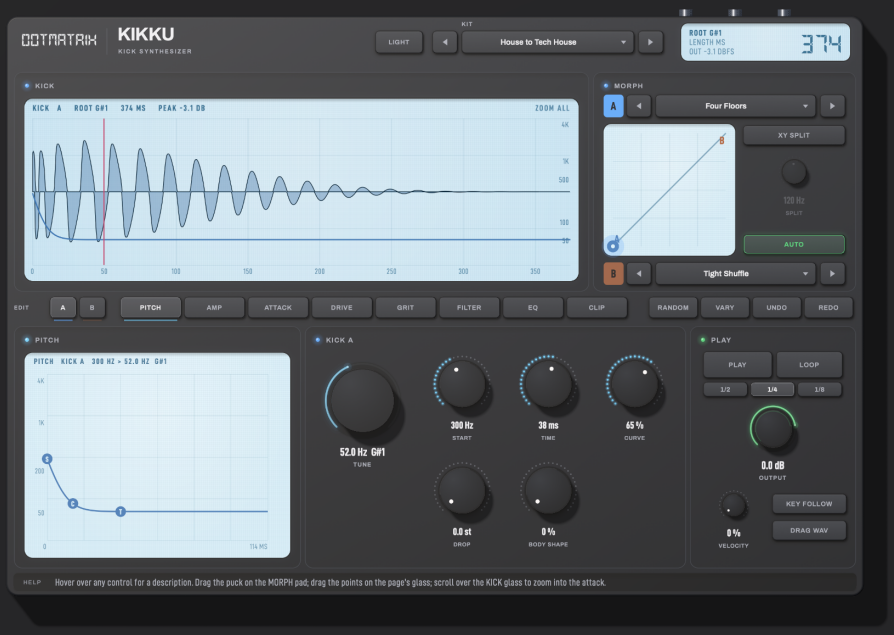
DOTMATRIX

DOTMATRIX / LIGHTWEIGHT AUDIO PLUGINS

KIKKU

A kick drum synthesizer:
two kicks, a morph between them, and eight pages to shape each one.



Kikku by Dotmatrix

USER GUIDE | VERSION 1.0.0 | AU | VST3 | CLAP | APP | macOS 10.14+ | INTEL + APPLE SILICON

Every kick made from scratch. Morph between two of them, or take the lows from one and the highs from the other.

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— ABOUT KIKKU

Kikku is a kick drum synthesizer from Dotmatrix. Every kick is synthesized, with no samples: load one kick into slot A and another into slot B and morph between them on a pad, or turn on XY SPLIT to take the low end from one morph position and the top from another, joined at a split you choose. Eight pages shape each kick: the pitch sweep, the amp envelope, a click blended from four characters, up to three drive layers with their own envelopes, a grit noise layer, a filter with its own envelope, three EQ bands that can act on just one moment of the hit, and a final clip. AUTO keeps any morph from getting louder than the two kicks it comes from. 43 factory kicks in ten styles and 25 kits, RANDOM, VARY, undo, a beat-locked LOOP for shaping the kick against your tempo, key follow, and DRAG WAV to drop the kick onto a track. Because the kick is rendered ahead of time, it costs almost nothing to play. AU, VST3, CLAP and a standalone app for macOS, universal.

— QUICK FACTS

Type	A kick drum synthesizer: two kick slots, A and B, a morph pad between them, and eight pages of synthesis for each kick. No samples.
Formats	Audio Unit, VST3 and CLAP instrument, and a standalone app. Universal: Apple Silicon and Intel, macOS 10.14 Mojave or later on Intel, macOS 11 or later on Apple Silicon.
Rendered ahead	The kick is rendered in the background whenever a setting changes, at 4x at 44.1 and 48 kHz (2x at 88.2 and 96, 1x above), then played back from memory. No latency, and almost no CPU while it plays.
Library	43 factory kicks in ten styles and 25 kits. Your own kicks are saved in ~/Music/Kikku Kicks.
Identity	Manufacturer Dotmatrix (Dtmx). AU code: Kikk.

SECTION 01

Getting started

Pick a kit, play it against the beat, then make it yours.

