Axiom

An FFmpeg Interface for Windows

Axiom

Axiom UI generates command scripts to be interpreted and processed by multimedia encoder, FFmpeg, and streams analyzer, FFprobe.

Convert, Cut, Resize multimedia with Lossless, Constant, and Variable Quality Modes.

It is portable and can be run from any location on the computer.

- Extract Axiom.FFmpeg.zip to a location of your choice.
- Run the program Axiom.exe or create a shortcut on the Desktop.
- It will automatically detect ffmpeg.exe and ffprobe.exe in the included ffmpeg folder.
- If you move the ffmpeg folder, set Windows Environment Variables or choose path in the Configure Window.

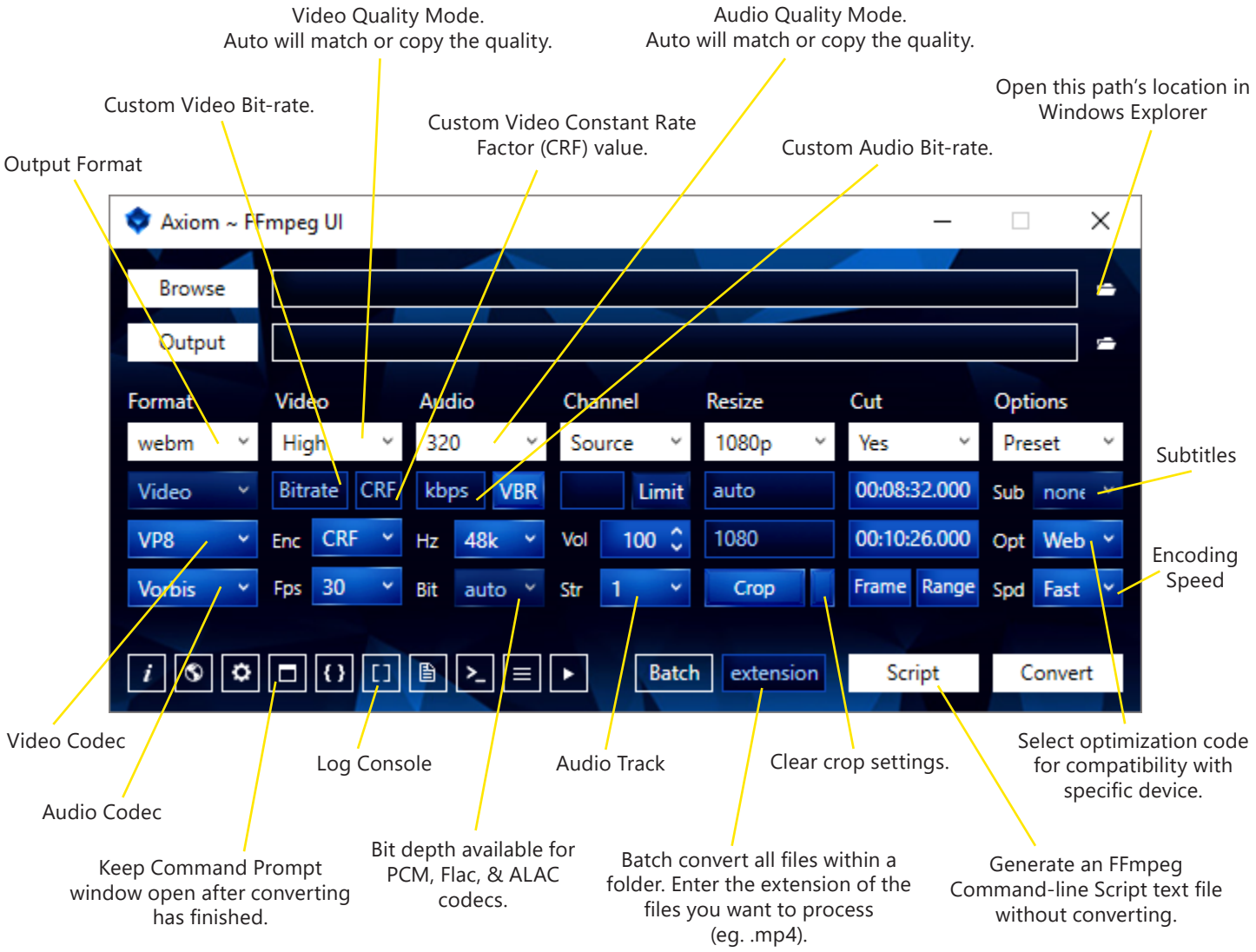
