

How to reduce the size of a video in 5 minutes while maintaining a good quality

why?

Video data-flows account for 80% of annual Internet traffic and are increasing. Reducing the size of your videos reduces the energy required to broadcast them and therefore the greenhouse gases emissions associated with it. Reducing the size of online videos is a first step towards a more sober internet.

Preconditions

- A video file suitable for compression (.mov, .mp4,...)
- The free software [Handbrake](#) (Windows, Mac, Linux)
- To get some simple tips on how to export your video from your editing software, go to the [appendix p. 4](#)

Step 1

Install Handbrake by visiting [the website indicated](#).

Step 2

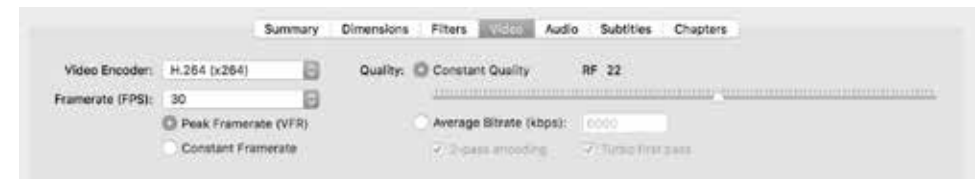
When the software opens, Handbrake will ask you which video you want to open (the file explorer opens automatically). Select the video you want to compress.

Step 3



In the “Summary” section choose the MP4 format and check “Web Optimized” and “Align A/V Start”.

Step 4

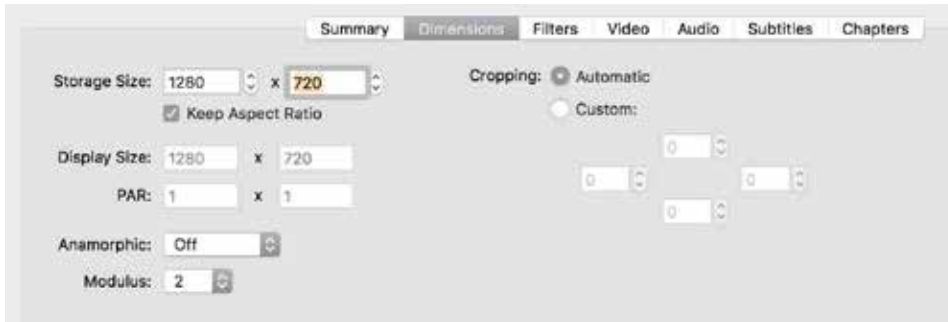


In the “Video” section choose as video encoder “H264 (x264)”, for the framerate choose “Same as source” and check “Constant framerate”.

On the right of the display panel select “Constant Quality” and drag to value 22*. For videos that will have the dimensions 1280 by 720 pixels, it is recommended to go between 19 and 23 (between 20 and 24 for videos with the dimensions 1920 by 1080 pixels).

**The lower this figure is, the higher the quality (but also the size) you will have. So 18 is equal to a better quality but a higher size, 24 will give a lower quality but a lighter size.*

Step 5



In the “Dimensions” section, for the “Storage Size” enter the values 1280 in the first box and 720 in the second box*, check “Keep Aspect Ratio”. In the “Anamorphic” section choose “Off” and a modulus of 2, you can keep “Cropping” in automatic mode.

Step 6



In the “Audio” section you should have only one track that will be at the top of the list. Keep the Mixdown in stereo and keep the Samplerate in automatic. You can lower the Bitrate below 160 but the gain is minimal. It is advised to keep the original Bitrate. Reducing it below 160 to lighten the size of your video allows for minimal gain while audio quality is critical to the user.

