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.7z to a location of your choice.
- Use 7-Zip if you need a way to extract. https://www.7-zip.org
- 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 Settings Tab.

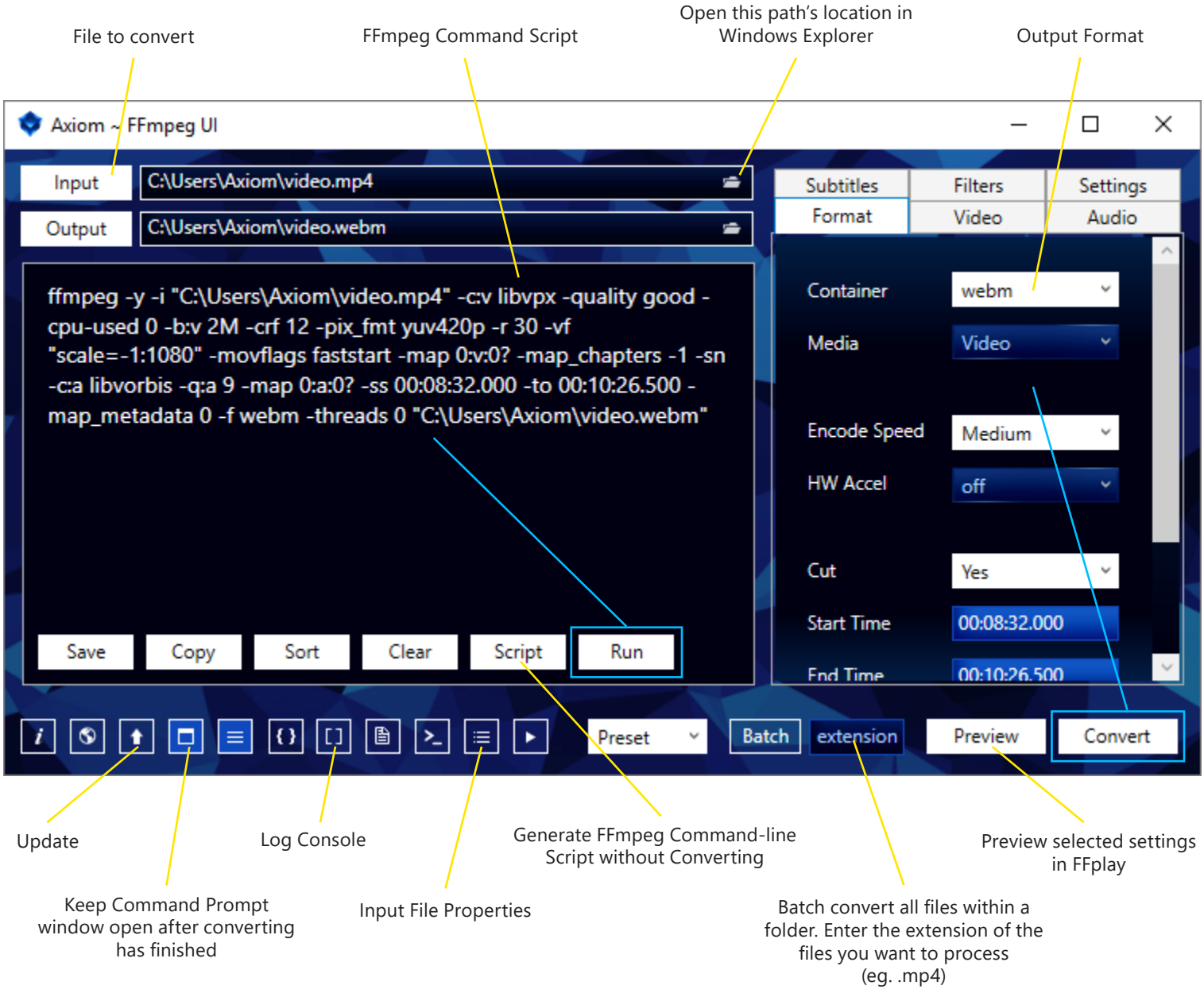
FFmpeg

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.