— NEW IN VERSION 1.0

1.0	The first release: two kick slots with a parameter morph, XY SPLIT with a zero-phase split, AUTO level, eight pages (PITCH, AMP, ATTACK, DRIVE, GRIT, FILTER, EQ, CLIP), draggable points on every page, RANDOM, VARY, UNDO and REDO, LOOP, KEY FOLLOW, VELOCITY, DRAG WAV, 43 kicks, 25 kits, dark and light panel.

— INSTALLING

Copy each plug-in from the download's **Plug-Ins** folder into its folder: **~/Library/Audio/Plug-Ins/Components** (Audio Unit), **~/Library/Audio/Plug-Ins/VST3** and **~/Library/Audio/Plug-Ins/CLAP**. Copy **Kikku.app** into Applications to use it on its own. The release is not yet signed through Apple's developer program, so macOS needs one Terminal line before it will load it; **READ ME FIRST.txt** in the download has the exact steps. Logic Pro checks new Audio Units the first time it starts; Kikku appears under **AU Instruments > Dotmatrix**.

— FIRST STEPS

1	**Insert it**	Put Kikku on an instrument track (in Logic: AU Instruments > Dotmatrix > Kikku). Any MIDI note plays the kick.
2	**Pick a kit**	Choose a kit from the **KIT** menu at the top. A kit loads a kick into each slot and sets the morph.
3	**Hear it in time**	Press **LOOP** and pick **1/4**: the kick plays on every beat at your project's tempo, so you can shape it against the rest of the track.
4	**Morph**	Drag the puck on the **MORPH** pad from A towards B. Turn on **XY SPLIT** to take the lows from one position (across) and the highs from another (up).
5	**Shape and keep**	Choose **EDIT A** or **B**, then a page, and turn its knobs or drag the points on its glass. Save the result from the KICK menu, or drag **DRAG WAV** onto a track.

— BASIC HANDLING

Dials	Drag up or down. Double-click to reset. Click the value under a dial to type one.
Glowing dials	TUNE on PITCH and OUTPUT have a light ring that grows around the knob with the value.
Kick glass	The KICK glass at the top shows the rendered kick: its waveform, the pitch curve and the playhead. Scroll to zoom into the attack, double-click to see it all.
Page glass	Each page has its own glass with points you can drag: the pitch sweep, the amp envelope, the click field, the drive envelopes, the grit field, the filter and EQ curves.
Morph pad	Drag the puck between A and B. With XY SPLIT on, across sets the morph for the lows and up sets it for the highs.
A and B	The KICK A and KICK B menus open the library, your own kicks, SAVE, COPY and SWAP. The arrows step through the library.
Edit keys	EDIT A and B choose which kick the page knobs and points work on. The page keys choose the page.
LCD	The root note, the kick's length in ms and the output level.
Help line	Hover over any control and the strip at the bottom of the panel says what it does.
Light and size	LIGHT switches to the light panel and back; every window remembers it. Drag the window's corner for any size from 60 to 200 %.

SECTION 02

The panel

The kit and the LCD across the top; the KICK glass and the MORPH pad; the edit and page keys; then the page, its knobs and the PLAY bay.



Header	LIGHT, the KIT menu with its arrows, and the LCD.
Kick	The rendered kick, with the pitch curve and a playhead.
Morph	Slot A and slot B with their kick menus, the pad, XY SPLIT with its SPLIT knob, and AUTO.
Keys	EDIT A and B, the eight page keys, RANDOM, VARY, UNDO and REDO.
Page	The page's glass on the left and its knobs in the middle, for the kick being edited.
Play	PLAY, LOOP and its rate, OUTPUT, VELOCITY, KEY FOLLOW and DRAG WAV.

