

Resolume Luma Keyer user guide

A **luminance keyer** for [Resolume Arena](#) and [Avenue](#), as an FFGL effect.

It measures the perceptual (Rec. 709) luminance of each pixel and drives that pixel's alpha from it — so dark areas of a clip become transparent and let lower layers show through. It is the quick way to key a black background, tame add-blend-style content, or pull a shadow or highlight matte, without needing a dedicated key colour.

Status: released at v1.0.1, and **run inside Resolume on real content**. Needs Resolume Arena or Avenue **7.3.1 or newer**. The before/after image below is rendered with the plugin's exact shader maths rather than captured from Resolume.

Installing

Drop the plugin into Resolume's plugin folder and restart it:

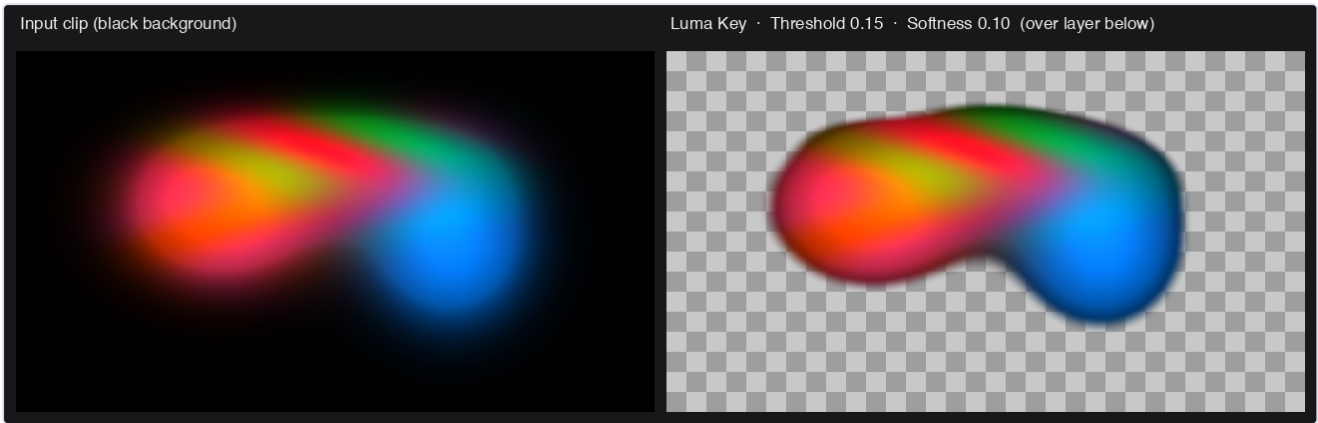
```
macOS    ~/Documents/Resolume Arena/Extra Effects/  
Windows  %USERPROFILE%\Documents\Resolume Arena\Extra Effects\
```

Avenue uses the same layout under its own folder name. It appears in the effects list as **Luma Key**.

The builds are unsigned, so macOS and Windows each warn once on first use — see [UNSIGNED.md](#) for the one-time fix. On macOS, note that **approving the outer bundle does not clear quarantine on what is nested inside it**:

```
xattr -dr com.apple.quarantine ~/Documents/Resolume\ Arena/Extra\ Effects/LumaKey.bundle
```

The two controls



Threshold 0.15, Softness 0.10 — the defaults.

Parameter	Default	What it does
Threshold	0.15	The luma level at the centre of the key edge. Pixels darker than this are keyed out.
Softness	0.10	The width of the soft edge around that threshold. 0 is a hard cut; higher is a gradual falloff.
Invert	Off	Flips the key so bright pixels are removed instead of dark ones.

The thing worth internalising: **Threshold is the middle of the ramp, not its start**. Raising Softness widens the transition *around* the threshold in both directions, so a high Softness with a low Threshold will start eating into midtones. If a key is biting too far, lower Softness before you touch Threshold.

Getting a clean key

1. **Set Softness to 0 first**. A hard cut shows you exactly where the threshold is landing; softness only obscures that while you are still deciding.
2. **Raise Threshold until the background is gone** and no further. Watch the darkest parts of the subject you want to *keep* — they go next.
3. **Then add Softness**, just enough to lose the stair-stepping on the edge.

For a highlight matte, turn **Invert** on and repeat: the same procedure, working down from white.

How it composites

The effect works on **straight (unpremultiplied) colour internally** and outputs **premultiplied colour clamped to the LDR range**, matching Resolume's own pipeline — so it composites cleanly with the

layers beneath it rather than leaving dark or bright fringes on the soft edge.

This is why it behaves properly on the *soft* part of the key and not just the hard part, which is the usual failure of a naive luma key.

What it is not

- **Not a chroma keyer.** There is no key colour; it only looks at luminance. A green screen needs a chroma keyer.
- **Not a spill suppressor.** It changes alpha, not colour.
- **Not a garbage matte.** Every pixel is judged on its own luminance, with no spatial awareness — a bright object against a black background keys well, and a bright object against a bright background does not key at all.

Troubleshooting

Symptom	Cause
Plugin doesn't appear in Resolume	Wrong folder, or Resolume older than 7.3.1. On macOS, check quarantine on the bundle itself.
Key eats into the subject	Threshold is the centre of the ramp — lower Softness before lowering Threshold.
Edges are stair-stepped	Softness is at or near 0.
Dark fringe on the soft edge	Shouldn't happen — the output is premultiplied to match Resolume. Worth reporting.
Nothing keys at all	The background may not be dark. Try Invert , or check the clip actually has the luma range you think.
Keyed the wrong end of the range	That is what Invert is for.

See also

- [README](#) — parameters, build instructions and downloads
- [UNSIGNED.md](#) — Gatekeeper and SmartScreen

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<https://github.com/stoatworks-labs/resolume-luma-keyer>