

# Video for web

## Shooting with compression in mind

When shooting footage that you know will be used specifically for the web, adhering to the following guidelines will improve video quality and reduce file sizes:

- eliminate excess headroom. Web video is full raster and does not need headroom or titlesafe areas
- keep your shooting style simple. Pans, zooms and tilts will not look great when compressed
- use a tripod to eliminate shaky cam, which will look even worse when compressed
- avoid unnecessary background details by shooting with the aperture wide open to keep your subject in focus and blur the background
- when appropriate, shoot in front of a green screen and insert a still image for the background
- use the best quality camera and tapes available to you. If the camera supports true progressive shooting, use that mode
- use good quality microphones and get in close to your subject
- light your subject well.

## Capturing

Always capture your footage at the highest possible quality. Full quality is maintained until the compression process.

## Processing and exporting

Once you have edited the footage that you want to compress for the web you need to adjust this footage into something that will look good on a computer screen.

Adjustments may include:

- cropping and resizing
- gamma, contrast, brightness, saturation and black and white levels
- de-interlacing.

Your ability to adjust these settings will depend on what software you are using to compress the footage. This process may take place at the point of exporting your footage for web directly from your editing program or you may have already exported your footage as a full quality .mov (or equivalent) file and be using a separate program to compress your footage for the web.

### **Cropping and resizing**

If you have not shot the footage yourself specifically for the web and there is unnecessary headroom or image information that you do not need you can crop and resize the images so that you are not wasting pixels on useless information.

### **Gamma, contrast, brightness, saturation and black and white levels**

The most important thing to adjust here is the black and white levels as video footage looks washed out on a computer screen because video footage contains no true whites or blacks. Adjust the other settings to improve image quality if required.

### **De-interlacing**

Video footage is often interlaced. This looks like someone has run a comb through your footage when it is viewed on a computer screen. Most compression software enables you to de-interlace the footage.

### **Frame rate**

When you export the edited footage keep the frame rate the same as the original footage for the best quality outcome. Divide by two if you want to reduce the file size significantly.

### **Frame size**

Keep your frame size in the same ratio as your footage i.e. 4:3 or 16:9 when you reduce the size of the frame.

### **File size**

The smaller the better while still retaining reasonable quality is the aim here. It's good practice to provide your viewers with low, medium and high quality options. That way depending on the speed of their Internet connection and computer capabilities they can choose the most appropriate size file. Limiting file length to 5 mins is a good idea too.

Here is a rough guide to frame sizes, bitrates and file sizes.

<b>Output size</b>	<b>Bitrate</b>	<b>File size</b>
320x240 pixels (low)	400kbps	3MB/minute
480x360 pixels (medium)	700kbps	5MB/minute
720x540 pixels (large)	1000kbps	7.5MB/minute

## **Sound**

You can make your file size smaller by changing the audio track from stereo to mono and lowering kbps. The best thing to do is experiment with different settings and choose what sounds acceptable while still lowering your file size. If size is not an issue keep the audio as stereo and reasonably high quality. Sound is everything when your picture is small.

All compression programs contain similar tools. Getting the right encoding recipe to compress your footage does take a bit of experimentation. Use the guidelines above and experiment with the compression software of your choice.

## **Websites**

This site details codecs, formats, players and delivery options  
<http://www-h.eng.cam.ac.uk/help/tpl/graphics/movies/movies.html>

Excellent website for low bandwidth web design guidelines  
<http://www.apivate.org/webguidelines/Multimedia.html>

General A/V compression guidelines  
<http://eugenia.gnomefiles.org/2008/02/07/general-av-compression-guidelines/>