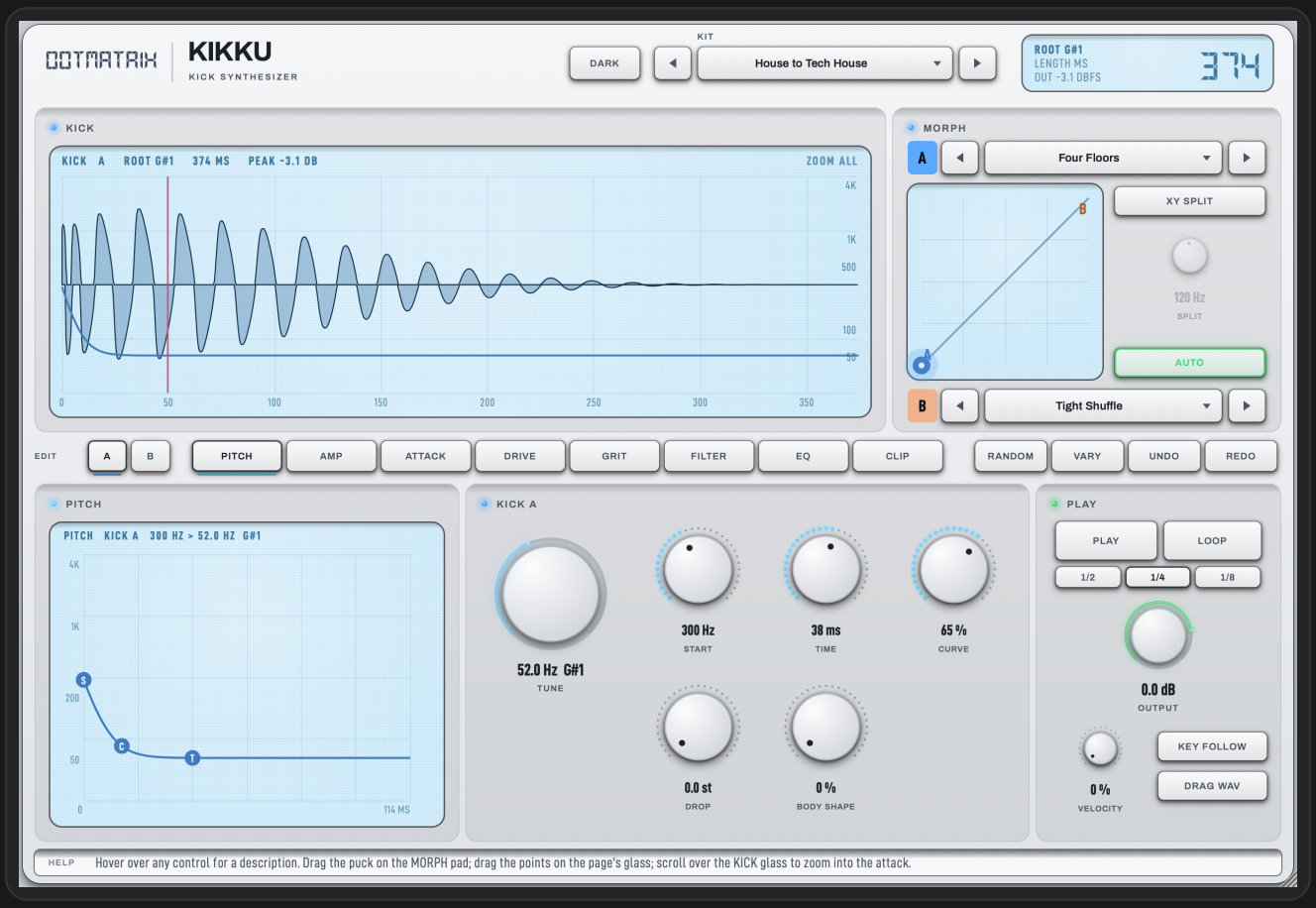
SECTION 03

Dark or light

The same panel, lit two ways. LIGHT switches it; drag the window's corner for any size from 60 to 200 %.

— LIGHT

A light panel with light grey dials and keys, for bright rooms. The glass, the LCD and the glowing rings stay lit the same way.



SECTION 04

How it works

Kikku makes each kick from scratch with no samples, and renders it ahead of time.

— TWO KICKS AND A MORPH

Slot A and slot B each hold a whole kick, with every setting on every page. The morph blends the settings themselves (times and frequencies in octaves), not the sound, so two kicks never cancel each other out. A drive layer that both kicks give the same style blends; otherwise one fades out while the other fades in.

— LOWS FROM ONE, HIGHS FROM THE OTHER

With XY SPLIT on, Kikku renders the kick at two morph positions and joins the lows of one to the highs of the other at SPLIT, 40 to 400 Hz. The split is zero-phase, so the two halves add back exactly.

— NEVER LOUDER THAN ITS KICKS

AUTO sets a ceiling that follows the two kicks' peaks along the morph. If a position in between would go over, the kick's own clip curve holds it to the ceiling, so you can sweep the morph without touching the fader.

