

lenzie

User guide

Lenzie 1.1 (build 809) for DaVinci Resolve Studio

What Lenzie does

Lenzie makes your footage look as if it was shot through a real vintage or cinema lens. Each lens is built from the lens's own optical design (the glass, curves and spacing from its patent), traced ray by ray, so the blur, bokeh shape, swirl, distortion, corner darkening and colour fringes are that lens's own, not a generic filter.

It needs two things: your picture, and a depth map that says how far away each part of the picture is. The depth map is what lets Lenzie blur the background and foreground by the right amount while your subject stays sharp.

Before you start

- **A Mac with Apple silicon, macOS 15 Sequoia or later.**
- **DaVinci Resolve Studio 21.2 or later.** It doesn't work in the free version of Resolve, because it uses Resolve's AI Depth Map, which only Studio has.
- **An internet connection** to activate your licence key and to download lens sets.

Install Lenzie

1. Download Lenzie from twopop.ca/lenzie and double-click the zip to unzip it.
2. Drag **Lenzie** into your **Applications** folder and open it.
3. Tick the lens sets you want (you can add more later), then click **Install Lenzie**. Your Mac asks for your password once.
4. Quit and reopen DaVinci Resolve. Lenzie is in the Color page's **OpenFX** library, under **Lenzie**.

Resolve only loads plugins when it starts, so after Lenzie installs or updates, quit and reopen Resolve. If Lenzie stops showing up in Resolve, open the Lenzie app and click **Reinstall** on the Plugin page.

Activate Lenzie

Until it's activated, Lenzie works fully but puts a Lenzie watermark on the picture. The Status line starts with "Not activated: watermark on."

1. Buy Lenzie at twopop.ca/lenzie (or press **Buy Lenzie** at the bottom of the Lenzie panel). Your licence key comes by email.

2. In the **Licence** section at the bottom of the Lenzie panel, paste the key into **Licence key** and press **Activate**.
3. The line under the buttons says "Activated for" and your email, and the watermark goes from every Lenzie node.

One key works on 2 Macs. To move Lenzie to another Mac, press **Deactivate this Mac** on the old one first. The last line of the Licence section shows which version of Lenzie you have (for example "Lenzie 1.0").

If the line under the buttons says:

It says	What to do
That isn't a Lenzie key.	Copy the whole key from the email again and paste it.
This key is in use on 2 Macs. Deactivate one first.	Press Deactivate this Mac on one of them. If you can't, write to apps@twopop.ca.
Couldn't reach twopop.ca. Check the internet and try again.	Check you're online, then press Activate again.
twopop.ca had a problem, so nothing changed. Try again in a few minutes.	Wait a few minutes and press Activate again.
This key no longer works. Write to apps@twopop.ca.	Write to apps@twopop.ca.

When a new Lenzie is out

The Lenzie app checks twopop.ca once a day while it's open. When there's a newer version, its **Updates** page shows it with what's new. Click **Update**: the app and the plugin update together. Then quit and reopen Resolve.

In Resolve, Lenzie's panel also shows a line when a new version is out (for example "Lenzie 1.2 is out."):

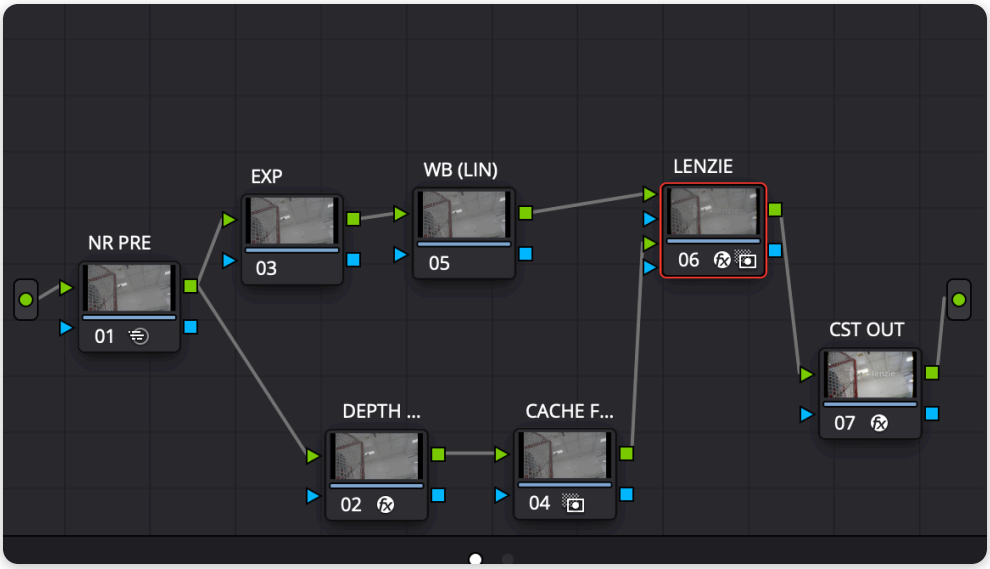
- **Get the update** opens the Lenzie app's Updates page.
- **Skip this version** hides the line until the next version comes out.

