Open source · runs locally

Upscale old or low-res footage locally with Real-ESRGAN

Sharpen low-resolution clips before turning them into Shorts: extract frames with FFmpeg, upscale them with the free Real-ESRGAN executable, and rebuild the video.

VideoToShorts · https://videotoshortsconverter.com/workflows/upscale-old-footage-real-esrgan · checked November 19, 2026

COST
Free

TIME
Minutes to hours, depending on clip length and GPU

LEVEL
Intermediate (command line)

HARDWARE
The portable Real-ESRGAN executable runs on Intel, AMD and NVIDIA GPUs (Vulkan), per its README.

What you need

Real-ESRGAN (ncnn-vulkan executable): AI upscaling of frames

FFmpeg: Split into frames and rebuild the video

Best for: Old 480p or 720p archive footage, Screen recordings that look soft, Anime and illustrated video (dedicated model).

Steps

1 Download the portable executable

Get the realesrgan-ncnn-vulkan release for your OS from the Real-ESRGAN README and unzip it. No Python needed.

2 Check the frame rate

Note the source fps so the rebuilt video plays at the same speed.

```
ffmpeg -i clip.mp4
```

3 Extract frames

This is the extraction command from Real-ESRGAN's video guide. A 30-second clip at 30 fps is about 900 images, so use a fast disk.

```
mkdir tmp_frames out_frames
ffmpeg -i clip.mp4 -qscale:v 1 -qmin 1 -qmax 1 -vsync 0 tmp_frames/frame%08d.png
```

4 Upscale the frames

-s sets the scale (2, 3 or 4). realesr-animevideov3 is the default model and is built for anime video; for real-world footage try realesrgan-x4plus.

```
realesrgan-ncnn-vulkan -i tmp_frames -o out_frames -n realesrgan-x4plus -s 2 -f jpg
```

5 Rebuild the video and add the audio back

Use the fps you noted (30 here). The second input brings back the original audio.

```
ffmpeg -r 30 -i out_frames/frame%08d.jpg -i clip.mp4 -map 0:v -map 1:a? -c:v libx264 -
pix_fmt yuv420p -c:a copy -shortest upscaled.mp4
```

6 Check and clean up

Compare a few seconds side by side; upscaling can add artifacts on faces and text. Delete the frame folders when done.

Questions

Will it fix blurry or shaky video?

No. Upscaling adds detail and resolution; it does not remove motion blur or stabilize shaky footage.

Is there a faster way for long videos?

Real-ESRGAN processes every frame, so long clips take time. Cut the parts you will actually post first, then upscale only those.

Sources

- Real-ESRGAN README (portable executable usage)
- Real-ESRGAN video guide (frame extraction and rebuild)

Commands checked against each tool's docs on November 19, 2026.