— RENDERED AHEAD

Whenever a setting changes, a background thread renders the kick, at 4x at 44.1 and 48 kHz, and brings it down with a zero-phase filter. Each note plays the finished kick from memory. In a bounce, a change is rendered at the note it belongs to, so automation lands on the right hit.

SECTION 05

Morph and play

The controls that work on both kicks.

— MORPH

CONTROL	RANGE	DEFAULT	WHAT IT DOES
Kit	25 kits	House to Tech House	A factory pair of kicks with the morph set. Loading one replaces both slots; UNDO brings them back.
Morph	A to B		The puck on the pad. On the diagonal it morphs the whole kick.
XY Split	on / off	off	Lit, the pad moves freely: across sets the morph for the lows, up for the highs.
Split	40 to 400 Hz	120 Hz	Where XY joins the lows and the highs.
Auto	on / off	on	No morph position is louder than its two kicks. Above their level the clip curve takes over.

— PLAY

CONTROL	RANGE	DEFAULT	WHAT IT DOES
Play	key		Hear the kick as it is now. MIDI notes play it too.
Loop	1/2, 1/4, 1/8	1/4	Plays the kick on the beat at the project's tempo, locked to the bar while the transport runs. An audition: not saved, and silent in a bounce.
Output	-24 to +6 dB	0 dB	The plug-in's level. It changes in real time and doesn't re-render.
Velocity	0 to 100 %	0 %	How much note velocity sets the level. 0 ignores it; 100 % makes soft notes quiet.
Key Follow	on / off	off	Lit, each note plays the kick at its own pitch, from the kick's root note. Off, every note plays it as it is.
Drag WAV	drag		Drag onto a track to drop the kick in as a 48 kHz / 24-bit WAV.

CHOKE Kikku is mono with a 4 ms choke: a new note fades the last one out, so fast rolls don't pile up.

SECTION 06

Pitch and Amp

The body: a swept oscillator and its level.

— PITCH

CONTROL	RANGE	DEFAULT	WHAT IT DOES
Tune	30 to 120 Hz	50 Hz	The body's final pitch, with its note. The LCD shows the root note.
Start	60 Hz to 4 kHz	320 Hz	Where the sweep begins. High starts make a sharper, clickier attack.
Time	2 to 400 ms	45 ms	How long the sweep takes to fall to TUNE.
Curve	0 to 100 %	60 %	Low is a straight glide; high drops fast and then settles.
Drop	0 to 12 st	0	After the sweep, the pitch sinks this many semitones across the tail.
Body Shape	0 to 100 %	0 %	From a pure sine towards a rounded square: a harder body that small speakers can play.

— AMP

CONTROL	RANGE	DEFAULT	WHAT IT DOES
Attack	0 to 20 ms	0.3 ms	The body's fade-in. At 0 it starts at full level.
Hold	0 to 400 ms	30 ms	How long the body stays at full level before it decays.
Decay	20 ms to 3 s	380 ms	How long the body takes to die away. With ATTACK and HOLD this is the kick's length.
Decay Curve	0 to 100 %	50 %	Low keeps the level up and drops at the end; high falls fast and leaves a long quiet tail.

LONG BOOM A low TUNE, DECAY over a second and DROP at 2 to 3 st: the tail sinks the way a tuned sub does.

SECTION 07

Attack

The click layer and the first milliseconds.

— CONTROLS

CONTROL	RANGE	DEFAULT	WHAT IT DOES
Click Level	0 to 100 %	35 %	How loud the click is: the circle's size on the field. Scroll on it.
Click X, Y	field		Drag the circle between four characters: TIGHT (bottom left), SNAP (bottom right), THUMP (top left) and WOOD (top right).
Start	0 to 90 degrees	0	The phase the body starts on. 0 starts from silence, 90 from the peak: a hard edge.
Cut	1 to 40 ms	8 ms	The click's length.
Tame	0 to 100 %	0 %	Softens the first milliseconds' peaks, so a hard attack sits back without losing its tone.
Solo, Mute	keys		Hear only the click layer, or take it out (both kicks).

SECTION 08

Drive and Grit

Character: up to three drive layers, and a noise layer.

