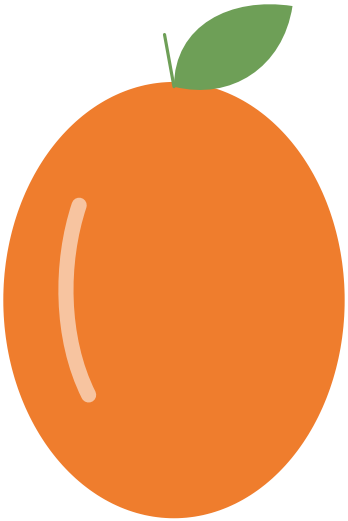


KA Delay

Instruction manual

Kumquat Audio · Edition 1.7.11 · October 2026

kumquataudio.com

NO. 12

KA Delay

Repeats the sound, in milliseconds or on the beat, with four ways of using the two sides.

KA Delay repeats the sound. Set the time in milliseconds, or as a note of the song's tempo so that the repeats stay on the beat. Feedback sends the repeats round again, Tone makes each one darker or thinner, High-pass and Low-pass take the low end or the top out of them, and Stereo chooses how they move between the two sides.

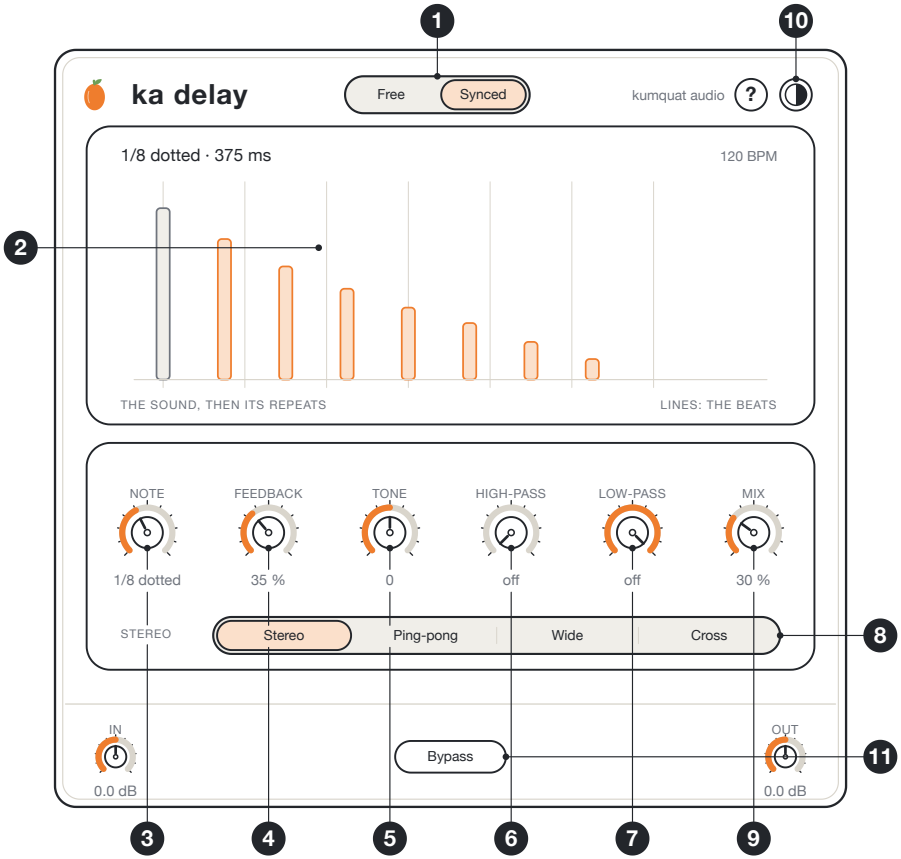


FIG. 1 The parts of KA Delay. The numbers are explained on the next page.

Parts

fig. 1

1. **Free / Synced**
   Free: the time is in milliseconds.
   Synced: the time is a note of the song's tempo.
2. **The repeats**
   The tall bar is the sound; the bars after it are its repeats, where they fall in time and how loud each one is. The thin lines are the beats.
3. **Time or Note**
   The time between repeats: milliseconds when Free, a note value when Synced.
4. **Feedback**
   How much of each repeat goes round again.
5. **Tone**
   Each repeat is darker (left) or thinner (right) than the one before.
6. **High-pass**
   Takes the low end out of the repeats, a little more with every one, so they stay out of the way of the bass. Off at the left.
7. **Low-pass**
   Takes the top out of the repeats, a little more with every one. Off at the right.
8. **Stereo**
   How the repeats use the two sides: Stereo, Ping-pong, Wide or Cross.
9. **Mix**
   How much echo is mixed in with the original.
10. **Help and light/dark**
    The ? turns the pop-up help on and off. The half circle switches light and dark.
11. **In and Out**
    In turns the sound up or down before the plug-in hears it, and Out turns the result up or down.

