KICK ENGINE

Magnificence Audio - kick drum synthesizer

Manual - version 1.0.4

Signed and notarized for macOS. Activate with your Magnificence Audio account: see 'Activating'. Questions or bugs: contact@magnificencemusic.com with your macOS version, DAW and a short description.

Installing

Kick Engine comes as an Audio Unit (AU) and a VST3 for macOS, and as a VST3 for Windows. Both come with a standalone application.

macOS

Universal binary, runs natively on Apple Silicon and on Intel Macs (macOS 11 Big Sur or later). The installer is signed with Apple Developer ID and notarized, so macOS accepts it without extra steps.

- Download the Kick Engine installer (.pkg) from your Magnificence Audio account and double-click it.
- Choose what to install: the Audio Unit, the VST3, and the factory presets (all three by default). The plug-ins go to /Library/Audio/Plug-Ins, the presets to /Library/Audio/Presets/Magnificence Audio/Kick Engine.
- If you used the beta, the installer removes the old copies from your user Library so there is only one Kick Engine.
- Restart your DAW. If Kick Engine does not appear, rescan your plug-ins in the DAW's plug-in manager (Logic Pro: Settings > Plug-in Manager > Reset & Rescan Selection).

Windows

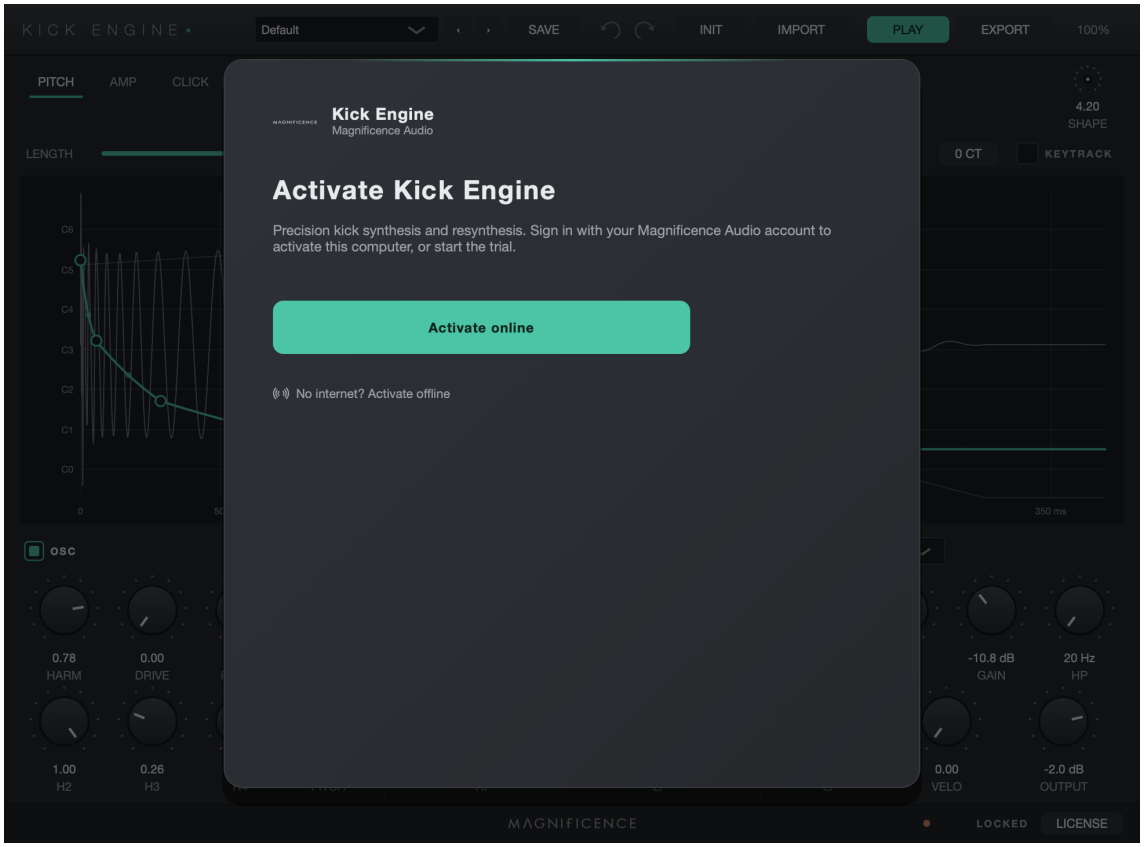
Windows 10 or later, 64-bit. VST3 only (there is no AU on Windows).