— DRIVE (THREE LAYERS)

CONTROL	RANGE	DEFAULT	WHAT IT DOES
Style	Off, Warm, Tape, Tube, Diode, Fold, Crush, Rectify, Fuzz, Sine, Hard, Grain, Iron	Warm / Off / Off	Twelve shapers of our own. Layers run in series.
Amount	0 to 100 %	15 % / 0 / 0	How hard the layer drives.
Env	5 ms to 3 s	3 s	How fast the amount falls to SUSTAIN after each hit.
Sustain	0 to 100 %	100 %	Where the amount settles. At 100 % the drive is steady.

— GRIT

CONTROL	RANGE	DEFAULT	WHAT IT DOES
Level	0 to 100 %	0 %	The noise layer's level: the circle's size. Scroll on it.
Tone	dark to bright	50 %	Where the noise's band sits.
Texture	HISS, SAND, VINYL	HISS	Hiss at the bottom, sand in the middle, vinyl crackle at the top.
Length	10 ms to 3 s	200 ms	How long the noise lasts. It can outlast the kick.
Fade	0 to 100 %	50 %	Low fades the noise evenly; high drops it fast and leaves a thin trail.
Solo, Mute	keys		Hear only the grit layer, or take it out (both kicks).

PUNCH THAT FADES A drive layer with ENV around 60 ms and SUSTAIN low: the hit is driven, the tail stays clean.

SECTION 09

Filter, EQ and Clip

The finish.

— FILTER

CONTROL	RANGE	DEFAULT	WHAT IT DOES
Low-pass	200 Hz to 20 kHz	20 kHz	Where the low-pass settles.
Resonance	0 to 100 %	0 %	A peak at the cutoff, from flat to ringing.
Filter Env	0 to 6 octaves	0	How far above LOW-PASS the cutoff starts on each hit.
Filter Decay	5 ms to 1 s	80 ms	How fast the envelope brings the cutoff down to LOW-PASS.
High-pass	10 to 300 Hz	18 Hz	Takes out the lowest lows.

— EQ (THREE BANDS)

CONTROL	RANGE	DEFAULT	WHAT IT DOES
Freq	20 Hz to 16 kHz	60 / 400 / 4000 Hz	The band's centre. Drag its point on the glass.
Gain	-18 to +18 dB	0	Boost or cut.
Q	0.3 to 8	1	Width: low is broad, high is narrow.
Start, Length	0 to 1 s, 0 to 2 s	0, 0	Puts the band on a window of the kick. LENGTH 0 is the whole kick.

— CLIP

CONTROL	RANGE	DEFAULT	WHAT IT DOES
Clip Mode	Soft, Hard, Tape, Tube	Soft	SOFT rounds off gently, HARD cuts flat, TAPE gives on the negative side first, TUBE is rounder and lopsided.
Clip Drive	0 to 24 dB	0	Pushes the kick into the curve. Below its knee the clip is transparent.
Level	-24 to +6 dB	0	This kick's level before the clip. The factory kicks are matched with it.

ATTACK ONLY An EQ band at 3 to 5 kHz with START 0 and LENGTH 15 ms lifts the click without brightening the tail.

SECTION 10

Kicks and kits

43 factory kicks (Init and 42 in ten styles), each levelled to about the same loudness, and 25 kits that pair two of them with a morph. The KICK A and KICK B menus hold the library; the KIT menu at the top holds the kits, which are also your host's programs. SAVE in a kick menu stores your own in ~/Music/Kikku Kicks; they appear under Your kicks.

STYLE	KICKS AND KITS
Start	Init
House	Four Floors, Saturday Knock, Warehouse Round, Disco Thud, Piano Room
Tech House	Tight Shuffle, Rubber Punch, Snap Back, Groove Box, Dry Pocket
Deep House	Velvet, Felt Mallet, Late Night, Soft Focus
Techno	Concrete, Rumble Feed, Industrial, Berlin Hall, Hard Groove, Distant Thump
Minimal	Pin Drop, Click Track, Micro Bounce, Paper Kick
Trance	Arena, Uplifter, Gated Peak, Psy Tail
Garage	Two Step, Skippy, Bass Bin, Rimmed
Electro	Machine 1, Breaker, Square Boom, Robot Step
Hard	Saw Blade, Furnace, Overload
Sub	Long Sub, Boom Drop, Tape Sub
Kits	House to Tech House, Saturday Night, Warehouse Party, Piano and Pocket, Rubber and Snap, Groove Machine, Velvet Night, Felt and Focus, Concrete Rumble, Industrial Hall, Distant Groove, Sub Lows, Click Highs, Pin and Paper, Micro Clicks, Arena Lift, Psy Gate, Two Step Rim, Skippy Bass, Machine Break, Robot Boom, Saw and Furnace, Overload Split, Sub Drop, Tape Sub to Velvet
Yours	Every kick you save, listed under Your kicks in the KICK menu