Operation

step by step

1. Put the plug-in on a track, or better on an effects bus that you send to.
2. Choose Free to set the time in milliseconds, or Synced to choose a note. 1/8 dotted is the classic.
3. Set Feedback: low gives one or two repeats, higher gives a trail of them.
4. Turn Tone down to make each repeat darker, so that they sit behind the sound, or up to make them thinner, so that they stay out of the way.
5. Use High-pass to take the low end out of the repeats (so they stay out of the way of the bass) and Low-pass to take the top out (a tape or analog delay): each repeat goes through them again, so they get stronger with every repeat.
6. Choose how the repeats use the two sides with Stereo, and set Mix.

Controls and settings

range · start

Control	Range	Starts at	What it does
Free / Synced	two choices	Synced	Time in milliseconds, or a note of the song's tempo.
Time	1 ms to 2 s	350 ms	The time between repeats (Free).
Note	1/32 to 1 bar	1/8	The time between repeats (Synced), with triplets and dotted notes.
Feedback	0 to 100 %	35 %	How much of each repeat goes round again.
Tone	–100 to +100 %	0	Down: each repeat is darker. Up: each is thinner.
High-pass	20 Hz to 2 kHz	off	Takes the low end out of the repeats (12 dB an octave). Off at the left.
Low-pass	500 Hz to 20 kHz	off	Takes the top out of the repeats (12 dB an octave). Off at the right.
Stereo	Stereo / Ping-pong / Wide / Cross	Stereo	How the repeats use the two sides.
Mix	0 to 100 %	30 %	How much echo is mixed in with the original.
In / Out	–24 to +24 dB	0 dB	The two knobs under the meters: before and after the plug-in.

TIP When the delay is synced, the thin lines in the picture are the beats of the song: the repeats sit on them.

TIP Changing Time while the music plays makes the repeats slide in pitch a little, like a tape delay. Leave it alone for the cleanest sound.

Specifications

Formats	Audio Unit, VST3
Channels	mono or stereo
Delay	none
Longest time	6 seconds
Window	700 × 520, can be resized [4]

How it works

a closer look

The sound goes into a delay line and comes out Time later. Part of what comes out goes back in (Feedback), so it comes round again, quieter, and again. The repeats are as far apart as the time you set.

Tone is a filter in that loop. Every trip round the loop goes through it, so each repeat is a little darker (or thinner) than the one before. A soft limiter in the loop keeps it from running away, so even Feedback at 100 % dies away.

Stereo: each side has its own repeats. Ping-pong adds the two sides together and sends the first repeat to the left, the next to the right, and so on. Wide makes the left side's time three quarters of the right side's, so the two weave across the picture. Cross keeps the two sides apart but swaps them on every trip round.

When the time is a note, the plug-in asks your music software for the tempo. If the software does not give one, it uses 120 BPM, and the picture says so. The time glides when you change it, so there are no clicks.

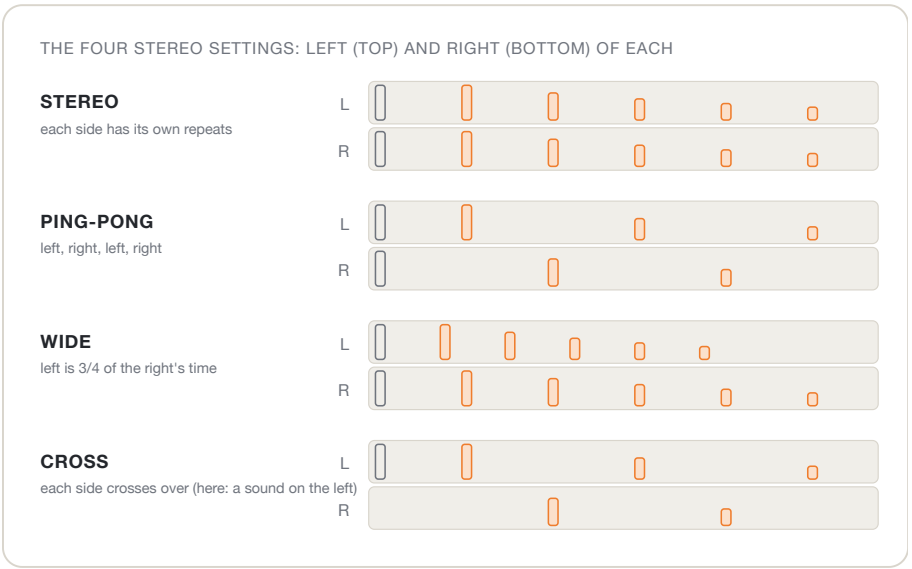


FIG. 2 How the four Stereo settings place the repeats.

EVERY INSERT PLUG-IN

In, Out and Gain Match

Along the bottom of most windows is a strip with two knobs, one under each level meter, and two buttons. In turns the sound up or down before the plug-in hears it, and Out turns the result up or down. Double-click either knob to return it to 0 dB. Bypass plays the sound without the plug-in (it stays in time with the other tracks, and fades in and out without a click); your music software's own bypass button for the plug-in does the same. The four plug-ins that read whole recordings, and KA Limiter, have the Bypass button at the top of the window instead.

