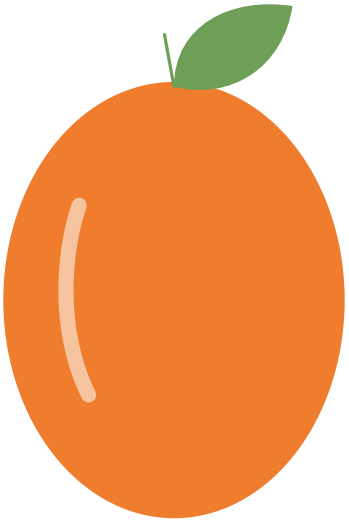


KA De-Esser

Instruction manual

Kumquat Audio · Edition 1.7.11 · October 2026

kumquataudio.com

NO. 1

KA De-Esser

Takes the harsh edge off “s” and “sh”.

KA De-Esser turns down the harsh, whistling part of “s” and “sh” sounds in a voice. It shows you where the esses are, finds them by itself, and can play back only what it removes.

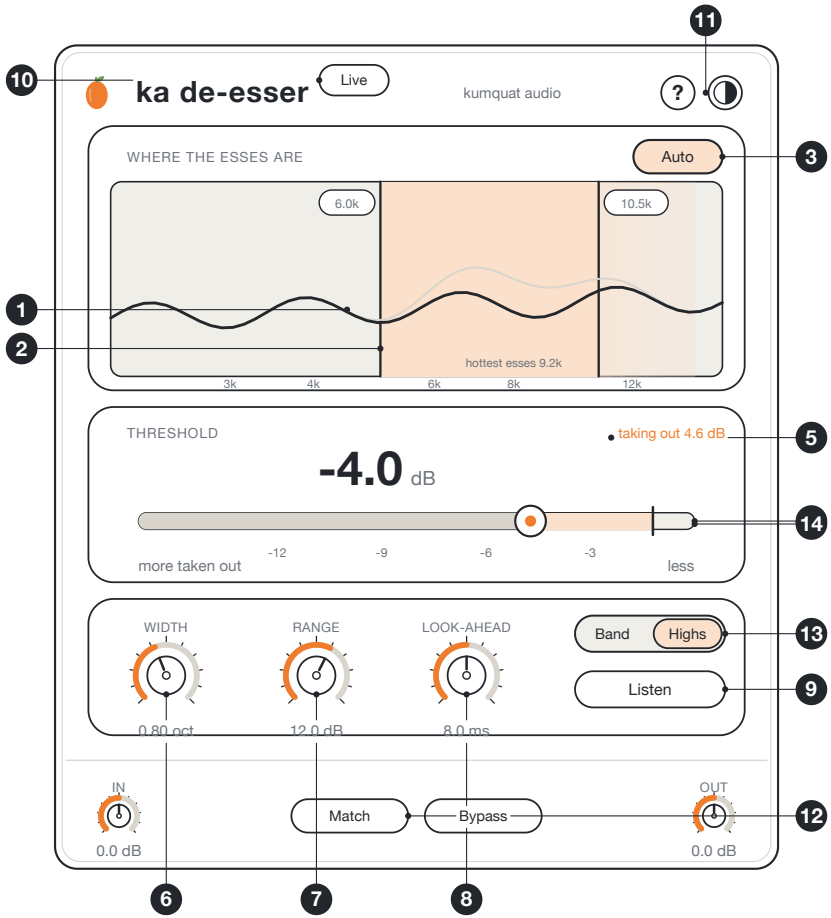


FIG. 1 The parts of KA De-Esser. The numbers are explained on the next page.

Parts

fig. 1

1 **The spectrum picture**
The sound of the voice. The grey line is what comes in, the dark line what goes out. The orange glow behind them is where this voice's esses stand out (the hottest place is marked): it builds up as the voice talks, so it stays put.

2 **The band edges**
In Auto they follow the esses, to the middle of the glow. Drag an edge to move it, or the middle of the band to take over by hand.

3 **Auto**
On: the band finds the esses by itself. Double-click the picture to return to Auto.

4 **Threshold**
Where the line between a voice and an ess is. Drag the thumb: left takes out more (even a mild ess), right takes out less; at the far right it is off.

5 **Reduction**
How many dB it is turning the esses down right now.

14 **Live meter**
The track of the Threshold is also a meter: it fills as the sound gets more essy, and the thin mark is the highest a moment ago. Where the fill goes past the thumb it glows: that part is being turned down. Set the thumb so that the esses go past it and the rest of the voice does not.

6 **Width**
How wide the automatic band is. Dimmed when you set the band by hand.

7 **Range**
The most it will turn the esses down.

8 **Look-ahead**
How far ahead of the ess the reduction starts. The sound is delayed by this much, and the plug-in tells your music software.

9 **Listen**
Plays only what is being taken out.

13 **Band / Highs**
Highs turns down everything above the band's lower edge while an ess sounds, as a smooth shelf: the voice below is not touched. Band turns down only the band, a gentler bell.

10 **Live**
Switches the look-ahead off, so the plug-in has no delay at all: for playing through it.

11 **Help and light/dark**
The ? turns the pop-up help on and off. The half circle switches light and dark.

