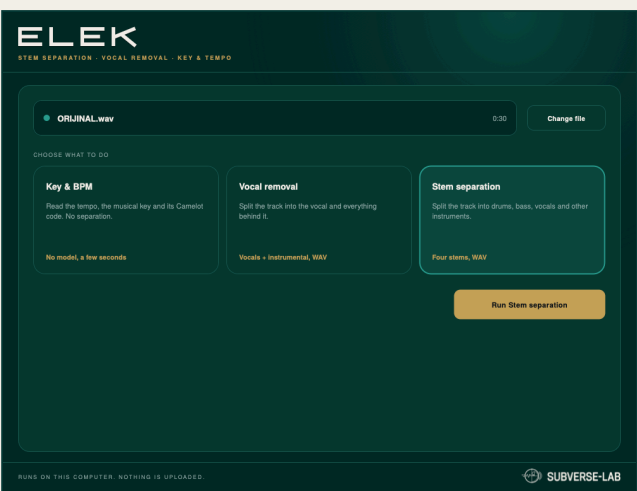
- 1 Open ELEK:** the app, or the plug-in on any track in your DAW. Both show the same window.
- 2 Drop a track** on the window, or click Choose file. WAV, AIFF, MP3 and FLAC all work.
- 3 Choose an operation:** Key & BPM, Vocal removal or Stem separation.
- 4 Press Run.** The progress bar shows how far it is. Key & BPM takes a few seconds; a separation takes a little less than the length of the track on an Apple M2.
- 5 Listen in the mixer,** then grab a stem's waveform (or its WAV button) and drag it onto a track in your DAW, or press Show files.

3. THE WINDOW

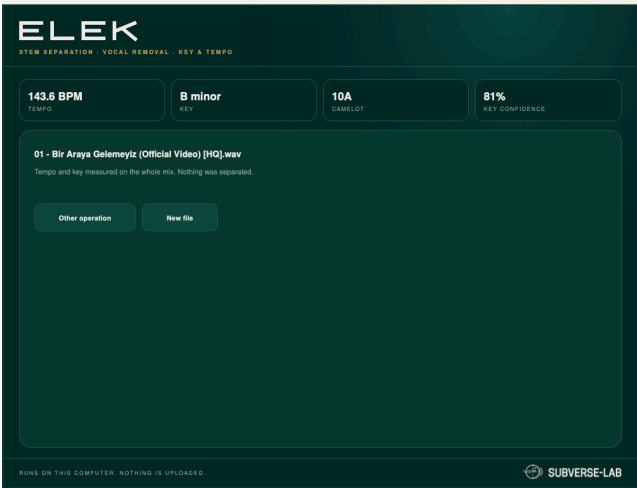
FOUR VIEWS



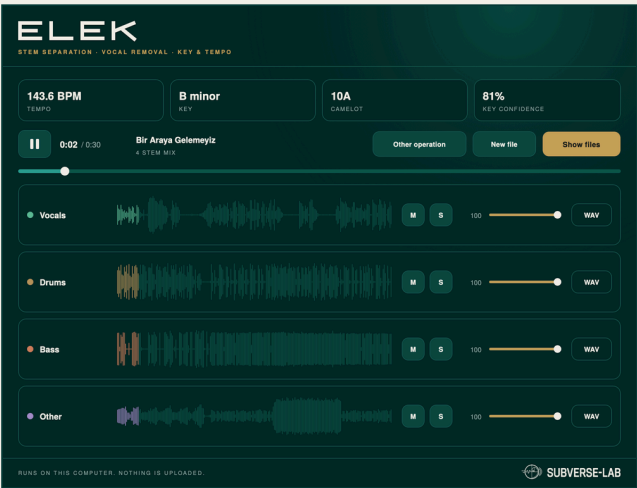
Start screen. The drop zone, and under it the earlier separations still on disk, newest first.



Choose. The file is loaded and Stem separation is chosen. Nothing has run yet: Run starts it.



Key & BPM. Tempo, key, Camelot code and key confidence, measured on the whole mix.



Mixer. Four stems with their waveforms; the tiles on top carry the tempo and key.

CONTROL	WHERE	WHAT IT DOES
Choose file	Start screen	Loads a track. Dropping a file on the window does the same. Nothing runs yet.
Key & BPM	Choose	Reads tempo, key, Camelot and confidence. No separation, no files written.
Vocal removal	Choose	Writes Vocals and Instrumental.
Stem separation	Choose	Writes Vocals, Drums, Bass and Other, plus the Instrumental.
Run	Choose	Starts the chosen operation. It stays grey until one is chosen.
Play / seek	Mixer	Plays all stems together. Click any waveform or the bar on top to jump.
Drag a stem	Mixer	Grab a stem's waveform and pull it onto a track in your DAW: the stem's WAV lands there. A click on the waveform still jumps.

M / S	Mixer	Mute or solo a stem while you listen. The files are not changed.
Level	Mixer	Playback level of each stem, 0 to 100. The files are not changed.
WAV	Mixer	Drag it into your DAW, like the waveform, or click to show the file.
Show files	Mixer	Opens the run's folder.
Other operation	Results	Back to the three operations with the same file loaded.
New file	Results	Back to the start screen.

4. WHERE THE FILES GO

MUSIC/ELEK

Every separation writes a new folder in your Music folder (macOS: ~/Music/ELEK; Windows: Music\ELEK in your user folder). Nothing is ever overwritten.