- Download the Kick Engine installer (Setup.exe) from your Magnificence Audio account and run it.
- If Windows shows 'Windows protected your PC', click 'More info' and then 'Run anyway'. The installer is not yet signed with a Windows certificate; the file is exactly what we built.
- Choose what to install: the VST3 (to C:\Program Files\Common Files\VST3), the standalone application, and the factory presets (to C:\ProgramData\Magnificence Audio\Kick Engine).
- Restart your DAW and rescan your plug-ins if Kick Engine does not appear.

Activating

Kick Engine is licensed through your Magnificence Audio account. The first time you open the plug-in it shows the activation screen; the plug-in is silent until it is activated or on trial.

- Activate online: click 'Activate online'. Your browser opens the Magnificence Audio account page; sign in (or create an account), confirm, and the plug-in unlocks by itself.
- Trial: new accounts can start a free trial from the same screen. The plug-in shows the days left; when the trial ends it locks until you buy a license.
- No internet on this computer: choose 'Activate offline', save the machine file, exchange it for a license file in your account on another device, and load that file.
- A license runs on up to 3 computers. Open LICENSE at the bottom right of the plug-in to see the details, check for updates, or deactivate this computer so you can use the seat elsewhere.
- The plug-in checks its license online now and then; it keeps working offline for 30 days.



The activation screen. It appears on first launch and whenever the plug-in is not licensed; LICENSE (bottom right) opens it at any time.

Where things live

License	macOS: ~/Library/Application Support/Magnificence Audio/Kick Engine/license.mb Windows: %APPDATA%\Magnificence Audio\Kick Engine\license.mb
Presets	macOS: ~/Library/Audio/Presets/Magnificence Audio/Kick Engine/ Windows: Documents\Magnificence Audio\Kick Engine\ (subfolders become categories)
Clicks	the 'Clicks' folder inside the presets folder (your own click WAVs)
Settings	macOS: ~/Library/Application Support/Magnificence Audio/Kick Engine.settings Windows: %APPDATA%\Magnificence Audio\Kick Engine.settings

How Kick Engine works

A kick is a sine wave whose pitch and level change over time, plus a short click on top. Kick Engine makes both visible: every curve you see is exactly what you hear, and the grey waveform behind the curve is a real render of the current sound. There are three layers:

- OSC: a pure sine oscillator driven by the PITCH and AMP curves. HARM adds harmonics, DRIVE saturates the sine itself.
- CLICK: a short sample layered on top for the attack. Use the built-in click, one of the eleven factory clicks, your own files, or the 'top' of an imported kick.
- FX: a clipper with its own HP, LP and MIX, then SHAPE (a tilt), and LOW CUT / HIGH CUT on the whole kick at the very end of the chain.

Every MIDI note restarts the kick from exactly the same point, so all hits are identical. To make that click-free the output runs 1.5 ms behind, which your DAW compensates automatically.

The main window: header, curve editor, and the OSC / CLICK / FX sections.

The curve editor

The tabs PITCH, AMP, CLICK, DIST and HARM switch which curve you edit. The curve in colour is the one you are editing; the dim grey curve is the related one (AMP under PITCH, CLICK under AMP). The vertical axis shows the sounding pitch in notes, including the PITCH offset, so what you read on a point is what sounds.

Add a point	double-click an empty spot. The point lands exactly on the line, so nothing changes until you move it.
Move a point	drag. Shift = vertical only, Alt = snap to semitones (pitch), Cmd = fine.
Bend a segment	drag the small handle between two points up or down. Segments are straight lines until you bend them, and a bend only affects that one segment.
Delete	double-click a point, or select points and press Delete / Backspace.
Select	drag on an empty spot for a rubber band, Shift+click to add, Cmd+A for all, Esc to clear.
Right-click	Phase lock and Keytrack from here (pitch only), Set value..., Simplify curve, Delete.
Undo / redo	the arrows in the header, or Cmd+Z / Cmd+Shift+Z.
Zoom	scroll over the editor to zoom around the mouse (up to 250x), Shift+scroll or horizontal scroll to pan, pinch on a trackpad. A bar under the plot shows the visible part and can be dragged. Keys: left/right = pan, +/- = zoom, 0 or double-click the time axis = reset.

Pitch

The PITCH curve is the heart of the kick: a fast sweep down into the body note. The last point holds its value forever, so you do not need a point at the end. ROOT shows the note the curve settles on, with the deviation in cents. Press 0 CT to tune it to exactly 0 cents, or double-click the ROOT value and type a note (F1, G#0) or a frequency (45 Hz). The PITCH knob transposes the whole curve; KEYTRACK makes MIDI notes transpose it (C1 = as drawn).