The check sends nothing about you or your Mac.

1. Set up the nodes

1. Noise reduction on the source first; it feeds both branches.
2. Picture: Exposure, then White Balance, into Lenzie's **first green input**.
3. Depth: AI Depth Map (Depth Map Preview on), into a node with Node Cache on, into Lenzie's **second green input**. Leave the Depth Map node's own cache off. No blue (key) connections are needed.
4. Lenzie, then your output transform.

Wait for the cache node to finish caching before you set focus. Without a depth map Lenzie still adds the lens's distortion, falloff, fringe and glow, but nothing is blurred; the Status line says the depth map is missing.



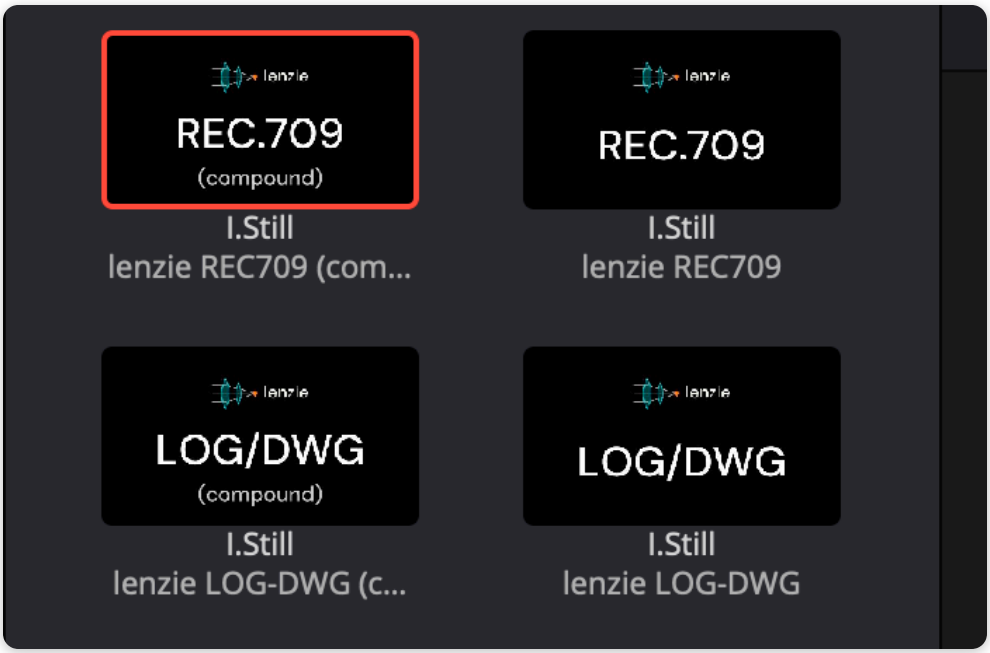
The node tree on the Color page: noise reduction feeds both branches, depth goes into Lenzie's second input.

Or start from a lenzie PowerGrade

lenzie PowerGrades.zip has these nodes already built, in four PowerGrades. Pick one by your footage:

PowerGrade	For	What's in it
lenzie LOG-DWG	Log footage, or a DaVinci Wide Gamut / Intermediate timeline	Noise reduction, exposure, white balance, depth map, cache, Lenzie, and a CST (switched off)
lenzie LOG-DWG (compound)	The same	The same, with the depth map, cache and Lenzie in one compound node
lenzie REC709	Rec.709 footage	Exposure and white balance, depth map, cache, Lenzie
lenzie REC709 (compound)	The same	The same, with the depth map, cache and Lenzie in one compound node

