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AV1 encoding with HDR to SDR tonemapping and 5.1 to stereo downmixing

If you want real surround audio, use Sofa. But that only sounds good with headphones, and I want a 2.0 speaker mix.

ffmpeg -i legit_file.mkv -c:v libsvtav1 -crf 34 -preset 2 -threads 4 -g 240 -svtav1-params tune=0:film-grain=10:mbr=3000k -vf 'zscale=t=linear:npl=100,format=gbrpf32le,zscale=p=bt709,tonemap=tonemap=hable:desat=0,zscale=t=bt709:m=bt709:r=tv,format=yuv420p,scale=if(gte(iw\,ih)\,min(1920\,iw)\,-2):if(lt(iw\,ih)\,min(1920\,ih)\,-2):flags=lanczos+full_chroma_inp+full_chroma_int' -c:a libopus -vbr on -b:a:0 128k -b:a:1 32k -compression_level 10 -application audio -af “pan=stereo|c0=0.5*c2+0.707*c0+0.707*c4+0.5*c3|c1=0.5*c2+0.707*c1+0.707*c5+0.5*c3” -colorspace:v “bt709” -color_primaries:v “bt709” -color_trc:v “bt709” -color_range:v “tv” -map 0:0 -map 0:1 -map 0:2 -map 0:s -c:s copy -y “legit_transcode_av1.mkv”

This is optimized to squash down the files. A movie should be under 2 GB but with much better results than h264 or h265.
This uses hable tonemapping. See https://ffmpeg.org/ffmpeg-filters.html#tonemap-1 for your options, I kinda preferred the slightly brighter hable image.
It's not as good as MPV's tonemapping is, but MPV is a player, not a transcode...
This uses a dumb audio downmix, but has slightly more center for benefit of vocals.
I would map primary audio opus at 128 (you won't hear the difference in a movie), and any vocal special things like director commentary down to 32.
NOTE: This drops to 8 bit color. YOU WILL SEE BANDING WITH 8 BIT. Choose 10 bit, or even FULL RANGE 8 bit instead of limited.
Why did I do it this way? At least some HW accelerated players can handle 8 bit but struggle with 10 (Rockchip) but note that they will NOT do the film grain synthesis.

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Permanent link:
https://wiki.tonytascioglu.com/scripts/ffmpeg/av1_hdr_sdr?rev=1740476315

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