Phase lock: right-click a pitch point and choose Phase lock. From then on the sine arrives at that point with the same phase, no matter what you change before it. The tail stays identical while you reshape the attack. Imported kicks get one lock per cycle automatically.

Length

LENGTH sets how long the kick plays. All curves keep their absolute time in milliseconds when you change it: shortening cuts the end, lengthening adds tail, and the attack does not move.

AMP tab: the level curve of the oscillator. The CLICK curve is shown dimmed behind it.

Importing a kick

Drop any kick sample (WAV, AIFF, FLAC) on the window, for example straight from Splice. Kick Engine analyses it:

- Everything below the split frequency (600 Hz by default) is the sub. Its pitch and level are measured cycle by cycle and become the PITCH and AMP curves, with a phase lock on every cycle so the oscillator follows the sample exactly.
- Everything that is left after subtracting that sub, the 'top', goes to the CLICK layer. OSC + CLICK together reproduce the original sample.
- Turn CLICK off to hear only the reconstructed sub; turn OSC off to hear only the top. Now you can tune, lengthen, reshape or re-click the kick while keeping its character.
- The FX section is reset to neutral on import so you always hear the clean reconstruction. The IMPORT button does exactly the same through a file chooser.
- The PITCH knob transposes the imported kick as a whole, up or down, while the oscillator keeps following the same waveform.
- The top is stored inside your DAW project and inside presets, so a project or preset still sounds the same on another computer or after the original sample is gone. The same goes for click files you load yourself.

An imported kick: one pitch point per cycle (squares are phase-locked), the top is loaded in the CLICK layer.

The sections

OSC

HARM amount of harmonics added to the sine. The knob is the peak of the HARM curve: turning it scales the curve, editing the curve moves the knob.

H2 / H3 / H4 mix of the 2nd (octave), 3rd (fifth) and 4th harmonic.

DRIVE saturation on the oscillator itself (tanh). Great for a harder body.

PHASE start phase of the sine. Set automatically by import.

GAIN oscillator level.

PITCH transpose in semitones (also used by 0 CT).

CLICK

List Built-in click, FACTORY (Click 1-11), USER (your Clicks folder, subfolders become categories), Load file..., Show clicks folder... The arrows step through them.

GAIN / PITCH level and playback pitch of the click. START and LENGTH trim the sample.

HP / LP filters on the click only. Wide open = no filtering.

CLICK curve level of the click over time (CLICK tab).

CLICK tab with the click list.

FX

Type Soft, Hard, Tube, Fold or Analog (an asymmetric, tube-like clipper; NOISE adds a touch of vintage noise), 2x oversampled. Switching types while a kick plays crossfades, so it does not click.

AMOUNT how hard the clipper is driven.

MIX how much of the clipped signal you hear. MIX is the peak of the DIST curve, so you can clip only the attack or only the tail.

GAIN level of the clipped signal after the clipper.

HP / LP filters on the FX signal only, after the clipper and before MIX. Clip hard, keep just the highs with HP (or tame them with LP) and blend that into the clean kick with MIX; the dry kick is never filtered. With FX off they do nothing. (Presets made before 1.0.4 keep the old behaviour: HP/LP set the band that gets clipped and the rest stays dry.)

SHAPE top-right: a flat tilt around 800 Hz, up to +/-10 dB. Up is brighter, down is darker. Last stage of the chain. (Presets made before 1.0.4 keep the old bell/shelf behaviour, so they sound as they did.)

LOW / HIGH CUT the range fader top-right: two handles on one track from 20 Hz to 17 kHz, on the whole kick, last in the chain. Drag the left handle up for a low cut (to 10 kHz), the right handle down for a high cut (to 80 Hz); at the ends they read OFF and do nothing. Right-click a handle for the slope (12, 18, 24, 30 or 36 dB per octave), double-click to switch it off, click it to draw its curve over the kick.

VELO how much MIDI velocity affects the level. OUTPUT is the master level (default -2 dB).

DIST tab: the clipper mix over time.