A louder sound almost always seems better, even when it is not. That is how a setting can fool you: you turn something up, the sound gets louder, and you think it got better. Match takes that away. When it is on, the plug-in listens to how loud the sound is as it arrives and as it comes out, and turns the output up or down by the difference, slowly, so the two stay the same. That includes In: drive the plug-in harder and the output stays where it was. Now when you change a setting you hear what it did to the sound, and nothing else. Out is then yours to trim on top.

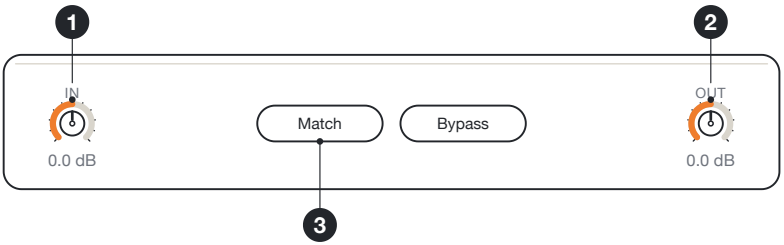


FIG. 3 The strip along the bottom of a window.

1 **In**
Turns the sound up or down before the plug-in hears it.

2 **Out**
Turns what comes out up or down.

3 **Match**
Keeps the output as loud as the sound that came in, whatever In and the plug-in do. The number beside it shows how much it is adding or taking away.

Use In to drive a plug-in harder or softer: more In into KA Saturator or KA Bus Comp gives more effect. Use Out to set the level you want to leave with; with Match on it moves the level up or down from the level that arrived. The number beside Match shows how much it is adding or taking away.

Who has what

In, Out and Match

Plug-in	The strip has	Note
KA De-Esser	In · Out · Match	Match is on hold while Listen is on.
KA De-Noise	In · Out · Match	Match is on hold while Listen is on.
KA De-Verb	In · Out · Match	Match is on hold while Listen is on.
KA De-Click	In · Out	It changes the level so little that matching is not needed.
KA EQ	In · Out · Match	Out is the level after the EQ and the suppressor.
KA Bus Comp	In · Out · Match	Makeup is still there as the compressor's own make-up gain.
KA Saturator	In · Out · Match	Drive already keeps the level close; Match finishes the job.
KA Zing	In · Out · Match	Match is on hold while Delta is on.
KA Contour	In · Out · Match	Match is on hold while Listen is on.
KA Mic Blend	In · Out	In is applied to both mics, including the sidechain.
KA Delay	In · Out	Mix is meant to change the level, so there is no Match.
KA Multiband Comp	In · Out · Match	Each band has its own Gain as well.
KA FET Comp	In · Out · Match	In is the compressor's Input: the threshold is fixed.
KA Opto Comp	In · Out · Match	Out is the compressor's make-up gain.
KA Rider	In · Out	Match would undo the ride, so there is none. Delta plays only the ride.
KA Chladni, KA Root	none	Instruments have no audio input, so no In, Out or Match: use the Level drawing.
KA Reverb	In · Out	Mix is meant to change the level, so there is no Match.

TIP To set a compressor or a saturator fairly: turn Match on, switch the plug-in off and on, and choose the setting that sounds best at the same loudness.

CAUTION KA Limiter has no In and Out: its Threshold is its input and its Ceiling is its output. The four plug-ins that read whole recordings do not have the strip. Every plug-in has a Bypass button.

CARE

Care and troubleshooting

If this happens	Do this
A plug-in does not appear in the list	Restart the music software. In Logic Pro, open the Plug-in Manager, select the Kumquat plug-ins and choose Reset & Rescan Selection.
An old name is still showing	Quit Logic with Cmd+Q and open it again. If it persists, remove the old copies from /Library/Audio/Plug-Ins/Components.
My key was not accepted	Copy all of it, from KA1 to the end, with no spaces added or lost. A key for one plug-in does not unlock the others.
The pop-up help does not show	Press the “?” at the top of the window to turn it on. It is one choice for all the plug-ins.
Which part of the picture does a knob change?	Point at the knob, or hold it down while you turn it: the part of the picture it controls lights up, with the knob’s name and value.
KA Drum Gate, Silence Trim, Auto Mixer or Time Align shows a message instead of a picture	Open Logic Pro using Rosetta, put the plug-in first in the Audio FX list, select a region and press play.
The sound is late	KA De-Click, De-Verb, De-Noise, Contour, Mic Blend, Saturator (it oversamples), EQ (with the suppressor), Multiband (in Linear phase) and Limiter delay the sound a little and tell the music software, which lines everything up. Do not compensate by hand. For playing through a plug-in, the Saturator, EQ and Multiband have a Live switch that takes the delay away; the compressors, De-Esser, Delay, Reverb and Rider have no delay at all.
A window is too small or too big	Drag the corner at the bottom right. The size is remembered, and it is the same for all the plug-ins: make one bigger and the others open that big.
The Limiter pumps	Leave Release on Auto, or set 60 to 100 ms. A release of a millisecond or two is the dirtiest setting.

If something is not right, write to **audiokumquat@gmail.com** and say which plug-in, which music software, and what you were doing.

FOR YOUR OWN NOTES

Notes