12 **In, Out and Match**
In turns the sound up or down before the plug-in hears it, and Out turns the result up or down. Bypass plays the sound without the plug-in. Match keeps the output as loud as the sound that came in, whatever In and the plug-in do, so you hear what a setting does and not just a change in loudness.

Operation

step by step

1 Put the plug-in on the voice track and play a passage with esses in it.

2 Leave Auto on. As the voice talks, an orange glow builds up in the picture where its esses stand out: the hotter, the harsher. It brightens with every ess, so you can see where each one is. The hottest place is marked, and the band settles in the middle of it. It moves slowly: a person's esses are in much the same place all the time.

3 Watch the Threshold slider: its track fills as the sound gets more essy, and where

Controls and settings

range · start

Control	Range	Starts at	What it does
Threshold	–14 to 0 dB	–4 dB	Where the line between a voice and an ess is: how loud the band may get next to the whole sound before it is turned down. Lower takes out more, even a mild ess; at 0 it is off.
Mode	Band / Highs	Highs	What is turned down while an ess sounds: everything above the band's lower edge, as a smooth shelf, with the voice below it not touched (Highs, the most effective), or only the band itself (Band, a gentler bell).
Look-ahead	0 to 15 ms	8 ms	How far ahead of the ess the reduction starts. The sound is delayed by this much, and the plug-in tells your music software.
Live	on / off	off	Switches the look-ahead off: no delay at all, for playing through the plug-in.
Width	0.3 to 2.0 oct	0.8 oct	How wide the automatic band is. Used in Auto only.
Range	0 to 20 dB	12 dB	The most it will turn the esses down.
Auto	on / off	on	The band follows the esses by itself.
Band edges	2–12 kHz and 3–16 kHz	5 and 10 kHz	Set by dragging the edges in the picture.
Listen	on / off	off	Plays the band: in Auto, only the "s" sounds; set by hand, everything in the band.
In / Out	–24 to +24 dB	0 dB	The two knobs under the meters: before and after the plug-in.
Match	on / off	off	Keeps the output as loud as the input. See In, Out and Gain Match.

TIP Start at –4 dB and lower the Threshold a little at a time. If the voice begins to lisp, you have gone too far.

TIP If the sound you want to catch is very narrow, make Width smaller: it will then catch only the sharpest part.

TIP In Auto the band needs a few esses to settle. In the first seconds of a new voice it sits near 8.5 kHz, where most esses are.

How it works

a closer look

KA De-Esser watches two things all the time: the band, a bell-shaped band-pass round the part of the spectrum where the esses are, and the whole sound. An ess is the moment the band is nearly as loud as everything else put together; a vowel never is.

When the band gets closer to the whole sound than the Threshold allows, the plug-in turns it down, by as much as it is over, but never by more than Range. The sound is delayed by the Look-ahead and the reduction is not, so it begins before the ess does. It lets go in about thirty milliseconds, so it is gone before the next word.

The band's share is taken out of the sound, and the rest of the voice is not touched. In Auto the plug-in keeps two average spectra, of the frames with an ess in them and of all the others, and the band goes to where the esses stand out above the rest, slowly, so that it does not jump about. Width sets how wide it is. The turning down is 1.5 dB for every dB the band is over the Threshold, up to Range, and it is a high shelf from the band's lower edge (Highs) or a bell (Band).

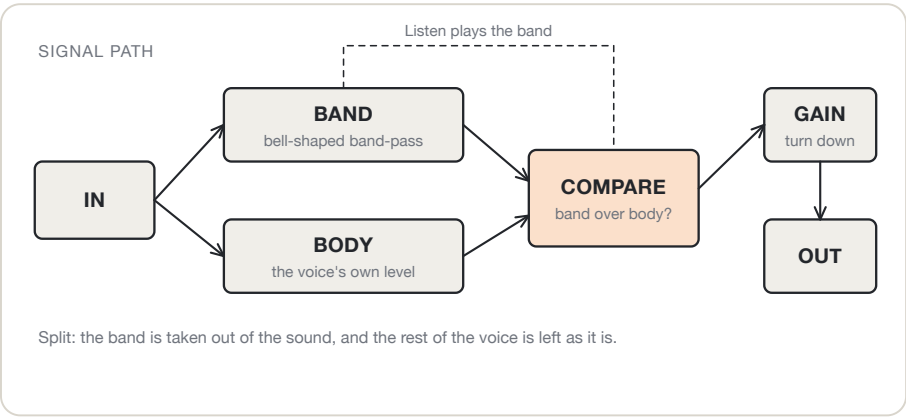


FIG. 2 How it decides: the band is measured against the whole sound.

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.

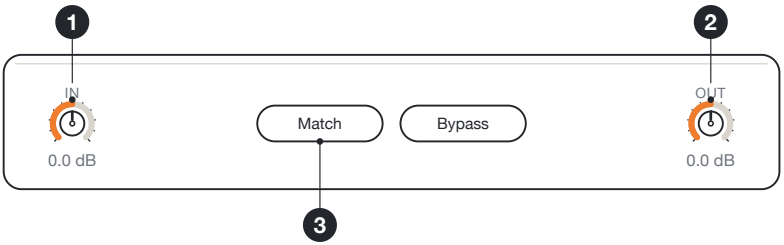


FIG. 3 The strip along the bottom of a window.

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