ffmpeg Audio/video converter

CONCEPTS

> Options apply to the next file: before -i they describe the input, before an output name they describe that output.

Input -i file
↓ demux
Decoder raw frames
↓ -vf / -af
Filters scale, trim...
↓ -c:v / -c:a
Encoder codec + quality
↓ mux
Output container

> -c copy skips decoding and encoding: fast and lossless, but no filters and cuts land on keyframes.

BASICS

ffmpeg -i *<in>* *<out>*
Convert; format follows the extension

ffprobe *<file>*
Show container and stream info

ffmpeg -i *<in>* **-c copy** *<out>*
Remux without re-encoding

ffmpeg -y -i *<in>* *<out>*
Overwrite output without asking

ffmpeg -hide_banner -i *<in>*
Print file info, no banner

TRIM AND JOIN

-ss *<time>* **-i** *<in>*
Seek before input: fast

-t *<duration>*
Stop after this much output

-to *<time>*
Stop at this timestamp

ffmpeg -ss *<t>* **-i** *<in>* **-t** *<dur>* **-c copy** *<out>*
Cut a clip losslessly

TRIM AND JOIN (cont.)

-f concat -safe 0 -i *<list.txt>* **-c copy** *<out>*
Join files of the same codec

-frames:v 1
Write a single frame

VIDEO

-c:v libx264
Encode H.264

-crf *<n>*
Constant quality; lower is better

-preset *<name>*
Speed vs size, slow to ultrafast

-pix_fmt yuv420p
Maximise player compatibility

-movflags +faststart
Put MP4 index first for web play

AUDIO

-vn -c:a copy *<out>*
Extract audio unchanged

-vn -c:a libmp3lame -q:a 2 *<out.mp3>*
Extract audio as MP3

-c:a aac -b:a 128k
Encode AAC audio

-an
Drop all audio

FILTERS

-vf scale=*<w>*:*<h>*
Resize

-vf scale=-2:*<h>*
Resize keeping aspect, even width

-vf crop=*<w>*:*<h>*:*<x>*:*<y>*
Crop a region

STREAMS AND METADATA

-map *<in>*:*<stream>*
Choose streams, e.g. -map 0:a:0