

h.264 - Capture Preset settings explained

Chris - 2023-01-24 - just:in mac

There are different values and settings that can be customised within a just:in mac h.264 capture preset. Initially the container type can be selected. There are two options available:

- AVFoundation QuickTime (with Timecode Track)
- MP4 (no Timecode Track)

H.264 is a very complex standard and sometimes it is very difficult to work with this codec and its settings. Therefore just:in mac provides some options, which can be modified within a capture preset.

After choosing the container type you have to define two general settings:

- Resolution
- Framerate (has to match the Video Mode of the Channel)

Next you have to select the h.264 profile. Three options are available:

- Baseline - Baseline encodes are the most basic form of encoding. While decoding is much easier, it may also require much higher bit-rates to maintain the same level of quality.
- Main - The middle ground. Most modern / current devices will support this profile.
- High Profile - For best quality and file size at the expense of CPU time in both decode and encode.

Then you can set the Bitrate in bit/s.

B-Frame - Short for bi-directional frame, or bi-directional predictive frame. As the name suggests, B-frames rely on the frames preceding and following them. B-frames contain only the data that has changed from the preceding frame or are different from the data in the very next frame. B-frames increase compression efficiency, particularly at lower bitrates. We recommend to have this option enabled.

The GOP-Size determines the maximum distance between I-frames. Very high GOP lengths will result in slightly more efficient compression, but will make seeking in the video somewhat more difficult. Recommended default is 0, which sets the encoder to Auto-GOP.

Lastly you can define the entropy mode. When you select the Main or High Profile (Baseline is CAVLC only), you have two options:

- CAVLC: Context-based adaptive variable-length coding
- CABAC: Context-based adaptive binary arithmetic coding

CAVLC is the lower-quality, easier-to-decode option, CABAC is the higher-quality, harder-to-decode option.

Recommended settings for HD presets:

Resolution: custom
Framerate: custom
Profile: Main or High
Bitrate: custom
Allow B-Frames: Activated
GOP-Size: 0
Entropy Mode: CABAC

Recommended settings for SD presets:

Resolution: custom

Framerate: custom
Profile: Baseline or Main
Bitrate: custom
Allow B-Frames: Activated
GOP-Size: 0
Entropy Mode: CAVLC