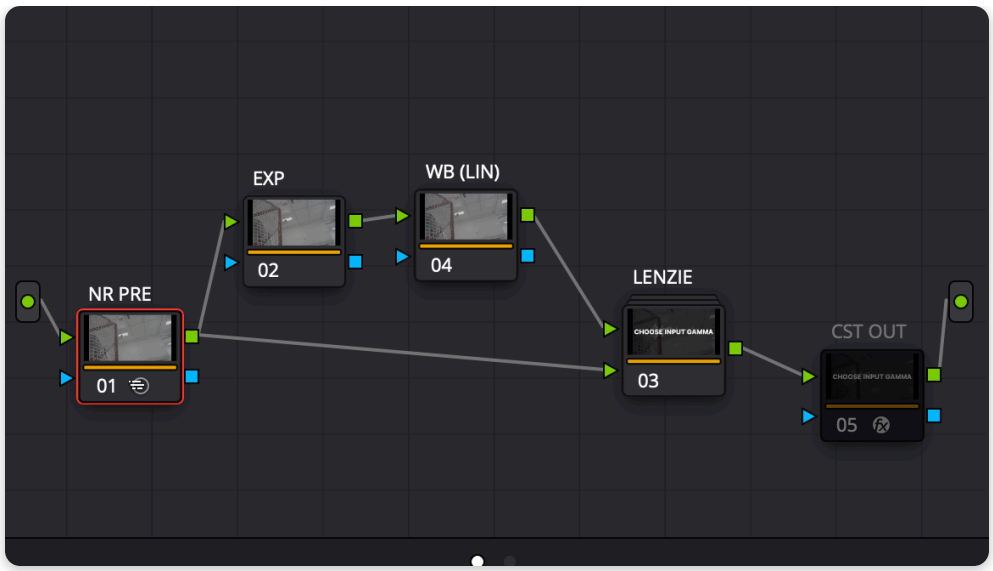
The compound ones keep your node tree short: Lenzie and its depth map sit in a single node.



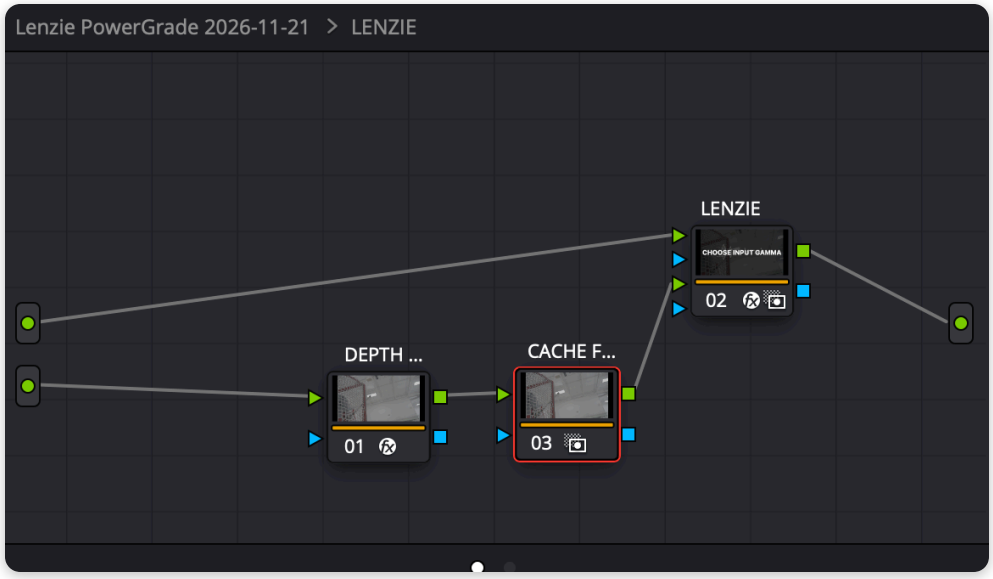
The four PowerGrades in the Gallery after importing.

To bring them into Resolve:

1. Unzip **lenzie PowerGrades.zip**. Keep each .png next to the .drx file with the same name: the .png is the picture you see in the Gallery, the .drx is the grade.
2. On the Color page, open the **Gallery**, right-click in the album list and choose **Add PowerGrade Album**.
3. Right-click inside the new album, choose **Import**, and pick the four .png files.
4. Select your clip, right-click a PowerGrade and choose **Apply Grade**.



lenzie LOG-DWG (compound): the depth map, cache and Lenzie sit in one node, LENZIE.



Inside the compound node: the picture goes straight to Lenzie, the depth runs through Depth Map and the cache.

Then:

- Set Lenzie's **Input gamma** (it starts on Choose; see step 2). In a compound one, double-click the compound node to open it and select the Lenzie node inside. Double-click the path above the nodes to go back out.
- The CST at the end of the LOG-DWG ones is switched off. If your project isn't colour managed, switch it on and set its input to your camera's log. If it is colour managed, leave it off: Resolve already turns the picture into Rec.709 at the output.
- Wait for the cache node to finish caching before you set focus.