FFmpeg

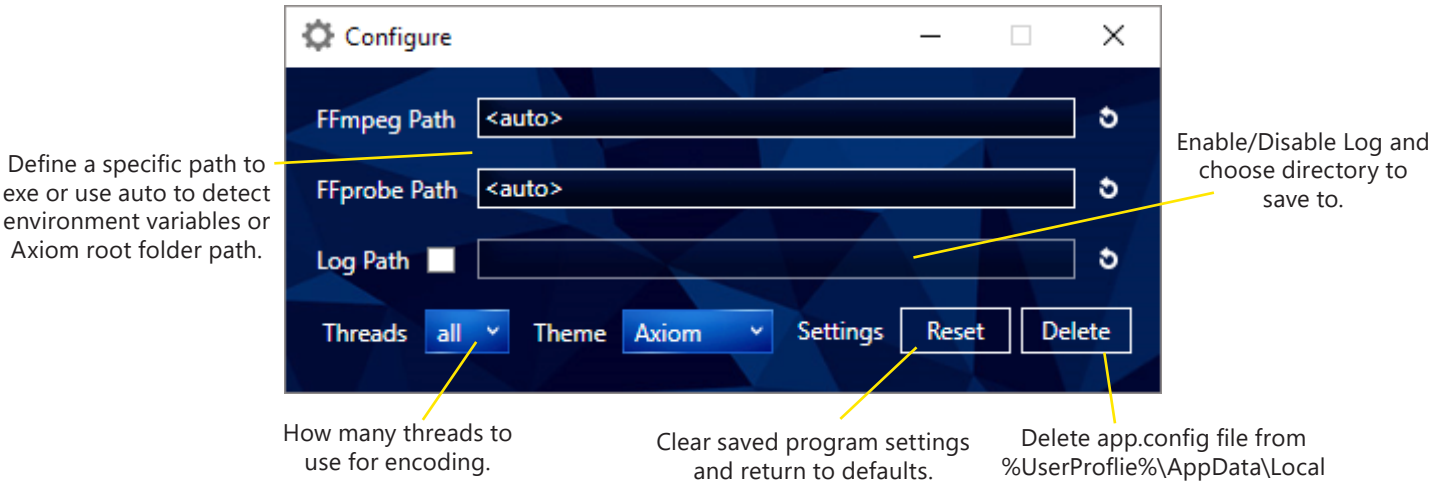
FFmpeg is separate cross-platform command-line software to record, convert and stream audio and video. It is developed and maintained at www.ffmpeg.org.

Enable FFmpeg Through Command Prompt (optional)

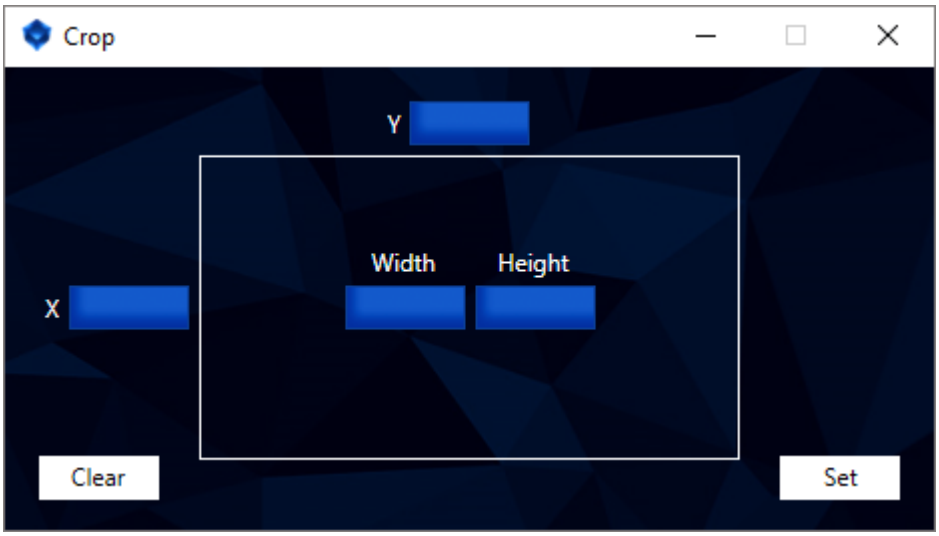
- Move FFmpeg folder to a location of your choice, such as C:\Program Files\.
- Control Panel → System and Security → System → Advanced system settings
- Advanced Tab → Environment Variables → System variables → Path
- Add C:\Program Files\FFmpeg\bin\
- Separate multiple paths with semicolon ;
- Typing ffmpeg in Command Prompt will now execute without needing to specify a direct path.

