

Axiom

An FFmpeg Interface for Windows



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.

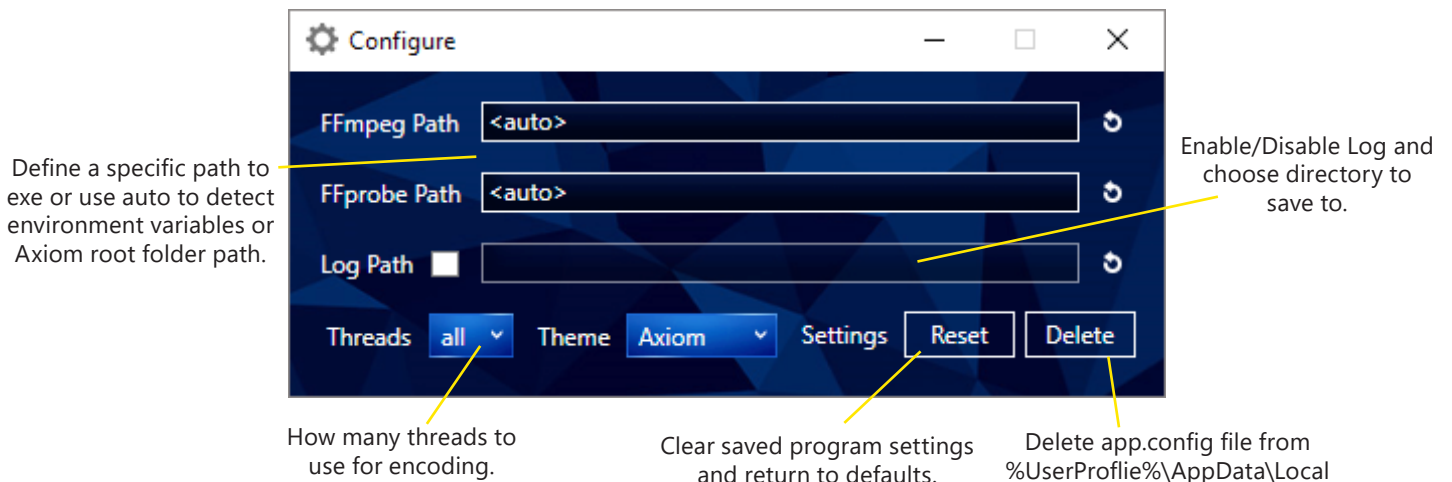
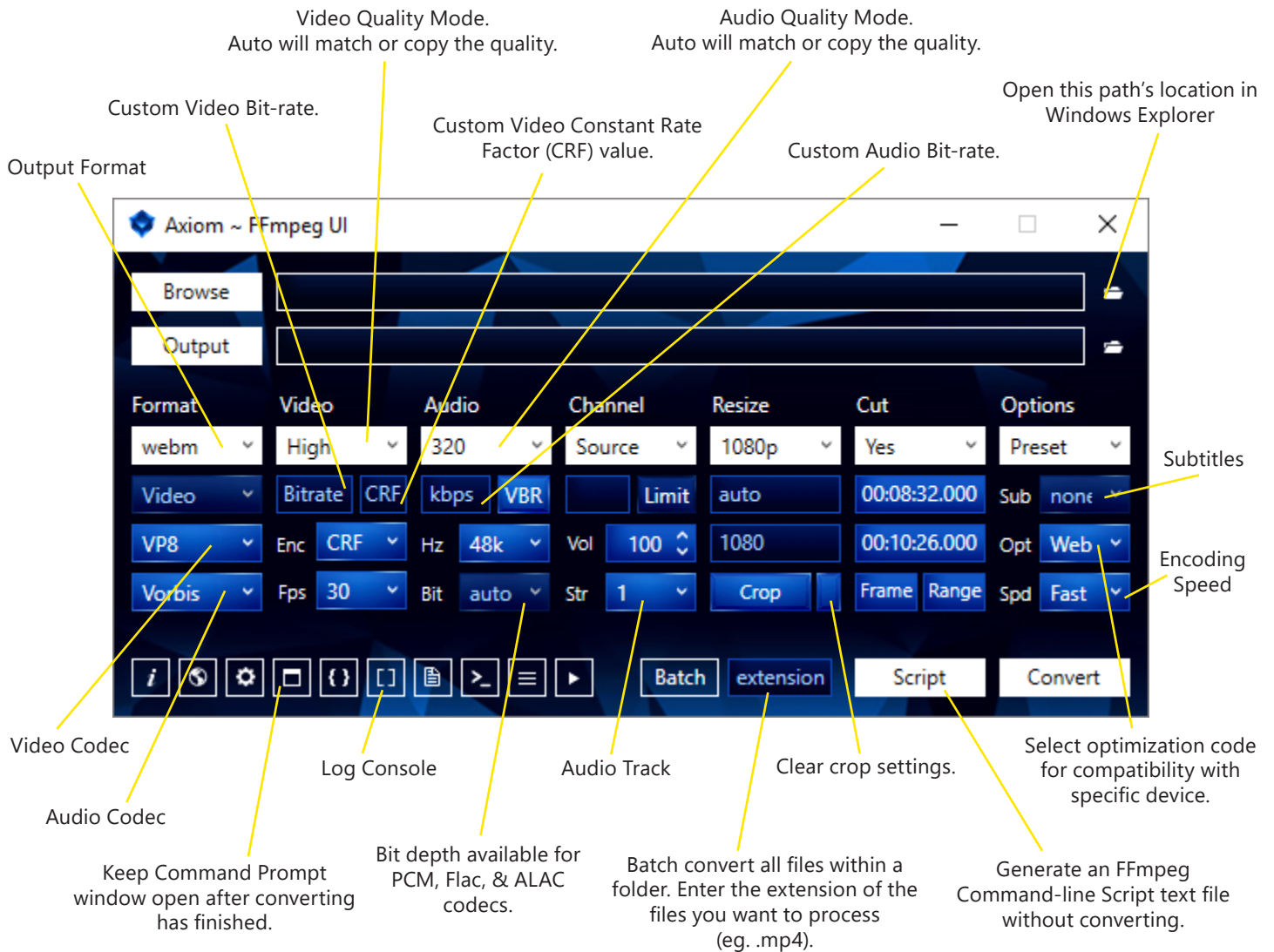