Where to put Lenzie

- **Best: in log, at the start of the chain**, before your look. The picture still has its real highlights there, so the bokeh, glow and colour fringes come out the way a lens makes them. In our tests, log looks the best.
- **Easier: in Rec.709, last**, after your look. It works, but bright lights have already been clipped, so bokeh balls and bloom are weaker.
- Either way, put it **after noise reduction**. Noise in the picture turns into blotches once it's blurred.

On the Edit page instead

You can also put Lenzie on a clip in the Edit page: **Effects**, **Open FX**, **Lenzie**, dragged onto the clip. Resolve works on a clip in this order: the clip's own settings in the Media Pool (RAW decode, input colour space), then Fusion, then Edit page effects, then the Color page, then the output. So on the Edit page Lenzie sees the clip **before your grade**, the same as "in log, at the start" above.

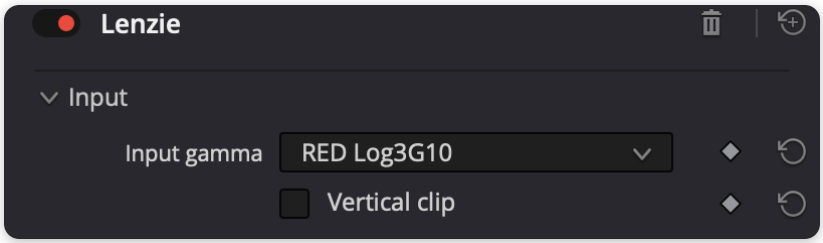
Set **Input gamma** to:

- **your camera's log** if the project isn't colour managed (DaVinci YRGB): RED Log3G10 for R3D, Nikon N-Log for N-Log, and so on.
- **the timeline colour space** if it is colour managed: DaVinci Intermediate on Resolve's usual settings.
- **Rec.709 (gamma 2.4)** if the footage is already Rec.709.

The Edit page hands Lenzie the clip only, with no depth map, so nothing is blurred by depth there. You still get the lens's distortion, corner darkening, colour fringes and glow. For depth blur, use the Color page set-up above.

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2. Tell Lenzie what the picture is



In **Input**, set **Input gamma** to the curve the picture is in at Lenzie's node: your camera's log if Lenzie sits before the output transform, Rec.709 if it sits after. It starts on **Choose**: until you pick one, the picture is dimmed with CHOOSE INPUT GAMMA written on it, and Bloom stays greyed out.

The curves: Rec.709 (gamma 2.4), Rec.709-A, Rec.709 (scene), Gamma 2.2, Gamma 2.6, sRGB, Linear, DaVinci Intermediate, ACEScct, Cineon, Apple Log, ARRI LogC3 (EI 800), ARRI LogC4, Blackmagic Film Gen 5, Canon Log 2, Canon Log 3, DJI D-Log, Fujifilm F-Log, Fujifilm F-Log2, Leica L-Log, Nikon N-Log,

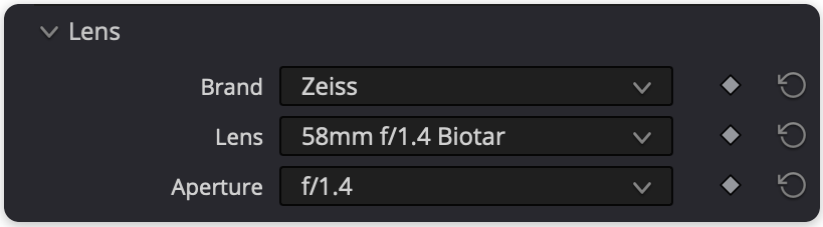
Panasonic V-Log, RED Log3G10, Sony S-Log3.

Getting this right matters: Lenzie undoes the curve to work on real light, the way a lens does, then puts the curve back. The wrong curve makes highlights too weak or too strong.

Tick **Vertical clip** for a clip stored on its side (shot vertical), so the iris turns with it.

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3. Pick a lens



In **Lens**, pick the **Brand** (Canon, Cooke, Leica, Nikon, Olympus, Pentax, Soviet (Helios, Jupiter), Zeiss, Other makers), then the **Lens**, then the **Aperture**. Lenses are listed by focal length. The Status line shows the lens, the stop, and its iris (for example "Iris: 8 blades, round wide open").

The menus list only the lenses on this Mac. Under them, a button says how many more are in the Lenzie app (for example "70 more lenses in the Lenzie app"); click it to download them. A project saved with a lens that isn't on this Mac keeps it: the menu shows **Not installed** and the picture passes through untouched until you download that lens's set.