WHAT	EXAMPLE
Folder	Bir Araya Gelemeyiz_144BPM_Bmin_2026-10-12 1729
Stem file	Bir Araya Gelemeyiz_Vocals_144BPM_Bmin_ELEK.wav
Run record	elek.json: source file, operation, date, tempo, key and the file list

- **Short names:** ELEK drops the extension, track numbers and tags in brackets, and cuts long names at a word: “01 - Bir Araya Gelemeyiz (Official Video) [HQ].wav” becomes “Bir Araya Gelemeyiz”.
- **The key only when it is sure:** the key goes into the names only when its confidence is 50% or more. The window always shows the key with its confidence.
- **Earlier separations:** the start screen lists every run whose files are all still there. Delete or move the files and the run leaves the list. “Open ELEK folder” shows the whole library.

5. GETTING THE BEST RESULTS

RECIPES

START FROM THE BEST COPY YOU HAVE

A WAV or a high-bitrate file separates more cleanly than a small MP3. The encoder's artefacts are spread across all the stems.

INSTRUMENTAL FOR A COVER OR A KARAOKE TRACK

Vocal removal

The instrumental is the mix minus the separated vocal, so everything that is not the voice stays in it, effects included.

SAMPLING AND REMIXING

Stem separation

Take the drums for a break, the bass for a groove, or Other for the chords and leads. The stems line up with the original to the sample, so they drop straight under the track in your DAW.

DJ PREPARATION

Key & BPM

Read the tempo and the Camelot code before you build a set. A slow track can read at half its felt tempo or a busy one at double; ELEK folds tempos into 70–180 BPM, so check by ear when a number looks odd.

WHAT ELEK CANNOT DO

No separation is perfect: a little of one instrument can be heard in another stem, most often in Other. Tempo and key need at least 6 seconds of music; on shorter files, or on silence, ELEK says so instead of guessing.

6. HOW IT WORKS

THE ENGINE

The separation engine is HT-Demucs, a hybrid model that works on the waveform and on the spectrum at the same time. ELEK runs it over overlapping windows of the track with a 25% overlap and cross-fades the windows into each other, so there is no click or level jump where they meet.

The engine works at 44.1 kHz. Files at other sample rates are converted with a windowed-sinc resampler, and the converter's delay is removed, so the stems come back aligned to the original to the sample. Stems are written as 24-bit WAV at 44.1 kHz.

Tempo comes from the onsets of the whole mix; the key from its chroma against the Krumhansl–Schmuckler major and minor profiles. The confidence says how far the winning key stands above the next one.

7. INSTALLATION

MACOS AND WINDOWS

MACOS

Open the ELEK macOS installer (Elek-<version>-macOS.pkg) and follow it. It puts the ELEK app in /Applications, ELEK.vst3 in /Library/Audio/Plug-Ins/VST3 and ELEK.component (Audio Unit) in /Library/Audio/Plug-Ins/Components. The installer is signed and notarized by Apple. ELEK runs natively on Apple Silicon and Intel Macs (macOS 11 or later) from version 1.0.3.

WINDOWS

Unzip Elek-1.0.1-Windows.zip. Copy the ELEK.vst3 folder to C:\Program Files\Common Files\VST3\ and rescan plug-ins in your DAW. The app is in the “ELEK App” folder: keep ELEK.exe, onnxruntime.dll and ht-demucs.onnx together and start ELEK.exe. Windows may warn that the publisher is unrecognised the first time; choose “More info”, then “Run anyway”.

AUDIO OUTPUT (APP)

The app plays through your default output. To choose another device, press **Audio output** in the window. The plug-in plays through your DAW.

8. SPECIFICATIONS

TECHNICAL

ITEM	VALUE
Formats / platform	macOS 11 or later, Apple Silicon and Intel: standalone app, VST3, AU · Windows 64-bit: standalone app, VST3
Input files	WAV, AIFF, MP3, FLAC; mono or stereo; any sample rate
Output files	24-bit WAV, 44.1 kHz, aligned to the original to the sample
Stem separation	Vocals, Drums, Bass, Other (+ Instrumental)
Vocal removal	Vocals, Instrumental
Key & BPM	Tempo (70–180 BPM), key, Camelot code, key confidence; needs 6 s or more
Engine	HT-Demucs, overlapping windows (25%) with cross-fades
Memory	About 2.4 GB at the peak of a separation; 8 GB computers are enough
Speed	A 4-minute track: about 3.5 minutes on an Apple M2 with 8 GB
Network	None needed; nothing is uploaded
Updates	2 years of updates included; the version you have keeps working

9. MEASURED, NOT GUESSED

THE NUMBERS

Numbers from the release tests of ELEK 1.0.0; the separation in 1.0.1 is unchanged (same stem peaks on the release test file).

- **Speed and memory:** a 4-minute track separated into four stems in 215 s on an Apple M2 with 8 GB; the highest memory use was 2.35 GB.
- **Alignment:** a 48 kHz copy of a test song came back with 0 samples of delay against the original (92 before the converter delay was removed), and the stems matched the 44.1 kHz run to within 43–51 dB.
- **Odd files:** FLAC at 48 kHz, a 10 s mono file, a 22.05 kHz mono MP3, a 1 s file, 5 s of digital silence and a Turkish file name all separated and wrote their stems.
- **No guessing:** on 5 s of silence and on a 1 s file, Key & BPM reports that there is nothing to measure instead of a tempo and key.
- **Same on both systems:** on the release test file the Windows build wrote stems with the same peak levels as the Mac build (Vocals 0.0192, Drums 0.7876, Bass 0.4578, Other 0.4176).