

Stand Alone Video Format Requirements

This document outlines the requirements for creating digital video that will work with the MyLWW Stand-Alone Video (SAV) player. All video destined for the MyLWW SAV player **MUST** be encoded in Flash Video (.FLV) format. This format allows for embedded, streaming playback through the journal website. Please be advised that **NO OTHER FILE FORMATS ARE SUPPORTED** at this time.

FLV Encoding Recommendations

The following document gives general guidelines for encoding videos to FLV. **The video subject matter ultimately dictates the optimal video encoding settings.** A video of motionless people talking will not need as high a setting for data rate, keyframe frequency, or audio quality as a video with movement, cross-fades and a music soundtrack. Videos of poor quality (high noise) may need higher settings overall, particularly with regard to data rate.

Video Codec:

Video should be encoded using the *On2 Technologies' TrueMotion VP6 codec (On2 VP6)*. This codec comes with the Flash CS3 Video Encoder application. If unavailable, another alternative is the Sorenson codec used by the application Sorenson Spark Pro. Please note that Flash MX Professional 2004 uses the *non-Pro* Sorenson Spark codec, which produces lower quality than Sorenson Spark Pro. Encoding videos to H.265 is not yet recommended, as these are only supported by Flash Player 9r115 (update 3) and higher.

Audio Codec:

Audio should be encoded using the MPEG Layer III (MP3) codec. Videos with people talking and no music can be encoded in mono. Videos using music should be encoded in stereo.

Bitrate Type:

When using RTMP as a video delivery method, the video must have a constant data rate throughout the entire playback. Video should therefore be set to *Constant Bitrate (CBR)*.

De-interlacing:

Enable video de-interlacing and set the encoder to the upper field. No de-interlacing is needed however if the video is from a progressive source like an HD video camera.

Frame Rate:

Keep frame rate *the same as source, or 1:1, for highest quality video*, and 2:1 or a lower ratio for lower quality video. When lowering frame rates for lower data rate streams, keep the frames per second at 1/2, 1/3, 1/4, etc. the existing rate.

Keyframes:

For best performance of the video scrubber, set a keyframe every 2 seconds (for 29.97 frames per second, this would be every 60 frames). For slower streams, set a keyframe every 4 seconds (i.e. for 29.97 fps, every 120 frames).

Video Settings – Reference Charts:

The following charts assume that the source video is NTSC 29.97 frames per second and of good source quality (low video noise). Video from motion pictures is typically 24 frames per second. Instead of using 29.97, 14.98 and 2, with motion picture source material, use 24, 12, and 1.6.

For high motion video, with cross-fades, pans, or dissolves, and a musical track

Stream	Width x Height	FPS	Video Data Rate	Keyframe Interval	Audio Sampling	Audio Channels	Audio Kbps	Total Kbps
1.5 Mbps	576 x 432	29.97	1000 Kbps	60 frames	44.100kHz	Stereo	160	1385
768 kbps	576 x 432	14.98	500 Kbps	30 frames	44.100kHz	Stereo	160	660
384 Kbps	576 x 432	14.98	329 Kbps	60 frames	22.050kHz	Stereo	80	350
56k Dial Up*	576 x 432	2	166 Kbps	12 frames	11.025kHz	Mono	16	50

For low motion video, with no transitions, and a static background

Stream	Width x Height	FPS	Video Data Rate	Keyframe Interval	Audio Sampling	Audio Channels	Audio Kbps	Total Kbps
1.5 Mbps	576 x 432	29.97	497 Kbps	60 frames	44.100kHz	Mono	160	577
768 kbps	576 x 432	14.98	350 Kbps	30 frames	44.100kHz	Mono	160	510
384 Kbps	576 x 432	14.98	249 Kbps	30 frames	22.050kHz	Mono	80	329
56k Dial Up*	576 x 432	2	166 Kbps	12 frames	11.025kHz	Mono	16	50

* Optimally Dial-up viewers should see video in a different physical size (320x240 or 180x160). This was not however one of the specs for this player. Therefore, the frames per second had to be lowered dramatically to 2 frames per second, which will probably cause the viewing experience to be very uneven and jerky in motion.