Interface


Video Quality Mode.
Auto will match or copy the quality.
Audio Quality Mode.
Auto will match or copy the quality.
Custom Video Bit-rate.
Custom Video Constant Rate Factor (CRF) value.
Open this path's location in Windows Explorer
Output Format
Custom Audio Bit-rate.
Axiom ~ FFmpeg UI
Browse
Output
Format
Video
Audio
Channel
Resize
Cut
Options
webm
High
320
Source
1080p
Yes
Preset
Video
Bitrate
CRF
kbps
VBR
Limit
auto
00:08:32.000
Sub
none
Subtitles
VP8
Enc
CRF
Hz
48k
Vol
100
1080
00:10:26.000
Opt
Web
Vorbis
Fps
30
Bit
auto
Str
1
Crop
Frame
Range
Spd
Fast
Encoding Speed
Batch
extension
Script
Convert
Video Codec
Log Console
Audio Track
Clear crop settings.
Select optimization code for compatibility with specific device.
Audio Codec
Keep Command Prompt window open after converting has finished.
Bit depth available for PCM, Flac, & ALAC codecs.
Batch convert all files within a folder. Enter the extension of the files you want to process (eg. .mp4).
Generate an FFmpeg Command-line Script text file without converting.


Configure
FFmpeg Path
<auto>
FFprobe Path
<auto>
Log Path
Threads
all
Theme
Axiom
Settings
Reset
Delete
Define a specific path to exe or use auto to detect environment variables or Axiom root folder path.
Enable/Disable Log and choose directory to save to.
How many threads to use for encoding.
Clear saved program settings and return to defaults.
Delete app.config file from %UserProflie%\AppData\Local

Windows



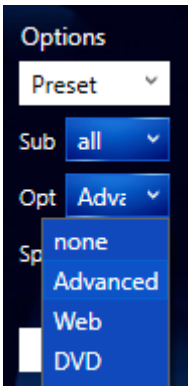
Crop

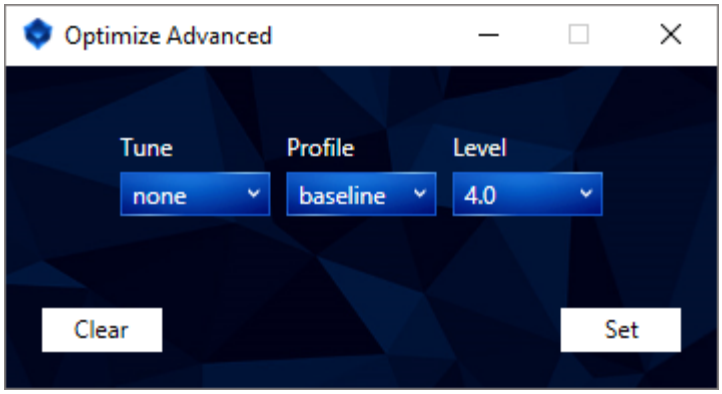
Set the Crop Position and Aspect.

X is the position from the left.

Y is the position from the top.

Width & Height is the size of the cropped area.

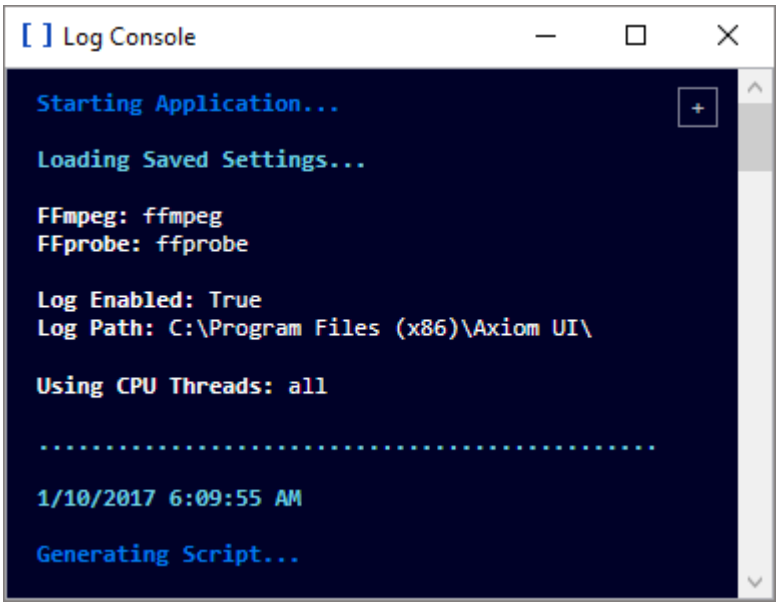




Advanced Optimize

In the Options section, under Opt, select Advanced from the dropdown.

