Frame Rate Selection Checklist

Pick 24 / 25-50 / 30 / 60 / 120 fps by content type, motion, audience, and shutter angle. Version 1.0 - May 2026

1 · CONTENT TYPE

- ☐ Narrative film, premium scripted VOD, music videos — *use 24 fps*
- ☐ Sports, esports, live action, fast-motion broadcast — *use 60 fps (50 in EU)*
- ☐ Talking heads, conferencing, UGC, web video — *use 30 fps (25 in EU)*
- ☐ Slow-motion source for cinematic delivery — *shoot 120 fps, deliver 24*
- ☐ VR / AR / 120 Hz display targeting — *use 120 fps native*

2 · SHUTTER ANGLE

- ☐ 180° shutter (1 / 2x fps) for natural-looking motion — *default for most production*
- ☐ 45-90° shutter for sharp, urgent, staccato motion — *Saving Private Ryan style*
- ☐ 270-360° shutter for dreamy, hyper-blurred motion — *music videos, dream sequences*
- ☐ Same shutter angle preserved across all takes in a scene — *consistency matters more than absolute value*

3 · AUDIENCE AND DISPLAY

- ☐ Cinema-style content for cinema-style viewers — *stick to 24 fps*
- ☐ Audience expects sports / live aesthetic — *60 fps fits expectations*
- ☐ Target devices include 60 Hz screens — *30 / 60 plays cleanly*
- ☐ Target devices include 120 Hz screens — *120 fps plays cleanly, 24 fps too*
- ☐ Mixed 60 Hz / 120 Hz audience — *30 or 60 fps safest baseline*

4 · PIPELINE AND BANDWIDTH

- ☐ Higher fps verified against bitrate budget — *60 fps = +50-70%; 120 fps = +200-300%*
- ☐ Codec supports the frame rate (H.264 caps at 60 / 4K) — *HEVC or AV1 for 120 fps*
- ☐ Decode tested on oldest target device — *120 fps may fail on pre-2023 hardware*
- ☐ VFR converted to CFR at ingest — *phones often produce VFR*
- ☐ ffprobe avg_frame_rate matches r_frame_rate — *if not, you have VFR*

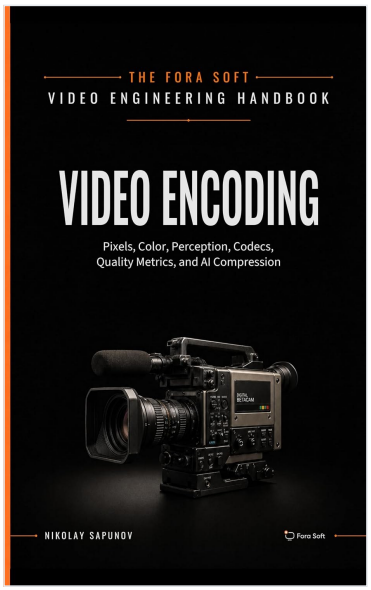
5 · JUDDER AND PULLDOWN

- ☐ 24 fps content not interpolated for 60 Hz playback — *kills cinematic feel*
- ☐ 3:2 pulldown disabled when target supports 120 Hz — *120 / 24 = 5 cleanly*
- ☐ Motion smoothing off for narrative content — *soap opera effect*
- ☐ Slow camera pans at 24 fps to avoid judder — *physical solution, not encoder*

TOP-3 FRAME-RATE BUGS IN PRODUCTION

• Cinema content auto-interpolated to 60 fps - viewers complain of 'soap opera' look, drop in perceived quality.
• VFR phone footage in editing timeline - frames drift, audio sync breaks at export.
• 120-fps HEVC streamed to old iPhone - decode falls back to software, battery drain, dropped frames.

Companion to: 'Frame Rate: 24, 60, 120 fps'
www.forasoft.com/learn/video-encoding/articles/frame-rate-24-60-120-fps-judder-motion-blur



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This checklist helps you pick 24, 30, 60 or 120 fps by content, audience, display and bitrate budget. Volume 1 explains the encoding side of the choice: frame rate and motion, VFR and CFR handling, rate control for higher frame rates, codec support and how to measure the quality you get.

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- Frame rate, motion and temporal sampling
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