FFmpeg is separate cross-platform command-line software to record, convert and stream audio and video. It is developed and maintained at www.ffmpeg.org.

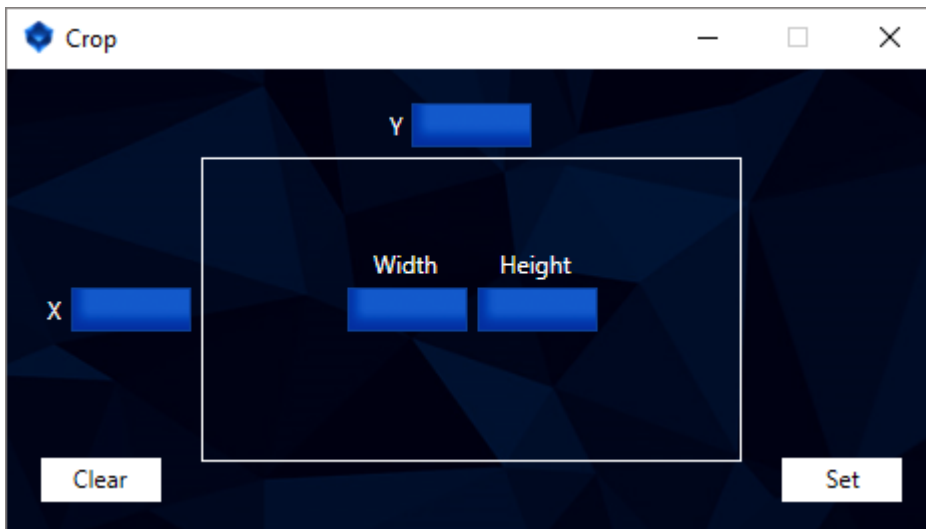
Enable FFmpeg Through Command Prompt (optional)

