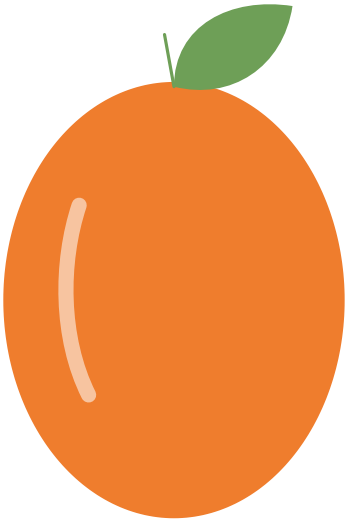


KA Time Align

Instruction manual

Kumquat Audio · Edition 1.7.11 · October 2026

kumquataudio.com

NO. 15

KA Time Align

Lines up several mics on one sound: delays, polarity and phase, with the numbers for your console.

KA Time Align lines up several mics that hear the same sound. It reads the whole recording, works out how much later each mic hears the sound than the reference mic (a mic that was not played, or that hears a different voice, is left alone), and gives you each delay in milliseconds, samples and metres: the numbers to set on a console, or let the plug-in delay the tracks for you. It also finds mics that are upside down, and adds a phase filter where one helps the low end.

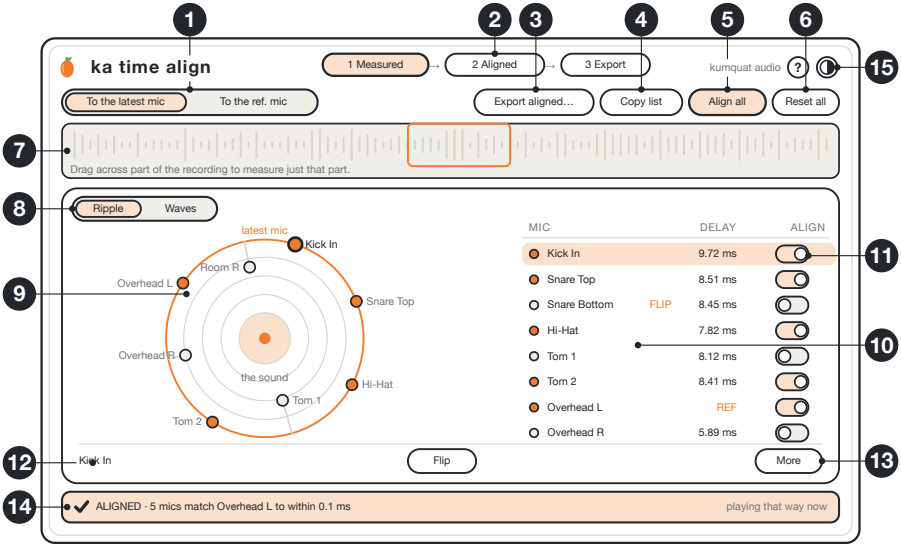


FIG. 1 The parts of KA Time Align. The numbers are explained on the next page.

Parts

fig. 1

1. **Latest / reference**
   To the latest: every delay is zero or more, as a console needs. To the reference: every mic lines up with the reference.
2. **The three steps**
   Measured: the mics have been measured. Aligned: they play lined up. Export: write them out. The next step to take is the one drawn with the filled button.
3. **Export aligned**
   Writes each mic to its own WAV file, aligned, in a new folder.
4. **Copy list**
   Copies mic, ms, samples and metres to the clipboard.
5. **Align all**
   Lines up every mic that was measured: delay, flip and phase filter. A mic that was not played, or that hears a different voice, is left alone.
6. **Reset all**
   Puts every mic back as recorded.
7. **The strip**
   The reference's recording. Drag across a few moments of one sound to measure only those; double-click for the whole.
8. **Ripple / Waves**
   Ripple shows the sound spreading out from the middle. Waves shows one mic's wave on the reference's; there, Before and After switch between how the mics were recorded and how they play now.
9. **The ripple**
   Each mic is a dot. The later a mic hears the sound, the further out it sits. Align slides the dots to one ring, the thin one, and a ripple spreads from the middle.
10. **The list**
    Each mic with the delay to add. Click a name to look at it; double-click to make it the reference (REF). FLIP means the mic is upside down compared with the reference.
11. **Align**
    Plays the mic with its delay, flip and phase filter.
12. **The mic being looked at**
    Flip turns it upside down. A red dot beside a mic's delay means it still does not match the reference.
13. **More**
    Shows the fine-tuning: other moments, other places the mic could be lined up, Flip, – and + and the by-hand number. You do not need them for most sessions.
14. **The bar**
    What the plug-in is doing and whether the mics match. It fills while it works.
15. **Help and light/dark**
    The ? turns the pop-up help on and off. The half circle switches light and dark.