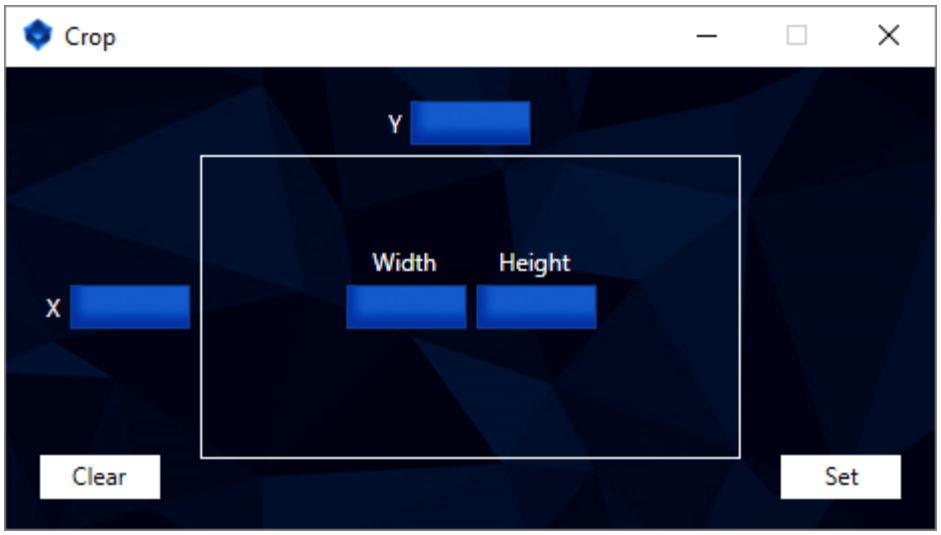
Enable FFmpeg Through Command Prompt (optional)

- 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


File to convert
FFmpeg Command Script
Open this path's location in Windows Explorer
Output Format
Axiom ~ FFmpeg UI
Input
C:\Users\Axiom\video.mp4
Output
C:\Users\Axiom\video.webm
ffmpeg -y -i "C:\Users\Axiom\video.mp4" -c:v libvpx -quality good -cpu-used 0 -b:v 2M -crf 12 -pix_fmt yuv420p -r 30 -vf "scale=-1:1080" -movflags faststart -map 0:v:0? -map_chapters -1 -sn -c:a libvorbis -q:a 9 -map 0:a:0? -ss 00:08:32.000 -to 00:10:26.500 -map_metadata 0 -f webm -threads 0 "C:\Users\Axiom\video.webm"
Save
Copy
Sort
Clear
Script
Run
Subtitles
Filters
Settings
Format
Video
Audio
Container
webm
Media
Video
Encode Speed
Medium
HW Accel
off
Cut
Yes
Start Time
00:08:32.000
End Time
00:10:26.500
Preset
Batch
extension
Preview
Convert
Update
Keep Command Prompt window open after converting has finished
Log Console
Input File Properties
Generate FFmpeg Command-line Script without Converting
Batch convert all files within a folder. Enter the extension of the files you want to process (eg. .mp4)
Preview selected settings in FFplay

Windows



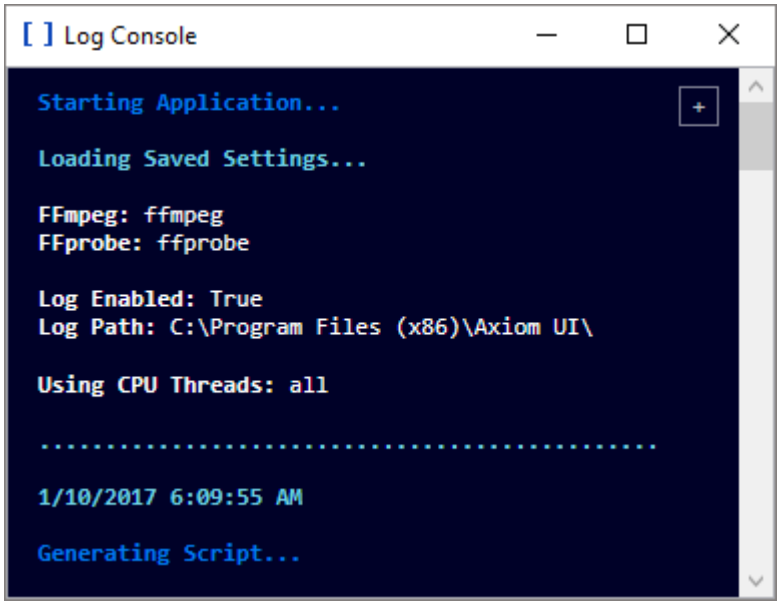
Crop

Set the Crop Position and Aspect.

