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About

I have named this application VCT, which stands for “Video Converter and Transcoder”. Transcoder comes from expression used by some people when video is converted from one format to another for streaming purposes. Of

course, this is not the case here, but it sounds cool! And VTC resembles another popular video tool, so I hoped it will catch on.

At the time being, it has 2 main functionalities:

- “Transcode” between MKV and MP4 (or M4V) containers: if you have bunch of MKV files that your iPad or PS does not play, you can quickly change them to MP4. There are another programs that can do that, but I added 2 important things.
 1. It can transcode MKV to MP4, but also MP4 to MKV (I needed this feature for my new TV, which has good support for MKV, but very poor for MP4).
 2. It can quickly create list of jobs, where you can transcode many files with few clicks of the mouse.
- “Convert” video or audio files from one format (avi, mpeg, wmv, divx, xvid, wav, flac, mp3, wma, aac, ac3 and many others) to H.264 (for video, it means MKV or MP4) or MP3 or AAC (for audio files only). It supports setting options for each file, or setting common options for converting a bunch of files with a single click. All it takes is to have all your files that you want to convert stored in a single folder!

If you have a collection of movies that you want to backup in a single format, or you have many home videos that you want to have stored in H.264 format (MP4 or MKV), or you want to save MP3 from Youtube videos without knowing too much about encoding, that this tool will be useful to you.

There is also possibility for advanced user to enter FFmpeg options manually. I left possibility to edit text fields for that purpose. However, you don’t have to touch that if you don’t know ffmpeg or you don’t care about that.

When mentioned FFmpeg, it is a very powerful command line tool that I used here. It can convert practically anything to anything else! I need to mention it since it is Open Source project, licensed under GPLv3. I used static binary compiled by Zerane. If you want to have newer version, you need to download it (ffmpeg.exe) and save it in a same folder where VTC.exe is stored.

If you are happy with current VCT functionality, you don’t ever need to touch anything, just use it as long as you want.

What’s new in version 1.2.0

There are some changes in the latest version.

The biggest is ability to mux .SRT subtitles as a stream into the movie. Also localization is done, at the moment for Serbian only, but anyone wanting to translate xlf files can do it and I will add it.

The most important is **added Drag&Drop files functionality** to the Input Buttons. That is valid for Transcode tab, as well for both buttons on Convert file – ‘Input File’ and ‘Multiple Input Files(s)’. You can use Windows Explorer and drag files to one of those 3 buttons. No need to open File Dialog anymore!

How to use it:

- set your options – for example I have many HD videos recorded with smartphone, they are too big, so you set encoding preset “fast”, quality factor “23”, audio bitrate “128k”, Video container “MP4”, audio “mp3”;
- in Windows Explorer select all files that you want to convert (preferably stored in the same folder) and drag them to the “Multiple Input Files”
- batch list will be populated automatically, just press “Start” button after you revised your list, resulting files will be stored in the same folder as input files.

Very important is that I changed behaviour of buttons: It is no longer necessary to select output path first. If you select input file(s) first, output files will be stored in the same folder. Bear in mind that if you then select output path afterwards, that one will be valid for next selected input file(s), not the current ones!

Finally, installer is changed to Nullsoft Installer and script is added to the source code.

Known issues

Installation can't start due to antivirus blocking execution:

some AV (like Avast) block programs that have "low" reputation – what does it mean? Since the program doesn't have signature (as open source developer I can't afford to pay for that). It doesn't mean that it is a virus, it's just your AV program is too protective. Just scan it manually to make sure it is not virus then run setup.

If you get message like "path not found" or similar, you can either disable AV temporarily (until you install VCT) or set VCT setup to the AV "exclude" list. For Avast, you can find explanation at:

<http://www.getavast.net/support/stop-blocking-a-program>

After installation it may happen that program will not start, with a message "windows cannot access the specified device path or file you may not have appropriate permissions". It is again Avast AV, and you need to add path: "C:\Program Files (x86)\VCT" or "C:\Program Files\VCT" to the list of non-blocked paths (explained at the above link).

Step by step help

Bear in mind that until you select output path to save files, then input files, some buttons will be disabled.