— RECIPES

01	**Club kick**	**House to Tech House**: a round house kick in A, a tight one in B. Sweep the morph to set how much knock it has.
02	**Two kicks in one**	**Sub Lows, Click Highs**: XY SPLIT takes the body from one kick and the attack from another.
03	**Rumble**	**Concrete Rumble**: a long driven techno kick. Turn up a drive layer's ENV for more tail.
04	**Tuned 808**	A kick from the Sub style with KEY FOLLOW on: play the bass line with it.
05	**Fresh start**	**RANDOM** for a new pair, then **VARY** a few times on the one you like.

SECTION 11

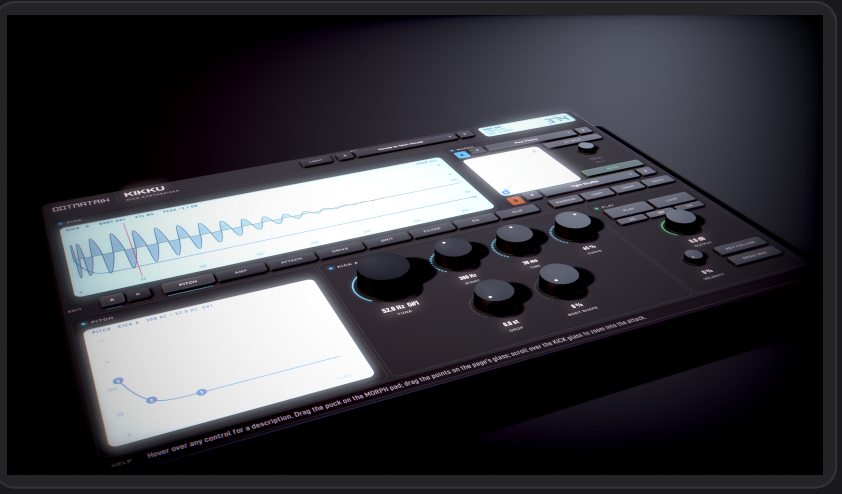
Reference and troubleshooting

— TECHNICAL NOTES

Synthesis	A swept body oscillator with a shaped amp envelope, a click from four synthetic models, a transient softener, three drive layers, a noise layer, a state-variable filter with its own envelope, three windowed EQ bands, the level and the clip.
Rendering	At 4x at 44.1 and 48 kHz, 2x at 88.2 and 96, 1x above, then a zero-phase filter. A render takes a few milliseconds on a background thread; the audio thread only plays finished kicks and never allocates.
Latency	None.
Sessions	A project stores both kicks, every setting, the kit and the window size. Kicks are small files.
Not in 1.0	Kicks learned from recordings, a history list (UNDO and REDO only), and tags or favourites in the library.
Compatibility	Universal (Apple Silicon and Intel). VST2 is not available: Steinberg no longer licenses it. CLAP is built with the open-source clap-juce-extensions.
Trademarks	All product names are trademarks of their respective owners. Dotmatrix is not affiliated with or endorsed by any of them.

— TROUBLESHOOTING

No sound	Kikku needs MIDI: put it on an instrument track and play a note, or press PLAY.
The loop is silent in a bounce	LOOP is an audition only. Write the kick as MIDI notes, or drag it out with DRAG WAV.
Every note sounds the same	KEY FOLLOW is off. Turn it on to play the kick at each note's pitch.
A knob does nothing	It works on the kick EDIT shows, A or B. If the morph sits at the other end, you won't hear it: move the puck or choose the other slot.
It does not appear in Logic	Run the Terminal lines in READ ME FIRST.txt, then restart Logic. In Logic > Settings > Plug-in Manager, select it and click Reset & Rescan Selection.
My kicks are missing	They live in ~/Music/Kikku Kicks. Copy the .kikku files there on another Mac.



Kikku by Dotmatrix

Lightweight audio plugins. Documentation for version 1.0.0.