2.97 Mbps 1080p30 VBR   1.65 Mbps 1080p30 CABR

Beamr CABR Encoding

Employ the Industry's Best-in-Class Service for Producing High-Quality Video at the Lowest Possible Bitrates

High-resolution video such as 4K HDR requires tremendous amounts of bandwidth to deliver optimum viewing quality across a range of OTT devices. The bitrate demands of these massive files can result in slow starts and buffering and exceedingly high CDN and storage costs. It can also limit your ability to stream new revenue-generating content over constrained IP networks.

Encoding.com users can now access content- adaptive bitrate (CABR) encoding technology from industry leader Beamr to stream video with the highest possible picture quality and up to 50% fewer bits, resulting in smaller file sizes, more satisfied customers and lower CDN and storage expenditures. Support is available for all next-generation video formats, including Hybrid Log-Gamma (HLG), HDR10

and Dolby Vision, as well as resolutions up to 8K. Supported codecs include AVC/H.264 and HEVC/H.265. With Beamr CABR, Encoding.com customers can encode broadcast-quality 4K HEVC video at bitrates under 10 Mbps, and 1080p video as low as 1.5 Mbps.

Encoding.com enables the use of Beamr's 5X HEVC and 4X AVC encoding engines, both of which help the encoder make smarter decisions based on the true visual quality of each video frame. Scenes with high motion and detailed textures get higher bitrates, while scenes with low motion and smooth surfaces get lower bitrates. As a result, action movies can see up to 25% bitrate reduction and non-action content up to 50% reduction. These savings are not possible with fixed ABR recipes, since all video titles are encoded with the same set of resolutions and bitrates, regardless of their content.

Accelerating Your CABR Workflow

Beamr CABR encoding is accessible as one of Encoding.com's comprehensive and growing suite of microservices, which includes broad I/O format support, ABR and CableLabs packaging, digital rights management, dynamic ad insertion, Neilsen watermarking, advanced audio and automated quality control. While employing Beamr CABR technology can introduce latency to the encoding workflow, combining CABR with our Ludicrous Mode ultra-fast transcoding and packaging service counters this effect by significantly accelerating HD and UHD workflows.

- Up to 50% fewer bits for AVC/H.264 and HEVC/H.265 video
- Content-adaptive frame-level optimization guarantees the highest video quality with the lowest bits
- Easily integrates your workflow to the cloud via the Encoding.com API
- Ideal for use on all content types

encoding.com

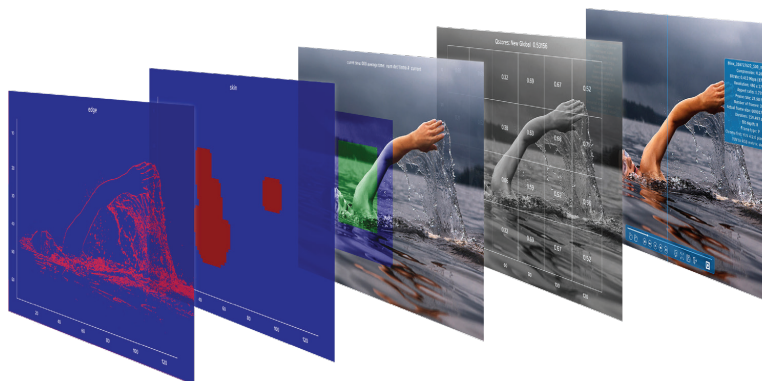POWERED BY TELESTREAM

Ludicrous Mode works by splitting large source video files into small chunks and then performing all of the transcoding and packaging in parallel before stitching the chunks back together again.

Frame-Level Cabr Encoding

With traditional encoding, video is compressed based on settings that apply to the least common denominator of the visual content, leading to the possibility of complex scenes displaying poor video quality and simple scenes containing more bits than necessary. Unlike other content-adaptive solutions, which operate on a per title, per scene, or per GOP level, Beamr's CABR technology adapts encoding settings per frame to preserve video quality while reducing the bitrate.

Granted 47 international patents with more pending, Beamr CABR encoding is unmatched. At its heart is a unique measurement algorithm that leverages the perceptual qualities of the human visual system. The closed-loop technology applies several compression levels to each video frame, comparing the subjective quality of input and output frames for each level. When the frame quality falls within an acceptable quality threshold, the encoder outputs the frame and moves on to the next one, ensuring that each frame is encoded using the minimum number of bits while fully preserving the original quality.
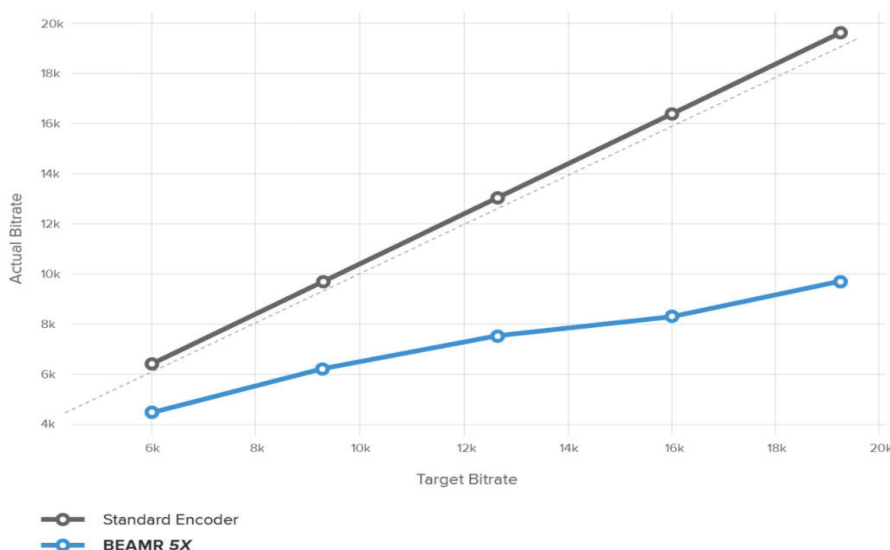
Beamr's CABR technology is backed by more than 45 international patents.

Simple Integration

Encoding.com offers the most mature, well-documented and feature- rich cloud encoding API on the market, simplifying the ability to move your ABR processing to the cloud. We can integrate with your CMS, MAM or post-production application, and offer XML templates for all popular devices. To further simplify the integration process, our API Builder helps generate properly formatted XML files to test your JSON or XML requests before writing a single line of code.

Beamr 5x HEVC Encoding: The Highest Quality At The Lowest Bitrate

Beamr Encoding Optimization Benefits

- Fit more channels into constrained broadcast pipes
- Lower CDN and storage costs
- Improve user experience with a faster start and less buffering
- Reach a wider audience with 4K over broadband and HD over mobile notifications

Legend: Standard Encoder / BEAMR *5X*

![telestream logo]