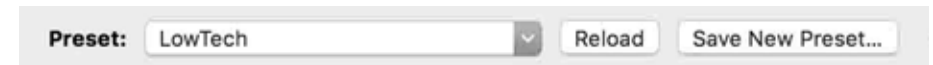
**It is rarely necessary to exceed the dimensions 1280 by 720 pixels (720p), going beyond this format increases the weight of videos by 33% without significant readability gain.*

Step 7



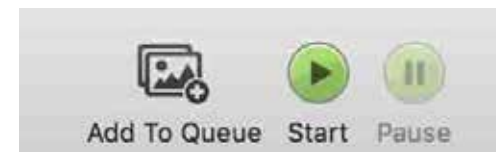
At the bottom of the Handbrake interface you will find two fields to update. The first is “Save As:” in which you specify the name you want to give to the video that will be exported. To change the “To:” setting, click on “Browse” and choose the destination where you want the video to be exported to your computer.

Step 8



Once all settings have been defined and before you start exporting the video, click on “Save New Preset” at the top of the display window to save your settings. Give a name to your “Preset” and click on “Add” to finalize the recording. This way you can use the same process on other videos.

Step 9



Click on “Start” and the video compression will start. You will find your new video at the location you entered in step 7.

DONE !

Epilogue

This method has been consistently tested to reduce the size of video files while maintaining their quality. The videos presented below are those of the author of this guide. They were hosted on Vimeo and their weight reduction is the result of the methodology presented in this guide.

The process of reducing the weight of his videos hosted online made him question the usefulness of their presence. He decided to delete three of them that he no longer thought were necessary.

Réduction du poids théorique des vidéos avec Handbrake (en Mo)			
	Avant	Après	Réduction (%)
We Are Europe	34.8	34.8	0
Maps	1400	supprimée	100
Compression of Time	75.7	supprimée	100
Ethics for Design	3880	1600	58.8
Ethics and Morality	35.93	5.5	84.7
Rhythmanalysis	835.4	56.2	93.3
Terre !	351	32.5	90.8
Ethics for Design (French)	1600	1600	0
Floods	390	supprimée	100
Transition Prats	100	1.7	98.3
Implication 1	1540	73.1	95.2
Implication 2	1650	60.7	96.3
Implication 3	1740	69.4	96
Showreel	119.2	26.4	77.9
Seeder	80.6	2.4	97
Willchain	641.8	6.6	99
Total	14474.5	3569.4	75.3%

Some videos were already at an “optimal compression” level and were not impacted by the process (such as “We Are Europe” and the French version of “Ethics for Design”).

Reducing the weight of videos online therefore begins by asking the question of the usefulness of their online presence. Ask yourself these questions regularly to purge videos that are not relevant and archive them on an offline storage.

Acknowledgements:

Many thanks to the Handbrake teams for their software and documentation, as well as [Benoît Labourdette's post](#) on the same subject, which has been a valuable help.

Credits:

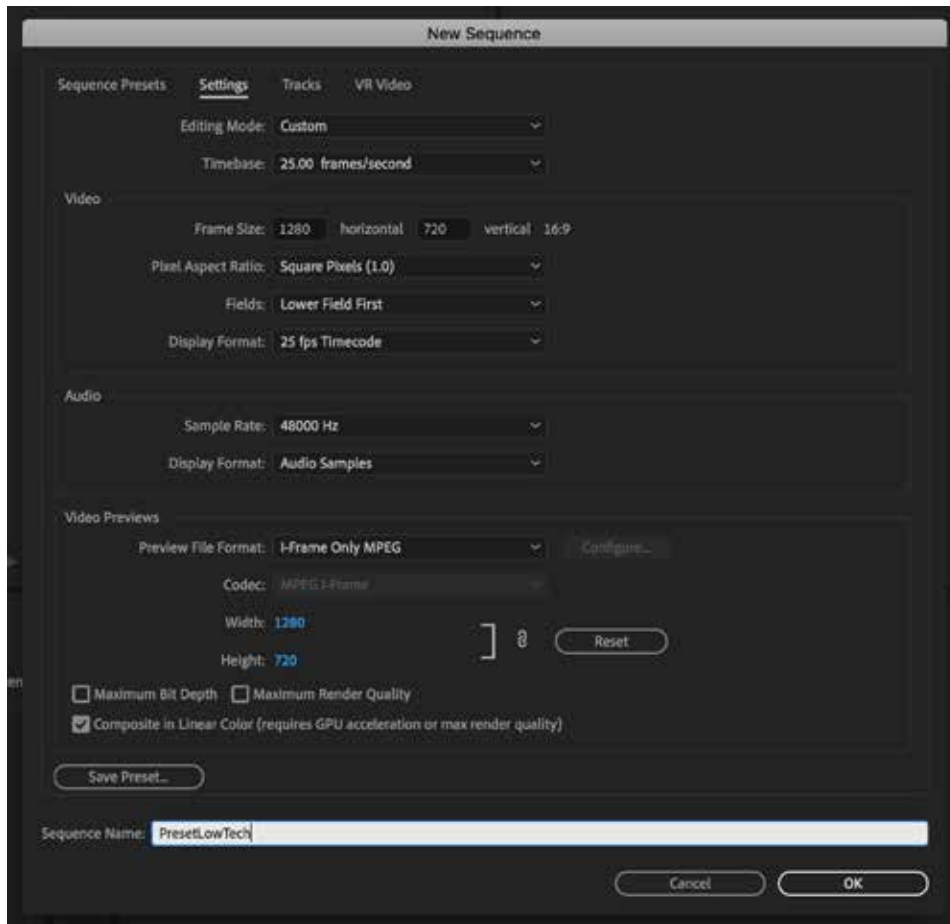
This guide was conceived by [Gauthier Roussilhe](#), a designer who is committed to a low-tech approach and who is also the director of the documentary “Ethics for Design”. It was finalized with the think tank [The Shift Project](#), which published the report in 2018 “[Lean ICT: Towards digital sobriety](#)”.



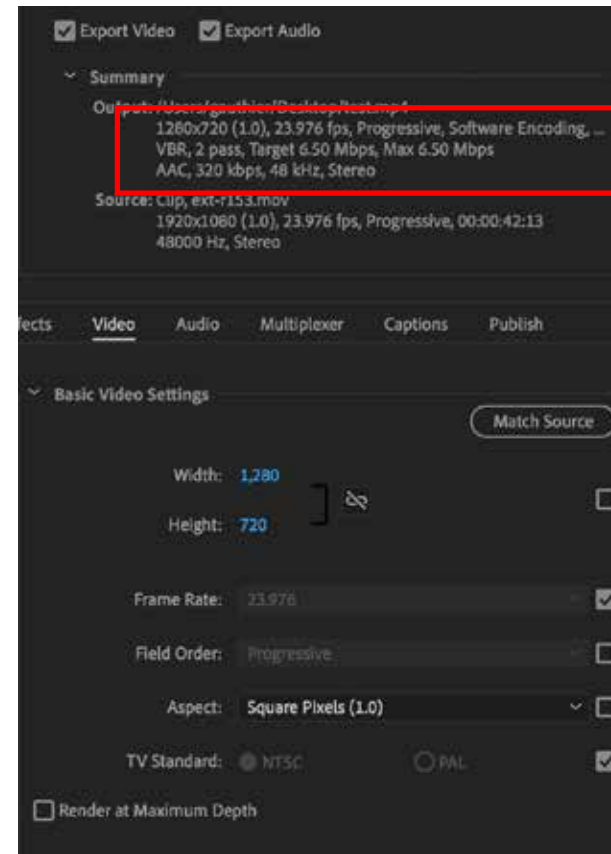
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Appendix

Here are the parameters to use when you create a sequence from your editing software (Premiere in this case):



Here are the export settings* to use when you export your video from your editing software (Premiere in this case):



**In this case it is more convenient to use as a basis the "Youtube 720p HD" preset available on the latest versions of Premiere. You can then use the parameters specified above.*