- **Aperture** works like the real lens: wider (smaller f-number) gives more blur, bigger bokeh and more of the lens's wide-open character; stopping down sharpens it up and makes the bokeh take the shape of the blades.
- Lenses marked **(Super 35)** are cinema lenses made for Super 35 cameras. Lenses with **T** stops (T1.3) are cinema lenses marked in T-stops.
- Some lenses come in versions with different irises (the Helios-44 with 13 or 8 blades, the Nikkor-S with 6 or 7, the Super Speed B-Speed and Mk III): the bokeh shape differs between them.

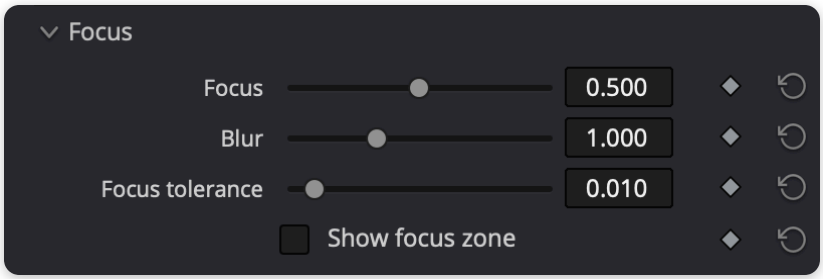
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4. Set focus first, whatever lens you're on

Do this before anything else, with **Show focus zone** (in **Focus**) ticked the whole time. It tints what's sharp, on the picture before blur.

1. Set the **Aperture** to its widest (the smallest f-number), turn **Blur** up and **Focus tolerance** down. That makes the sharp zone as thin as it gets, so it's easy to see exactly where it sits.
2. Move **Focus** until the sharp zone sits on the plane you focused on when you shot the video.
3. Then turn **Blur** back down, and raise **Focus tolerance** if you need more to match your footage.

4. Now stop down to the aperture you want.
5. Untick **Show focus zone**. Until you do, the Status line reminds you to turn it off before you render.



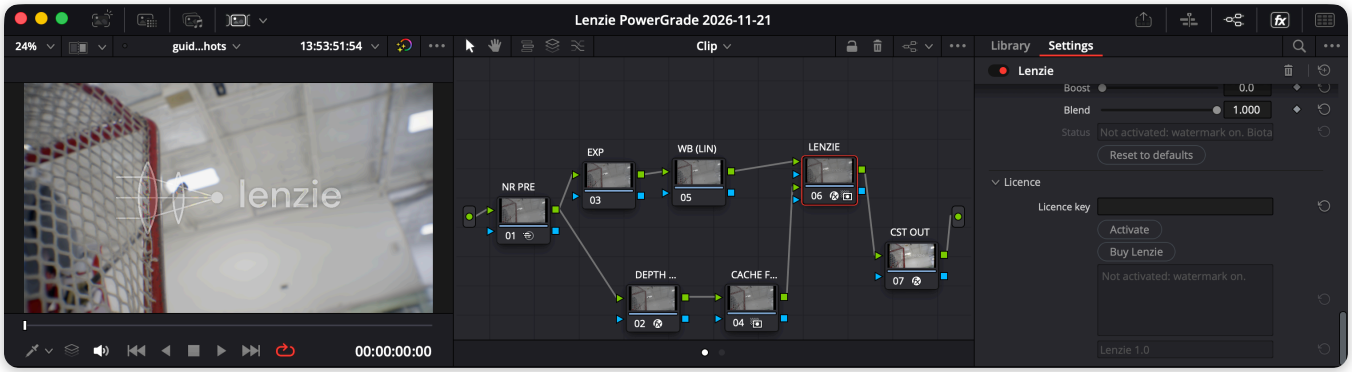
The Focus controls:

- **Focus** (0 to 1, default 0.5): the depth that's sharp. 0 is far, 1 is near.
- **Blur** (0 to 3, default 1): how fast things blur as they get further from focus. Stopping down reduces it, as on a real lens.
- **Focus tolerance** (0 to 0.1, default 0.01): depth either side of Focus that stays fully sharp. Raise it when a subject with depth (a face, a body) goes soft at the edges.

Focus pulls: keyframe **Focus** over time, as a focus puller would rack it.

5. The rest of the panel, section by section

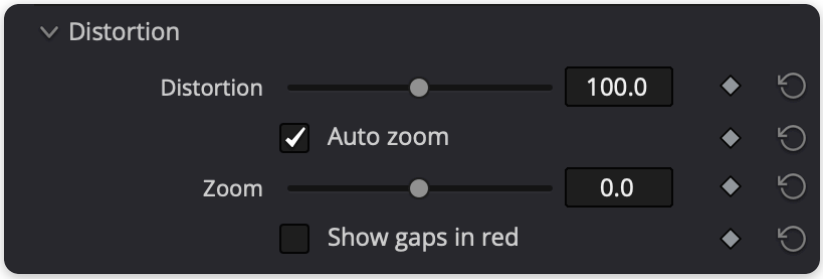
Select the Lenzie node, then open **Settings** at the top right of the Color page.