X is the position from the left.

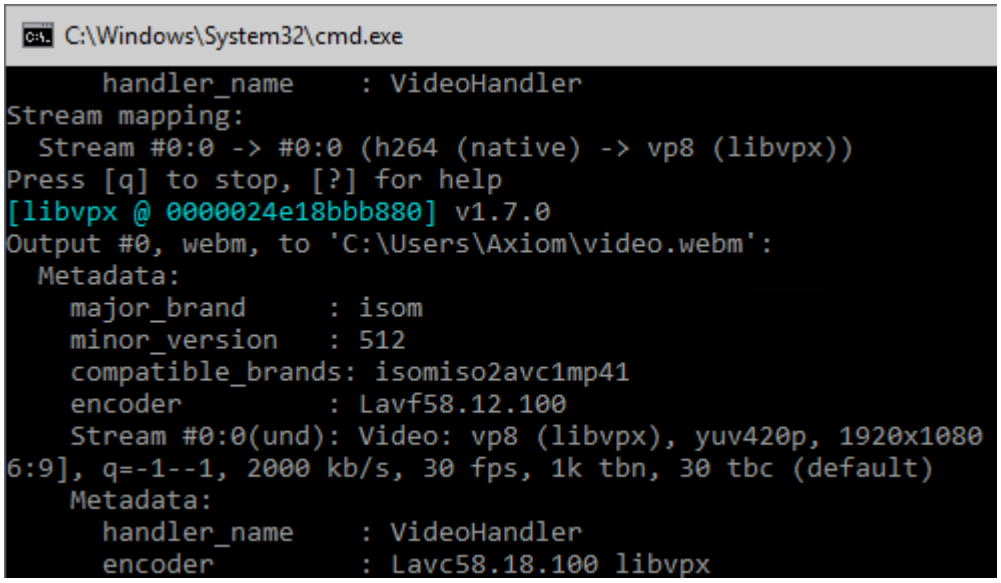
Y is the position from the top.

Width & Height is the size of the cropped area.



Log Console

This window displays all actions performed by the program. These same actions can be saved to an output.log file in the Settings Tab.



FFmpeg

This Command Prompt window pops up after pressing the Convert or Run button.

It displays the FFmpeg output as it processes the files.

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:		**x264:**		**x265:**		**Theora:**	
Ultra:	Bit-rate 4M + CRF 10	Ultra:	CRF 16	Ultra:	CRF 18	Ultra:	qscale 10
High:	Bit-rate 2M + CRF 12	High:	CRF 20	High:	CRF 21	High:	qscale 8
Med:	Bit-rate 1.3M + CRF 16	Med:	CRF 28	Med:	CRF 26	Med:	qscale 6
Low:	Bit-rate 600K + CRF 20	Low:	CRF 37	Low:	CRF 35	Low:	qscale 4
Sub:	Bit-rate 250K + CRF 25	Sub:	CRF 45	Sub:	CRF 42	Sub:	qscale 2