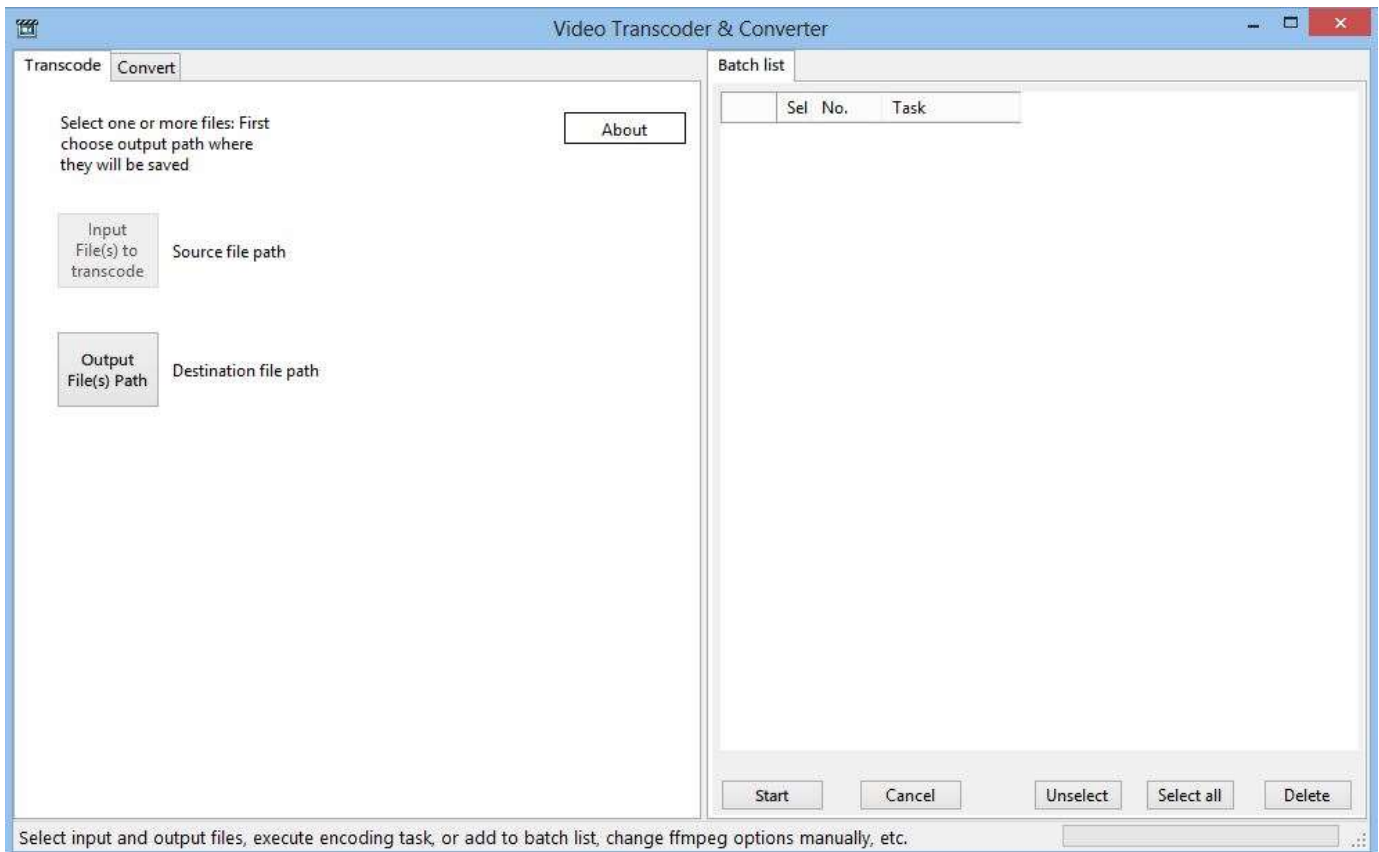
Let's get started! Application window looks like picture below and has 2 tabs:

"Transcode" and "Convert". Let's explain tab Transcode first.

Transcode – MKV to MP4 or MP4 to MKV

First some background in case you don't understand what is MP4 and MKV. Those are basically the same codec (H.264), but files are packed in different way. It is therefore possible to "quickly repack" them without need for full conversion. If you have MKV that your PS doesn't play, it can be quickly transcoded to MP4 that is playable! That is the purpose of this tab.