The Color page with the Lenzie node selected and its panel open on the right.

Most character controls are a **% of the lens's own**: 100 is the lens as it really is, 0 turns that part off, 200 doubles it.

Distortion



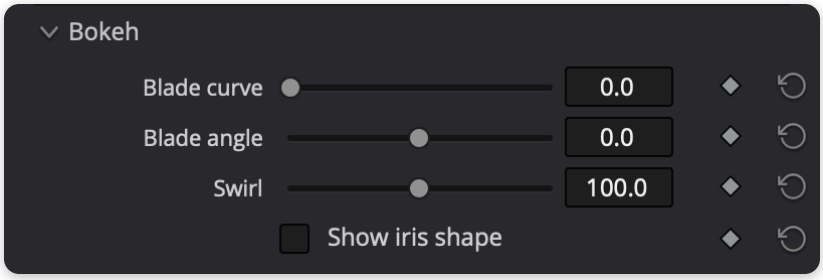
- **Distortion** (0 to 200%, default 100): the lens's own barrel or pincushion distortion.
- **Auto zoom** (on by default): distortion pulls the edges in, which would leave gaps at the frame edges. Auto zoom zooms in just enough that the picture fills the frame.
- **Zoom** (-50 to 50%, default 0): extra zoom on top of Auto zoom.
- **Show gaps in red**: shows any part of the frame that falls outside the picture in red, so you can see whether you need more zoom.

Light



- **Bloom** (0 to 5, default 0, off): bright lights glow outward in their own colour, as clipped highlights do through real glass. Needs Input gamma to be set. Works best in log, where the highlights are still there.
- **Bloom threshold** (-3 to 3 stops, default 0): lower it so dimmer lights glow too, raise it to keep the bloom to the brightest lights.
- **Bloom softness** (0 to 100, default 50): from a tight halo to a wide soft glow.
- **Falloff (vignette)** (0 to 200%, default 100): the lens's own corner darkening. It changes with the aperture, as on the real lens.
- **Colour fringe** (0 to 200%, default 100): the lens's own red and blue fringes on edges.
- **Glow** (0 to 200%, default 100): the lens's own soft glow on what's in focus, strongest wide open on older lenses.
- **Veiling glare** (0 to 200%, default 0): the lens's own haze, which lifts the blacks and lowers contrast.
- **Coating tint** (0 to 200%, default 100): the lens's own colour cast from its glass and coating.
- **Thorium age** (0 to 200, default 0): only for lenses that had thorium glass, which browns with age (Super Takumar 35mm f/2, Canon FD 35mm f/2, Nikon 35mm f/1.4, Olympus 55mm f/1.2). 100 is a typical yellowed copy. Greyed out on every other lens.

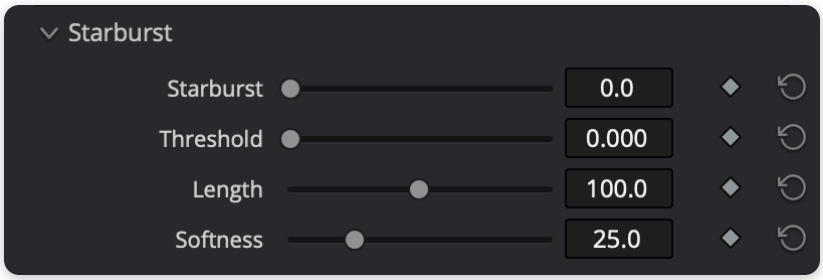
Bokeh



- **Blade curve** (0 to 100, default 0): rounds the blade edges. 100 is almost round.
- **Blade angle** (-180 to 180 degrees, default 0): turns the iris.
- **Swirl** (0 to 200%, default 100): the lens's own swirl in the blurred background (strong on a Helios-44 or a Petzval wide open).
- **Show iris shape**: shows the iris instead of the picture, so you can see the blade shape at this stop.

Wide open, every iris is round, as on the real lenses, so Blade curve and Blade angle show only once you stop down. On lenses with a round iris they do nothing.