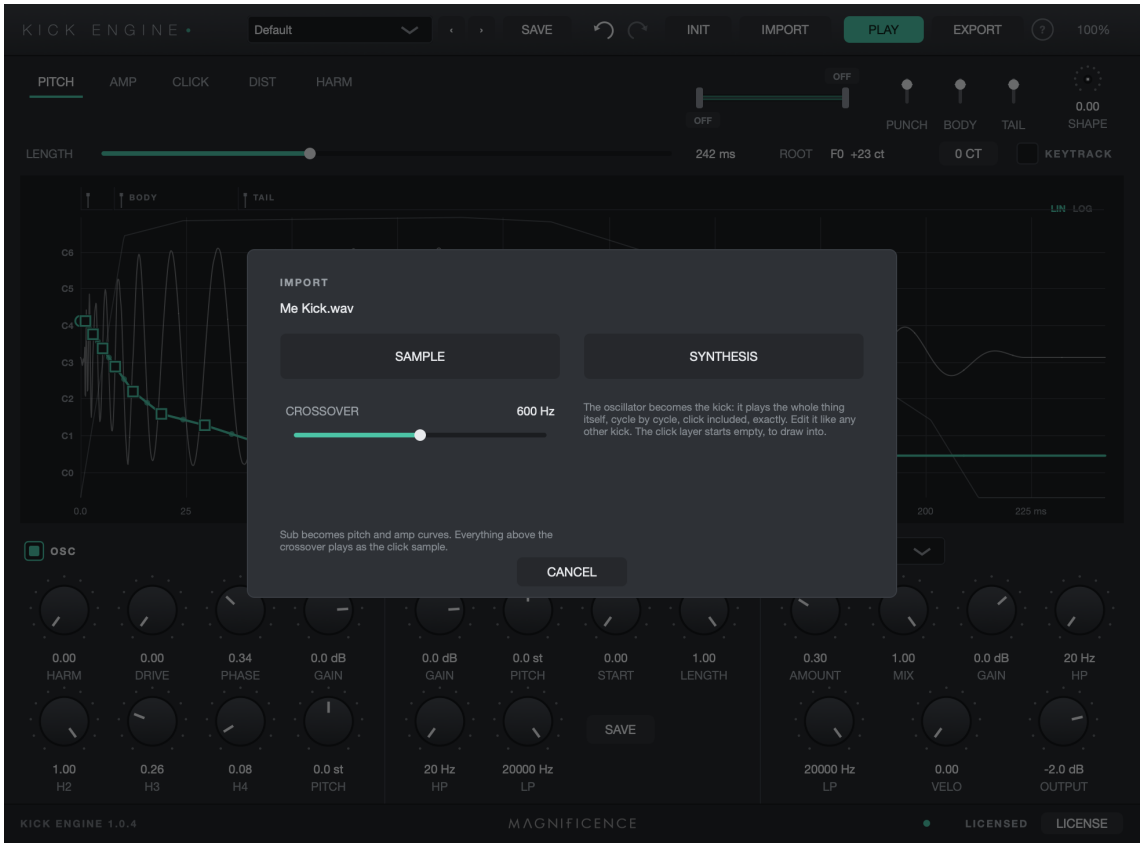
New in 1.0.4

Importing: SAMPLE or SYNTHESIS

Dropping a kick (or IMPORT) opens a small panel with two ways to take the kick apart:

- SAMPLE: the sub becomes the pitch and amp curves; everything above the CROSSOVER plays as the click sample. NO CROSSOVER turns Kick Engine into a sampler for this kick (the whole file as click, oscillator off).
- SYNTHESIS: the oscillator becomes the kick. It plays the whole kick itself, cycle by cycle, click included, from the very first sample: every cycle of the original is a cycle of the oscillator, so the oscillator alone is the original. The pitch curve shows one point per cycle, the amp curve one point per cycle, and you edit them like any other kick. Pitch the body down and the click stays where it is in milliseconds. The click layer starts empty, ready to draw into.

The button next to the click list (-> SYNTH / -> SAMPLE) reopens the panel on the stored kick, so you can switch at any time. Leaving SYNTHESIS remembers your work there; coming back restores it.



The import panel: SAMPLE with a crossover, NO CROSSOVER (sampler), or SYNTHESIS.

A kick in SYNTHESIS: one pitch point per cycle, the oscillator plays the whole kick, the parts above the waveform.

DRAW: draw the click by hand

In SYNTHESIS, DRAW (click section) zooms in on the first ten milliseconds. Drag over the waveform: what you draw is exactly what plays. The difference goes into the click layer, the oscillator stays as it is, and undo takes a stroke back. INIT gives you one sine on C1 with an empty click, ready to draw on. You can draw in both directions and start right at the first sample. SAVE stores the current click as a WAV in your Clicks folder (type Folder/Name for a category) and it shows up in the click list.

DRAW mode: the waveform is the pen's target.

A curve for every knob

DRIVE, H2/H3/H4, the click's PITCH, HP and LP, the FX AMOUNT, GAIN, HP and LP, SHAPE and OUTPUT each have their own curve over the kick. Click the knob and the editor shows its curve, starting flat on the knob's value; drag points to draw it. Turning the knob moves the whole curve; dragging the first point moves the knob. A knob with a curve shows its name in the accent colour. Curves are saved in the preset. PITCH, OSC GAIN, CLICK GAIN, HARM and DIST MIX keep their tabs.