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

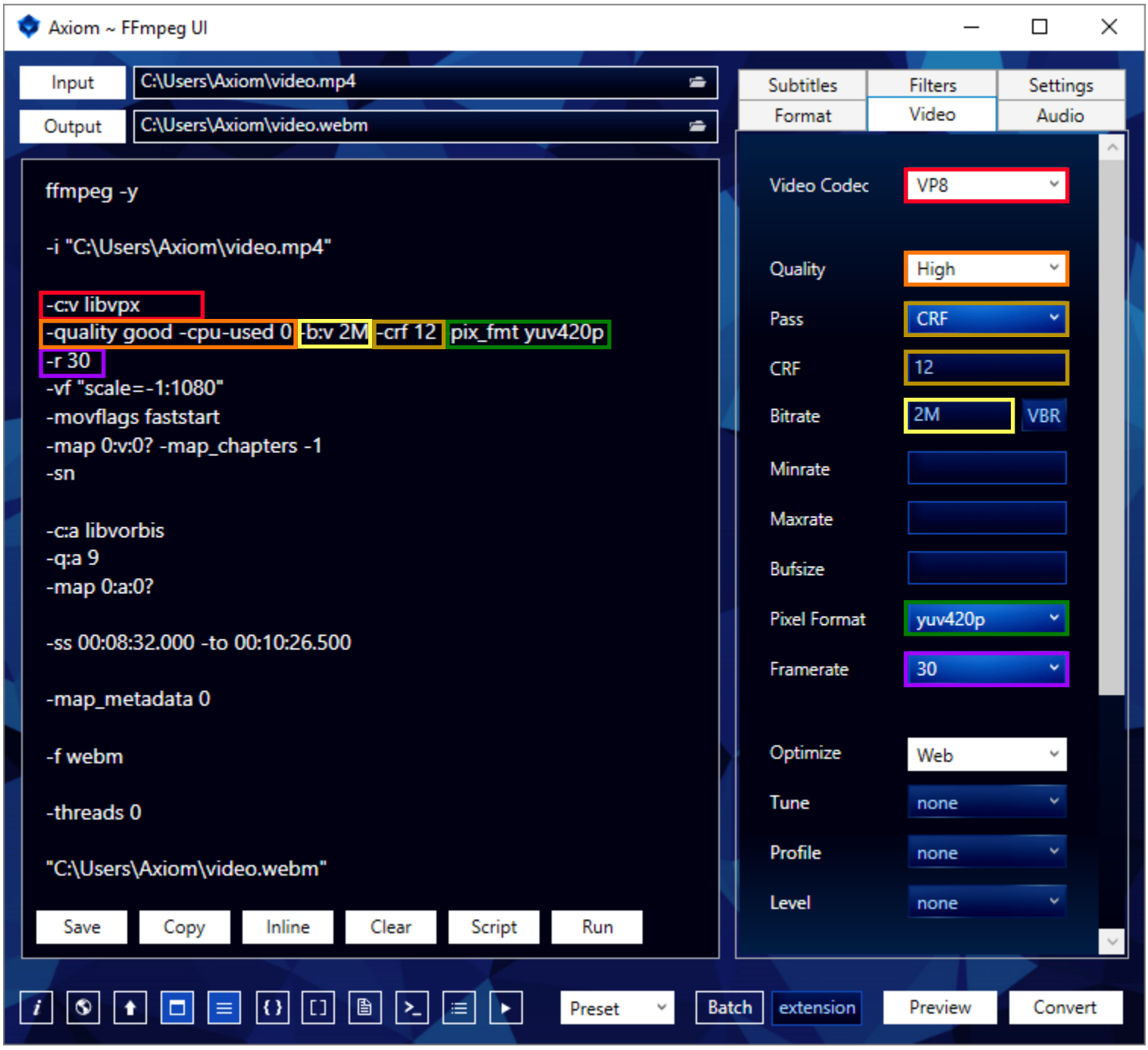
Audio
Default is Constant Bit-rate (CBR).
VBR enables a Variable Bit-rate equivalent to the CBR value selected in the Audio drop down list.
e.g. MP3: 320k (CBR) = V0 (VBR)

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:\Users\Axiom\video.mp4” -c:v libvpx -quality good -cpu-used 0 -b:v 2M -crf 12 -pix_fmt yuv420p -r 30 -vf “scale=-1:1080” -movflags faststart -map 0:v:0? -map_chapters -1 -sn -c:a libvorbis -q:a 9 -map 0:a:0? -ss 00:08:32.000 -to 00:10:26.500 -map_metadata 0 -f webm -threads 0 “C:\Users\Axiom\video.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"