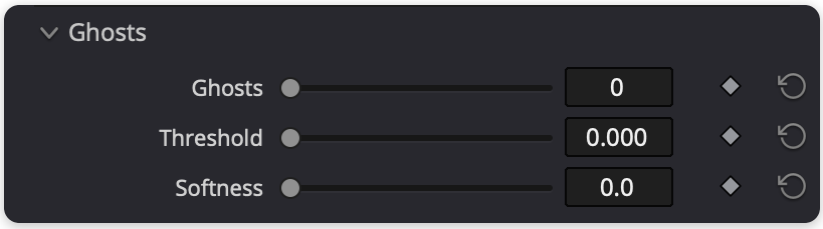
Starburst



Spikes on bright lights, from the iris blades. They appear once you stop down (wide open the iris is round). Greyed out on lenses with a round iris, which make no spikes.

- **Starburst** (0 to 200, default 0, off): the strength. The spikes get longer as you stop down, as on a real lens. An even number of blades gives that many spikes; an odd number gives twice as many.
- **Threshold** (0 to 5, default 0): raise it so only the brightest lights star.
- **Length** (0 to 200, default 100): how far the spikes reach. 100 is the lens's own.
- **Softness** (0 to 100, default 25): from thin sharp spikes to wide soft ones.

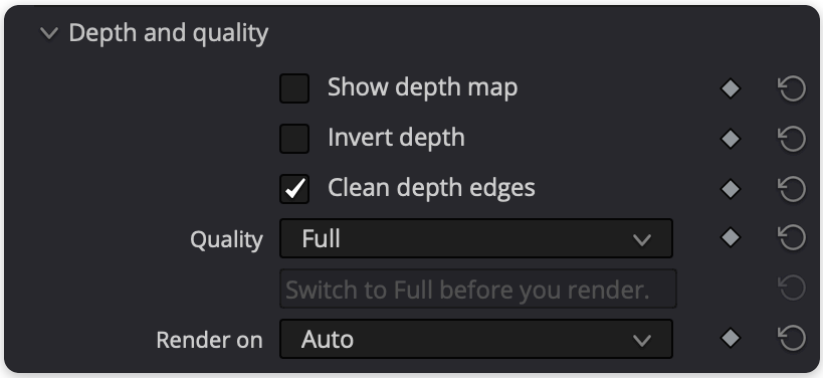
Ghosts



Reflections of bright lights bouncing between the lens's glass surfaces, placed and coloured from the lens's own design.

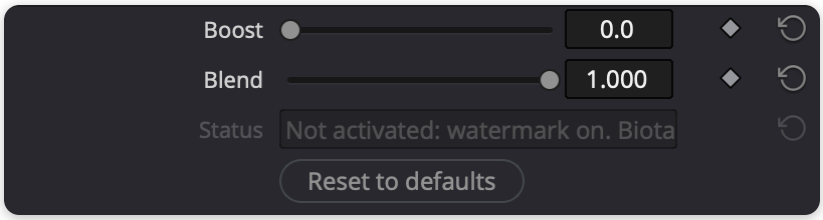
- **Ghosts** (0 to 1000, default 0, off): the strength.
- **Threshold** (0 to 5, default 0): raise it so only the brightest lights make ghosts.
- **Softness** (0 to 100, default 0): from sharp iris shapes to a soft haze.

Depth and quality



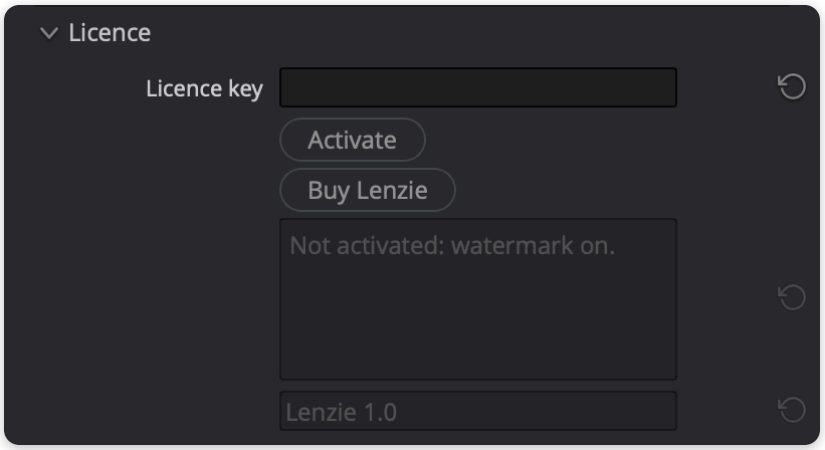
- **Show depth map**: shows the depth map instead of the picture. White should be near, black far.
- **Invert depth**: for a depth map that's black near and white far (Resolve's AI Depth Map doesn't need it).
- **Clean depth edges** (on by default): stops a halo round sharp subjects, where the depth map's edge doesn't quite match the picture. Off uses the map as it is.
- **Quality**: **Full** for rendering. **Fast preview** and **Faster preview** are lighter for scrubbing and setting looks. The line under it, and the Status line, remind you to switch back to Full before you render.
- **Render on**: **Auto** uses the GPU, or the CPU if it must. GPU and CPU give the same picture; the CPU is slower.