Operation

step by step

1. Open Logic Pro using Rosetta, and put the plug-in first in the Audio FX list on the track of every mic. Leave Logic's own polarity button (Φ) off on these tracks.
2. Select the regions and press play. The bar at the bottom shows the work. The overheads are the reference (REF); double-click another name to use that mic instead.
3. When the bar is done, each mic is a dot in the Ripple view: the later a mic hears the

Controls and settings

range · start

Control	Range	Starts at	What it does
To the latest / reference mic	two choices	latest	Latest: every delay is zero or more, as a console needs. Reference: every mic lines up with the reference and may move earlier.
Align all, Reset all	buttons		Lines up every mic that was measured, or puts every mic back as recorded.
Copy list	button		Copies mic, ms, samples and metres to the clipboard.
Export aligned	button		Writes each mic to its own WAV file, aligned, in a new folder.
The strip	drag	whole recording	Drag across the hits of one drum to measure only those.
Ripple / Waves	two choices	Ripple	Ripple shows each mic as a dot, further out the later it hears the sound. Waves shows one mic's wave on the reference's.
Before / After	two choices	After	In Waves: shows every wave as recorded, or as it plays now.
More	button		Shows the fine-tuning: other moments, other places the mic could be lined up, Flip, – and +, and the by-hand number (drag it up for later, down for earlier).

CAUTION The plug-in reads the recordings before Logic's mixer, so it cannot see Logic's polarity button (Φ), and its own flip can undo it. Switch Φ off on the tracks you align.

TIP Drag across the hits of one drum in the strip, and only those are measured: line up the kick mics from the kick hits, then the snare mics from the snare hits.

TIP A mic that still has a red dot after Align all does not match the reference yet. Press More and try the other places it could be lined up.

Specifications

The list

one row for each mic

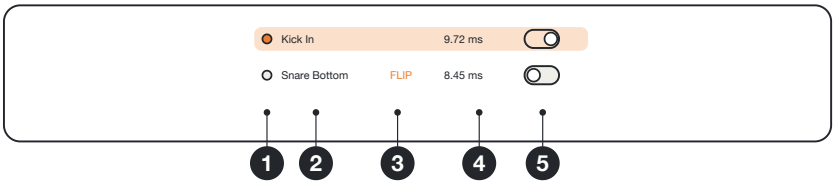


FIG. 2 A close look at two rows of the list.

1. **The dot**
   Orange when the mic is lined up, pale when it is not.
2. **Mic**
   The track's name. Click it to look at the mic; double-click makes it the reference (REF). The orange row is the mic being looked at.
3. **FLIP**
   The mic is upside down compared with the reference. Press Flip to turn it over.
4. **Delay**
   How long to delay this mic so that it lines up, in milliseconds.
5. **Align**
   Plays the mic with its delay, flip and phase filter.

How it works

a closer look

Two mics on one drum hear the same sound at different moments, because sound travels. Added together, the copies cancel in places and the drum sounds thin. The fix is to delay the mic that hears it first by the difference.

KA Time Align measures that difference on the recording itself. It listens to the whole recording from the low end up to the sharp part of each hit, and a stretch counts for more where that mic is the loud one, so the kick mic is judged mostly on the kick.

It also takes each mic's own strong hits, finds the same hit in the reference, and sees how far apart they are. When many hits agree on one delay, that delay is the answer. Mics that agree this way are settled first, and the others are made to add up with them.