These options are only available for x264 and x265 codecs.



Log Console

This window displays all actions performed by the program. These same actions can be saved to an output.log file through the Configure Window.

Interface Settings

FFmpeg
The interface looks for ffmpeg.exe & ffprobe.exe in {Current Folder}\ffmpeg\bin\.
If you already have FFmpeg installed on your system, the included ffmpeg and ffprobe are not needed.
Custom compiled versions of FFmpeg may not work if they are missing certain codecs.

Browse / Output
Select a file to convert and choose a directory to output to.
If you do not choose Output, the default output directory will be the same as the input directory.

Batch
First check the Batch checkbox, then Browse for a folder to batch process the files within.

Auto
Attempts to copy the original bit-rate with 2 Pass encoding or uses acodec copy if input and output are the same format.

Copy
If Auto mode selected and input/output formats are the same, Copy will automatically activate in the Codec dropdown.

Lossless
Sets the format's correct lossless codec options or uses -crf 0, depending on format.

Video

Custom CRF Quality:

0 <------ 18 <--------- 23 -------> 28 -------> 51
lossless better default worse worst

VP8/VP9:		**x264:**		**x265:**		**Theora:**	
Ultra:	Bit-rate 4M + CRF 10	Ultra:	CRF 18	Ultra:	CRF 23	Ultra:	qscale 10
High:	Bit-rate 2M + CRF 12	High:	CRF 23	High:	CRF 28	High:	qscale 8
Med:	Bit-rate 1.3M + CRF 16	Med:	CRF 30	Med:	CRF 35	Med:	qscale 6
Low:	Bit-rate 600K + CRF 20	Low:	CRF 37	Low:	CRF 42	Low:	qscale 4
Sub:	Bit-rate 250K + CRF 25	Sub:	CRF 45	Sub:	CRF 50	Sub:	qscale 2

Video Bit-rate is measured in bytes, K or M. (e.g 3000000 or 3000K or 3M)

Audio
Default is Constant Bit-rate (CBR).
VBR enables a Variable Bit-rate equivalent to the CBR value selected in the Audio drop down list.
e.g. MP3: 320k (CBR) = V0 (VBR)

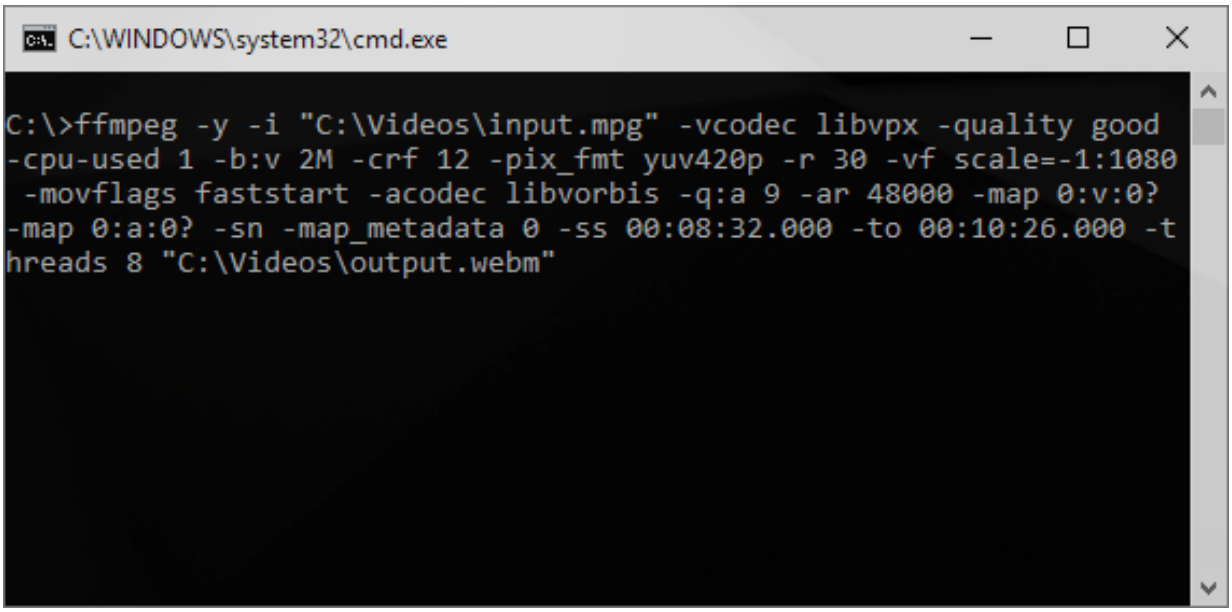
Track
If your video has multiple audio tracks, such as English or Japanese, you can select which one to use or keep all.
View the video properties through a media player to find the number of the track.
The default (auto) uses the first track or copies all tracks if you are converting to the same format.

