

Codec Class Cheat Sheet

Lossless vs lossy, production vs delivery — every codec from the article, sorted by quadrant.

Codec	Quadrant	Type	Typical 1080p	Ratio	Container	Best at
FFV1	Production · lossle...	Video · intra	150 Mbps	2:1–3:1	Matroska (.mkv) · MXF	Long-term broadcast archive (LoC Preferred Form...
JPEG 2000 lossless	Production · lossle...	Video · intra	200 Mbps	2:1–3:1	MXF · MJ2	Film restoration, IMF master, DCP
HuffYUV / UT Video	Production · lossle...	Video · intra	180 Mbps	2:1	AVI · MOV	Screen capture, scientific imaging
PNG / TIFF	Production · lossle...	Image	—	1.5:1–4:1	PNG · TIFF	Graphics, UI assets, screenshots
JPEG XL lossless	Production · lossle...	Image	—	2:1–3:1	JXL	Image archives, lossless re-encode of JPEGs
ProRes 422	Production · lossy ...	Video · intra	147 Mbps	8:1	QuickTime (.mov)	Editing native in Final Cut and Resolve
ProRes 422 HQ	Production · lossy ...	Video · intra	220 Mbps	5:1	QuickTime (.mov)	Netflix-grade delivery, colour grading
ProRes 422 LT	Production · lossy ...	Video · intra	102 Mbps	12:1	QuickTime (.mov)	Budget edit proxies
ProRes 4444 / 4444 XQ	Production · lossy ...	Video · intra	330–500 Mbps	3:1–4:1	QuickTime (.mov)	VFX work with alpha channel
DNxHR HQ / HQX	Production · lossy ...	Video · intra	145 / 220 Mbps	5:1–7:1	MXF · QuickTime	Avid Media Composer pipelines
JPEG 2000 (IMF/DCP)	Production · lossy ...	Video · intra	200–500 Mbps	6:1	MXF	SMPTE IMF master, digital cinema package
JPEG XS	Production · lossy ...	Video · intra	125 Mbps	2:1–10:1	SMPTE ST 2110-22	Sub-millisecond contribution over IP
H.264 / AVC	Delivery · lossy	Video · interframe	5 Mbps	300:1	MP4 · fMP4 · MPEG-TS	Universal browser & device support
H.265 / HEVC	Delivery · lossy	Video · interframe	3 Mbps	500:1	MP4 · fMP4 · MPEG-TS	4K HDR on Apple devices, smart TVs
VP9	Delivery · lossy	Video · interframe	3.5 Mbps	430:1	WebM · MP4	YouTube 1080p and 4K
AV1	Delivery · lossy	Video · interframe	2.5 Mbps	600:1	MP4 · WebM	Netflix (30% of streaming, 2025), YouTube top t...
H.266 / VVC	Delivery · lossy	Video · interframe	2 Mbps	750:1	MP4 · MPEG-TS	Smart TVs, future 8K broadcast
JPEG	Delivery · lossy	Image	—	10:1	JPG	Photos on every legacy surface
WebP (lossy)	Delivery · lossy	Image	—	13:1	WebP	Web images — 25–34% smaller than JPEG
AVIF	Delivery · lossy	Image	—	20:1	AVIF	Aggressive web image compression
JPEG XL	Delivery · lossy	Image	—	15:1	JXL	Lossless-from-JPEG re-encode + lossy delivery
DICOM lossless / JPEG ...	Delivery · lossless	Image / Video	200 Mbps	2:1–3:1	DICOM · MXF	Medical imaging, forensic, scientific
Uncompressed SMPTE 2110	Delivery · lossless	Video	3 Gbps	1:1	SMPTE 2110	Intra-studio contribution over IP

Decision rule

Source of truth? Lossless. Edited again before viewer? Production tier. Two yes/no answers fully place any file in one of four quadrants.

Mezzanine bitrate is ~50x heavier than delivery bitrate — never ship a ProRes file to a viewer, never archive in H.264.