Below the sections



- **Boost** (0 to 100, default 0): pushes the lens's whole character together: distortion, falloff, fringe, swirl, glow, coating tint, veiling glare, starburst and bloom. Blur and Thorium age stay as they are.
- **Blend** (0 to 1, default 1): mixes with the original picture. 1 is all Lenzie.
- **Status**: what Lenzie is doing (see below).
- **Reset to defaults**: puts every control back, except the lens, aperture, depth settings and view.

Licence



The licence key box and its buttons, the activation line, and the version you have (see Activate Lenzie).

The Status line

It starts with the lens, the stop and the iris. It adds:

Status says	What to do
Not activated: watermark on.	Activate Lenzie (see Activate Lenzie).
Choose the Input gamma to start.	Set Input gamma (step 2).
No depth map: connect AI Depth Map (Depth Map Preview on) to the second input for focus blur.	Connect the depth branch (step 1).
Fast (or Faster) preview: set Quality to Full before you render.	Set Quality to Full.
Show focus zone (or Show iris shape, or Show depth map) is on: turn it off before you render.	Untick it.
GPU not available, using the CPU	Nothing; it renders the same picture, more slowly.
The GPU couldn't render a frame, so the CPU is rendering for now.	Nothing; it tries the GPU again within a minute.
A new version of Lenzie is installed. Quit and reopen Resolve to use it.	Quit and reopen Resolve.
(a lens) isn't downloaded. Open the Lenzie app and download its lens set. The picture passes through untouched until then.	Download its lens set in the Lenzie app (Lens sets page).
Lens file damaged. Download its lens set again in the Lenzie app	On the Lens sets page, download that set again.

Before you render

1. Lenzie is activated (no watermark).
2. **Quality** is on **Full**.
3. **Show focus zone**, **Show iris shape** and **Show depth map** are all unticked.
4. The depth map's cache node has finished caching.
5. The Status line has no warning after the lens and iris.

Troubleshooting

- **Lenzie isn't in the OpenFX list:** quit and reopen Resolve.
- **The picture is dim with CHOOSE INPUT GAMMA on it:** set Input gamma.
- **Nothing is blurred:** the depth map isn't connected to the second input, or Blur is at 0.
- **The wrong things are blurred:** tick Show depth map. Near should be white; if it's the other way round, tick Invert depth. Then set focus again with Show focus zone.
- **A soft halo round a sharp subject:** make sure Clean depth edges is on.
- **Edges of a sharp subject go soft:** raise Focus tolerance.
- **Red or mirrored edges at the frame edge:** turn Auto zoom on, or add Zoom.
- **Highlights look weak or bloom does nothing:** check Input gamma matches the footage; put Lenzie earlier, in log, where the highlights aren't clipped yet.
- **Slow playback:** use Fast preview or Faster preview while you work, and Full for the render.
- **A lens you downloaded doesn't show in the Lens menu:** quit and reopen Resolve. Resolve reads the menus when it starts.
- **The Lens menu says Not installed:** the project's lens isn't on this Mac. Download its lens set in the Lenzie app, then reopen Resolve.

The lenses

5 lenses come inside Lenzie: Distagon 28, Super-Takumar 35, Speed Panchro 50, Biotar 58 and Ultra Prime 135. The rest come in free lens sets you download in the Lenzie app, on the **Lens sets** page: the **Main set**, **More classics** and **Everything else**. They go in a folder called Lenzie Lenses in your home folder, and work in Resolve straight away; they show up in the Lens menu the next time you open Resolve.

84 lenses from Canon, Cooke, Leica, Nikon, Olympus, Pentax, Soviet makers (Helios, Jupiter), Zeiss and others, from 7mm to 180mm: classic designs (Cooke triplet, Tessar, Biotar, Sonnar, Petzval), stills lenses from the 1950s to the 1990s, and cinema lenses (Super Speed, Master Prime, Ultra Prime, Summilux-C, Speed Panchro). Every lens ships with a blade count we're confident of.

Lenzie is not affiliated with or endorsed by any lens maker. Lens and maker names are trademarks of their owners, used only to say which lens each look is traced from.

Uninstall Lenzie

In the Lenzie app, choose **Lenzie**, **Uninstall Lenzie…**. Quit Resolve first. It moves the plugin, the lens sets the app downloaded, and the app itself to the Trash. Your licence stays on your Mac, so a reinstall is already activated, and lenses you put in Lenzie Lenses yourself stay too.