Resize
Specify a custom Width and Height.
Typing "auto" (without quotes) in a text field will select the correct width or height to match.

Cut
Format must be 00:00:00.000
Hours:Minutes:Seconds.milliseconds (note the period instead of colon).

FFmpeg Command-line

ffmpeg -y -i “C:\Videos\input.mpg”
-vcodec libvpx -quality good -cpu-used 1 -b:v 2M -crf 12 -pix_fmt yuv420p
-r 30 -vf scale=-1:1080 -movflags faststart
-acodec libvorbis -q:a 9 -ar 48000 -af “volume=1.2”
-map 0:v:0? -map 0:a:0? -sn -ss 00:00:23.000 -to 00:01:05.000
-threads 8 “C:\Videos\output.webm”



FFmpeg Batch Command-line

Change to Directory
cd "C:\Users\Videos\"

Batch Process Filetype
&& for %f in (*.mp4) do (echo)

FFprobe File's Size
& for /F "delims=" %S in ('@ffprobe -v error -select_streams v:0 -show_entries format^=size -of default^=noprint_wrappers^=1:nokey^=1 "%~f" 2^>^&1') do (SET size=%S)
Set %S to %size%
& for /F %S in ('echo %size%') do (echo)

FFprobe File's Duration
& for /F "delims=" %D in ('@ffprobe -v error -select_streams v:0 -show_entries format^=duration -of default^=noprint_wrappers^=1:nokey^=1 "%~f" 2^>^&1') do (SET duration=%D)
Remove Duration Decimals for DOS
& for /F "tokens=1 delims=." %R in ('echo %duration%') do (SET duration=%R)
Set %D to %duration%
& for /F %D in ('echo %duration%') do (echo)

FFprobe File's Video Bit-rate
& for /F "delims=" %V in ('@ffprobe -v error -select_streams v:0 -show_entries stream^=bit_rate -of default^=noprint_wrappers^=1:nokey^=1 "%~f" 2^>^&1') do (SET vBitrate=%V)
Set %V to %vBitrate%
& for /F %V in ('echo %vBitrate%') do (echo)

If %vBitrate% = N/A, Calculate Bit-rate (((Size*8)/1000)/Duration)*1000
& (if %V EQU N/A (SET /a vBitrate=%S*8/1000/%D*1000) ELSE (echo Video Bitrate Detected))
Set %V to %vBitrate%
& for /F %V in ('echo %vBitrate%') do (echo)

FFprobe File's Audio Bit-rate
& for /F "delims=" %A in ('@ffprobe -v error -select_streams a:0 -show_entries stream=bit_rate -of default^=noprint_wrappers^=1:nokey^=1 "%~f" 2^>^&1') do (SET aBitrate=%A)

If Audio Variable = N/A, Default to 320k
& for /F %A in ('echo %aBitrate%') do (echo) & (IF %A EQU N/A (SET aBitrate=320000))
Limit Audio Variable bit-rate to Output Format's maximum allowed bit-rate
& for /F %A in ('echo %aBitrate%') do (echo) & (IF %A gtr 500000 (SET aBitrate=500000) ELSE (echo Bitrate within Vorbis Limit of 500k))
Set %A to %aBitrate%
& for /F %A in ('echo %aBitrate%') do (echo)

Start FFmpeg
&& ffmpeg -y -i "C:\Users\Videos\%~f" -vcodec libvpx -quality good -cpu-used 0 -b:v **%V** -pass 1
-acodec libvorbis -b:a **%A** -map 0:v:0? -map 0:a:0? -sn -map_metadata 0 -threads 8 "C:\Users\Videos\%~nf.webm"

2-Pass Encoding
&& ffmpeg -y -i "C:\Users\Videos\%~f" -vcodec libvpx -quality good -cpu-used 0 -b:v **%V** -pass 2
-acodec libvorbis -b:a **%A** -map 0:v:0? -map 0:a:0? -sn -map_metadata 0 -threads 8 "C:\Users\Videos\%~nf.webm"