The FX LP knob's curve: the filter opens over the first quarter of the kick.

ATTACK, PUNCH, BODY, TAIL

Four parts of the kick, read from the pitch curve: ATTACK above 4 kHz, PUNCH from 4 kHz down to 262 Hz, BODY from 262 Hz down to 65 Hz, TAIL below. Each has its own level (-24 to +8 dB): the three small faders next to SHAPE (PUNCH, BODY, TAIL), or the handles in the strip above the waveform (drag vertically, double-click resets). Parts that do not occur in a kick are simply not shown; an imported kick never has an ATTACK part, so the strip labels its first part ATTACK.

KEYTRACK bar

Switch KEYTRACK on and a bar slides out at the bottom: an on-screen keyboard (C1 to C5, click to play), a pitch bend wheel, LEGATO / ALWAYS and GLIDE. The kick follows the MIDI note (C3 plays it as designed) and lasts as long as the note, with a 12 ms release. LEGATO: a new key while a note is held slides the pitch instead of restarting the kick. ALWAYS: every new note starts on the previous key and glides to the new one in GLIDE ms (808 style). Right-click a pitch point and choose 'Keytrack from here': the thump before that point keeps its pitch and only the tail follows the key.

KEYTRACK on: keyboard, pitch bend, LEGATO / ALWAYS and GLIDE. Top right: the LOW CUT / HIGH CUT range fader.

Also new

- LOW CUT and HIGH CUT on the whole kick, with slopes from 12 to 36 dB per octave and a curve per handle (see FX).
- FX: the Analog type with NOISE, and HP / LP that filter the FX signal before MIX (see FX).
- Retriggering is click-free: the previous kick fades out in 12 ms in its own chain while the new one starts clean.
- DRAW has five tools (the list top-right of the editor): COMPLEX (what you draw is what plays), brush, eraser (smooths what is under the stroke), fade (in or out) and glue (shifts the phase to join two parts). Cmd = smooth, Alt = eraser while drawing.
- Editor: LIN / LOG switch for the time axis, Cmd+C / Cmd+V copies and pastes points, right-click 'Set value...' (or right-click a point twice) to type a note, cents or Hz, 'Simplify curve' thins out a dense curve.
- HELP (the ? in the header): hold the mouse still on a control for a short explanation.
- Zoom down to half a millisecond (scroll, pinch or +/-); the time axis follows your host's sample rate exactly.
- SHAPE is a flat tilt around 800 Hz; DRIVE is gentler. Both only for new kicks and INIT: presets and projects from before 1.0.4 sound exactly as before.
- Fixed: a click that was switched off could still play once it was switched back on.
- KEYTRACK: for kicks made or imported in 1.0.4, C3 (the middle of the keyboard, MIDI note 60) plays the kick at its own pitch, so you can also play downwards. Older presets keep C1 as home.

Making a kick: a quick workflow

- 1. Start from Default or a preset, or drop a kick you like onto the window.
- 2. PITCH: set the body note with 0 CT (or type the note), then shape the sweep: the first two or three points decide the punch.
- 3. AMP: a slow decay for a long 808-style kick, a fast one for a tight club kick. Pull the handle to bend the decay.
- 4. CLICK: pick a factory click, set its GAIN and PITCH, and shorten its curve if it rings too long.
- 5. HARM and DRIVE for body, the FX clipper (HP above the sub, then MIX to taste) for attack grit, SHAPE for air.
- 6. Play it with MIDI. Every hit is identical, so what you hear in the loop is what you get.
- 7. SAVE as a preset (type 'Folder/Name' to make a category) or EXPORT: click to save a WAV, drag the button straight into your DAW.

Presets from earlier versions

Presets and projects made in 1.0.0 to 1.0.3 open in 1.0.4 and keep their sound: those kicks keep the old SHAPE, DRIVE and FX band behaviour. New kicks (INIT, a new import) use the new behaviour. Your own presets are never touched by the installer. Every earlier version stays available at magnificencemusic.com/kick-engine if you want to go back; a kick saved in a newer version may sound different in an older one.

Presets and size

The preset list is in the header, with arrows to step through. A preset called 'Default' loads automatically in every new instance. 'Show presets folder...' opens the folder in Finder. The percentage in the top-right corner sets the interface size (50-150 %) and is remembered.

Known limitations

- One click layer (not three). Mono output.
- Import works best on kicks with a clean sub; very distorted or atonal samples (stomps) may be refused or give a short or odd pitch curve.

HARM tab: harmonics over time.