- 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



Windows



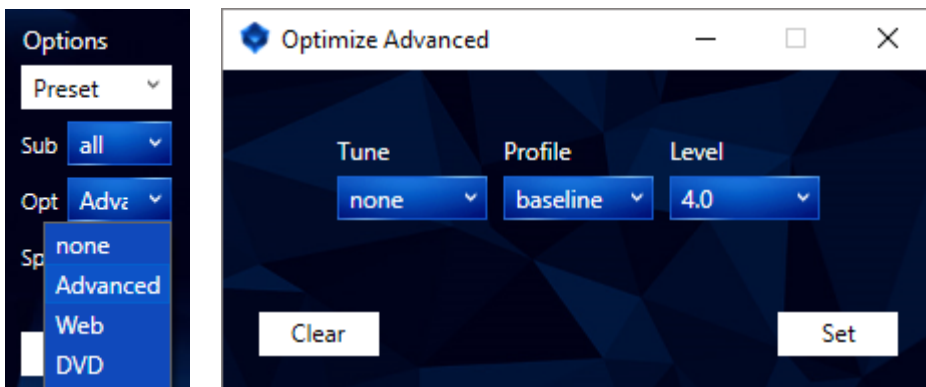
Crop

Set the Crop Position and Aspect.

X is the position from the left.

Y is the position from the top.

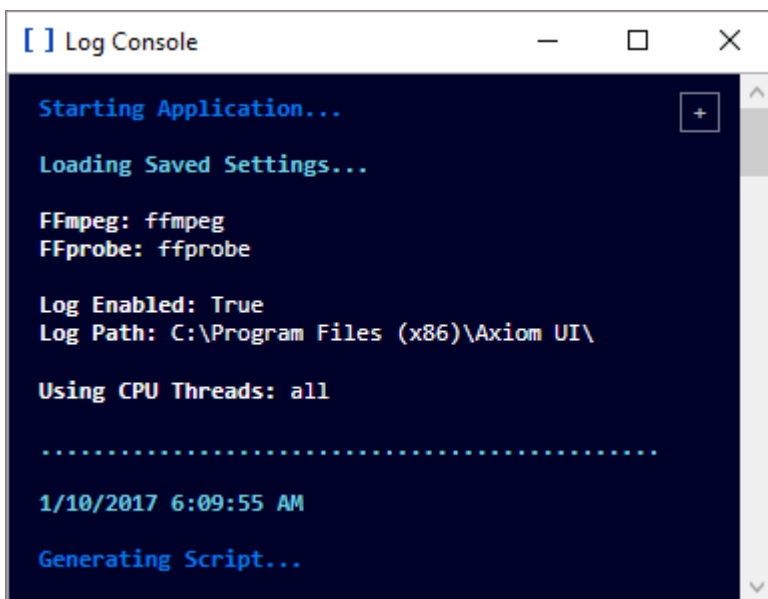
Width & Height is the size of the cropped area.



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 FFmpeg and FFprobe included with Axiom are not needed. Custom compiled versions of FFmpeg may not work if they are missing certain codecs.

Browse / Output

Select a file to convert, then choose a directory to output.

If you leave Output empty, the output directory will default to the same as the input directory.

Batch

First click the Batch toggle button, then Browse for a folder to batch process the files within.

Auto

Attempts to match the original bit-rate using FFprobe and 2-Pass encoding.

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:

Ultra: Bit-rate 4M + CRF 10
High: Bit-rate 2M + CRF 12
Med: Bit-rate 1.3M + CRF 16
Low: Bit-rate 600K + CRF 20
Sub: Bit-rate 250K + CRF 25

x264:

Ultra: CRF 18
High: CRF 23
Med: CRF 30
Low: CRF 37
Sub: CRF 45

x265:

Ultra: CRF 23
High: CRF 28
Med: CRF 35
Low: CRF 42
Sub: CRF 50

Theora:

Ultra: qscale 10
High: qscale 8
Med: qscale 6
Low: qscale 4
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) chooses the appropriate tracks according to the output format.

Resize

Specify a custom Width and Height.