A mic can also be upside down. That shows as the two cancelling, and the plug-in offers to flip the mic.

Sometimes a delay lines up the highs but not the lows. A phase (all-pass) filter turns the phase round one pitch without changing how loud anything is. The plug-in keeps one only when it clearly helps; the percentage shows by how much. Two mics on one drum are also checked against each other.

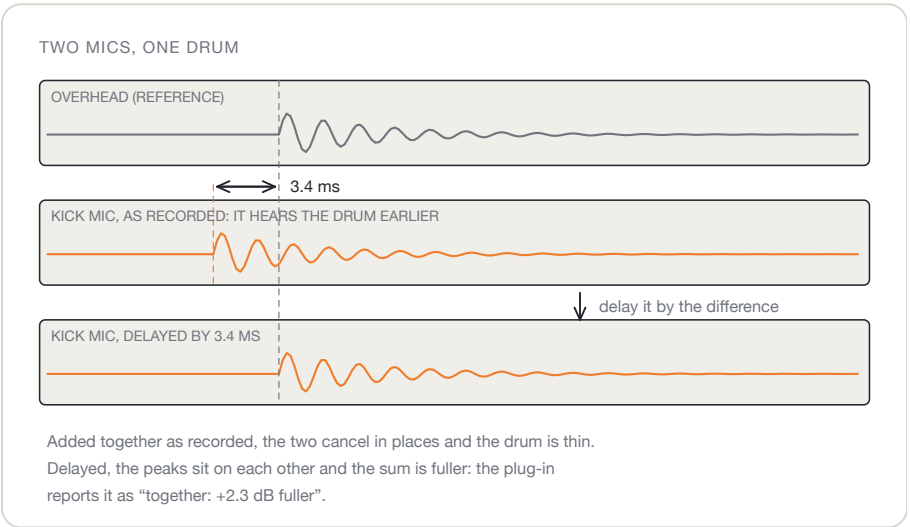


FIG. 3 Delaying the early mic makes the two add up.

ARA

Plug-ins that read whole recordings

KA Silence Trim, KA Drum Gate, KA Auto Mixer and KA Time Align read whole recordings, which is something only a few music programs allow: it is called ARA. They come as Audio Units only.

Today they need Logic Pro to be opened with Rosetta. Select Logic Pro in the Finder, press Cmd+I, tick “Open using Rosetta”, and open Logic again. The other plug-ins do not need it.

Put each one first in the Audio FX list of its track. Select a region and press play: the window fills as the plug-in reads the audio.

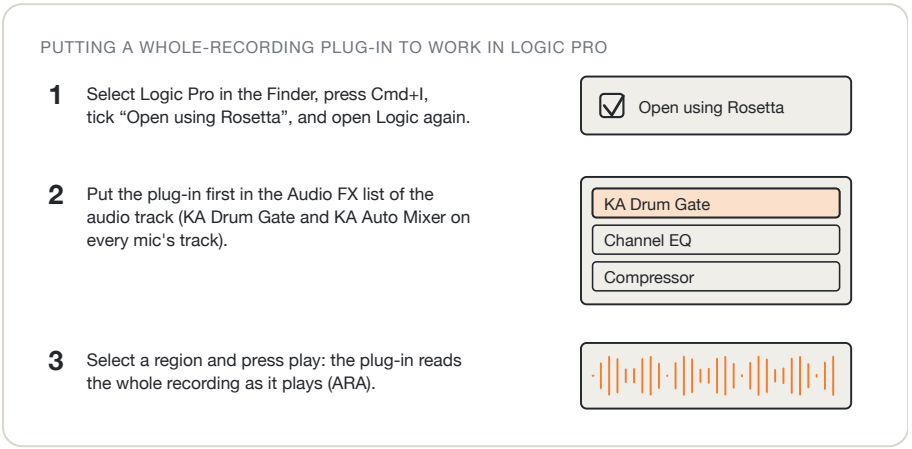


FIG. 4 Three steps to put one of them to work.

CAUTION If the window says it is not connected to Logic’s audio, one of the three steps has been missed: Rosetta, the first place in the list, or a region that is selected and playing.

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