



# Video Source File Specifications

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Limelight recommends the following specifications for all video source files. Adherence to these specifications will result in optimal playback quality and efficient uploading to your account.

## Edvance360 Best Practices

- Videos should be under 1 Gig for best results (download speed and mobile devices), but our limit per file is 2 Gig for Lessons
- MP4 is the optimum format for uploading videos
- Compress the video to resolution of 1024 x 768
- Limelight does compress the video, but it's best if it's done on the original file
- A resolution is 1080p or less is recommended
- Recommended frame rate is 30fps

Note: The maximum file size for Introduction Videos in Courses is 50MB. This is located in Courses > Settings > Details > Introduction Video.

## Ideal Source File

In general, a source file that represents the following will produce the best results:

### MP4 file (H.264/ACC-LC)

- Fast Start (MOOV atom at the front of file)
  - Progressive scan (no interlacing)
  - Frame rate of 24 (23.98), 25, or 30 (29.97) fps
  - A Bitrate between 5,000 - 8,000 Kbps
  - 720p resolution
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# Detailed Recommendations

The table below provides detailed recommendations (CODECs, containers, Bitrates, resolutions, etc.) for all video source material uploaded to a Limelight Account:

Source File Element	Recommendations
Video CODEC	Recommended CODEC: H.264 Accepted but not Recommended: MPEG-1, MPEG-2, MPEG-4, VP6, VP5, H.263, Windows Media Video 7 (WMV1), Windows Media Video 8 (WMV2), Windows Media Video 9 (WMV3)
Audio CODEC	Recommended CODEC: AAC-LC Accepted but not Recommended: MP3, MP2, WMA, WMA Pro, PCM, WAV
Container	MP4

Source File Element	Recommendations
Fast-Start	Make sure your source file is created with the 'MOOV atom' at the front of the file. The MOOV atom, also known as 'movie atom' or 'QT Fast Start', contains information about the video file. This needs to be at the beginning of the file in order to ensure fast transcoding. Unless otherwise specified, most encoding software will put the MOOV atom at the end of the file. Look for one of these settings in your encoding software to override the default and place the atom at the beginning: "progressive download," "fast start," "use streaming mode," or similar options.
Interlacing	All media should be de-interlaced before uploading. In other words, use 'Progressive' scan. Interlaced video is primarily used for television and does not display well on computer screens, producing jagged lines during playback.
Frame Rate	The frame rate of the source file should reflect the same rate at which the material was filmed. For example, content shot in 24 frames per second (fps) should be encoded and uploaded at 24 fps. Recommended frame rates are 24 (23.98), 25, or 30 (29.97) fps. Settings that are larger than these recommendations may result in poor user viewing experiences due to high CPU usage. Avoid frame rates that are below one (1) as this will result in excessive buffering.
Bitrate	An ideal source bitrate is around 5,000 - 8,000 Kbps. However, you may want to upload a slightly higher or slightly lower Bitrate depending on the resolution you wish to target. In general, follow the table below:

Target Resolution	Recommended Minimum Source Bit Rate
1080p	8000 Kbps
720p	5000 Kbps
480p	2500 Kbps

360p

1200 Kbps

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Aspect Ratio	Any aspect ratio (including 16:9 widescreen and 4:3 standard) is supported. However, Limelight will maintain the aspect ratio of the original file for all encodings and therefore recommends that the desired display ratio be used for the source file.
Resolution	Upload a 1080p source if you intend to deliver to large screens (e.g. TV). In general, a 720p source is acceptable to provide a great experience on most devices.
Pixels	Original media files should be encoded using isomorphic (square) pixels only. Media that is encoded using anamorphic (rectangular) pixels will display distorted.
Keyframes	Limelight recommends that keyframes be set at least every six seconds. However, in most cases you can set this to 'Automatic' in your encoding software.
Chapters	Chapters are not supported in source media.

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