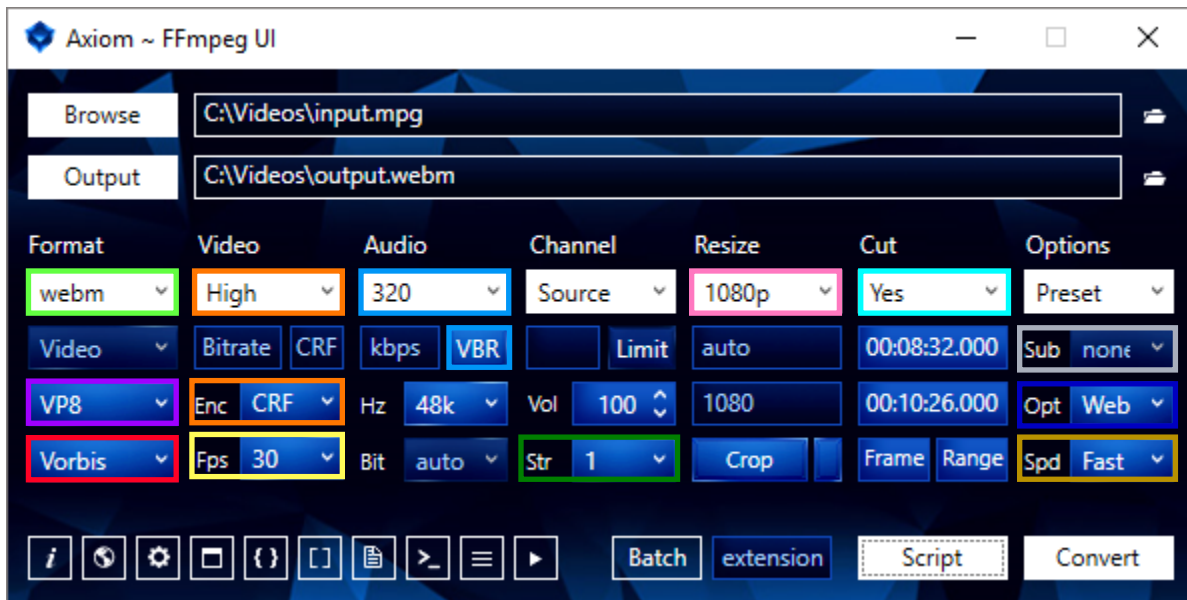
Typing "auto" (without quotes) in a text field will select the correct width or height to match.

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"
```

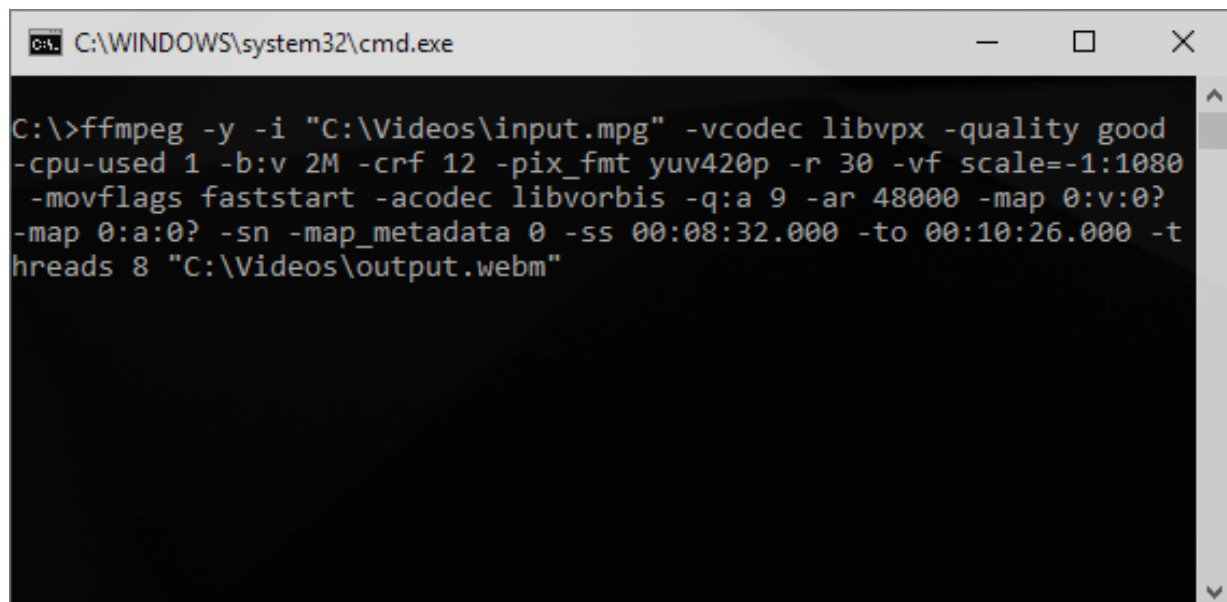
```
-vcodec libvpx -quality good -cpu-used 1 -b:v 2M -crf 12 -pix_fmt yuv420p
```

```
-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"
```