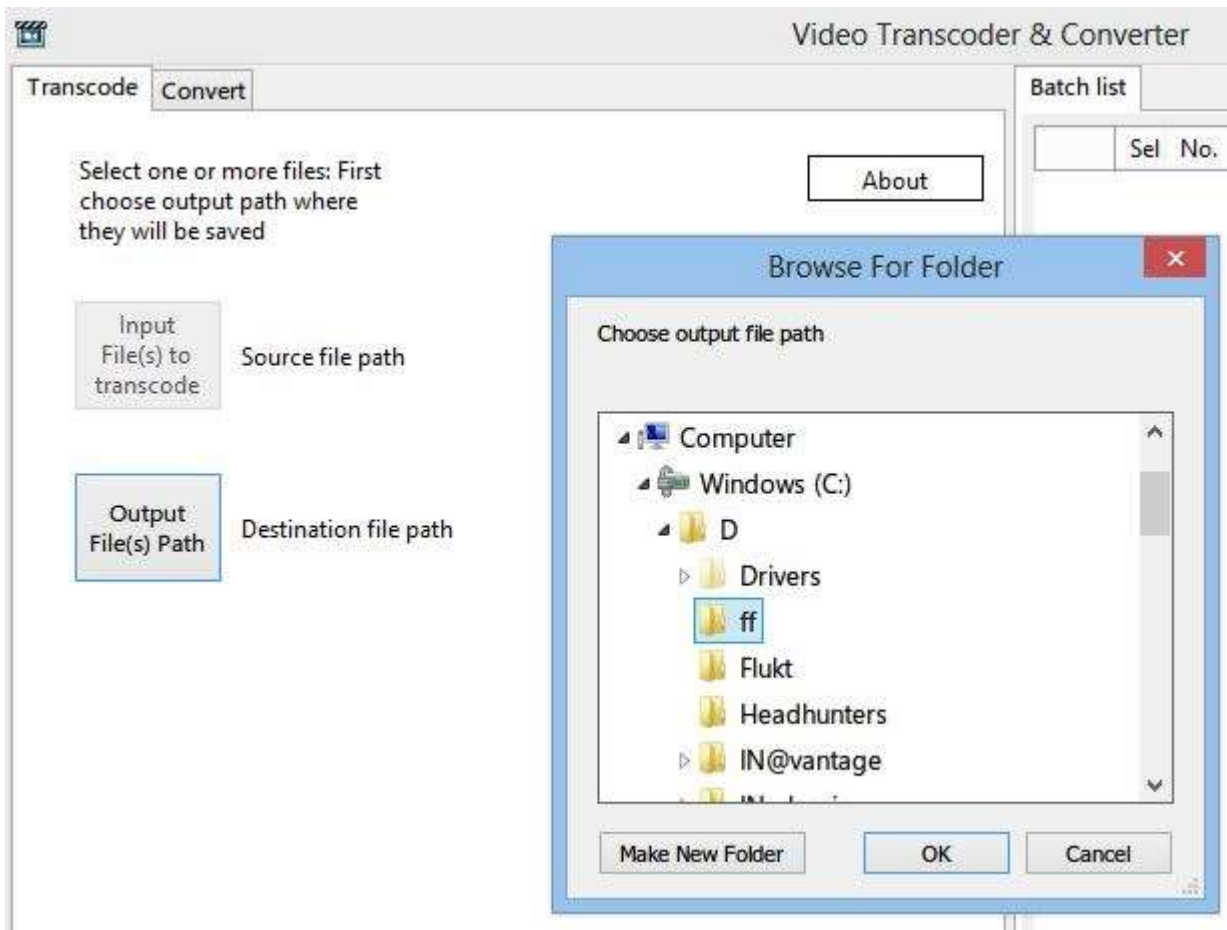
It is used if you want to quickly change your video file from MKV to MP4, or from MP4 to MKV. You can select one or more files (up to 16383) at once, provided they are located in the same folder. This is very handy and I have used it for quickly converting MP4 to MKV. It takes less than 5 minutes for 2 hours long movie!



Select Output Path first

Click "Output File(S) Path" first to choose where new files will be stored (the ones that you want after input files are transcoded). It is necessary to do this step first.

*Update: you can now select or drop files first to the "Input File(s) to Transcode". Output will be saved in the same folder as input files.

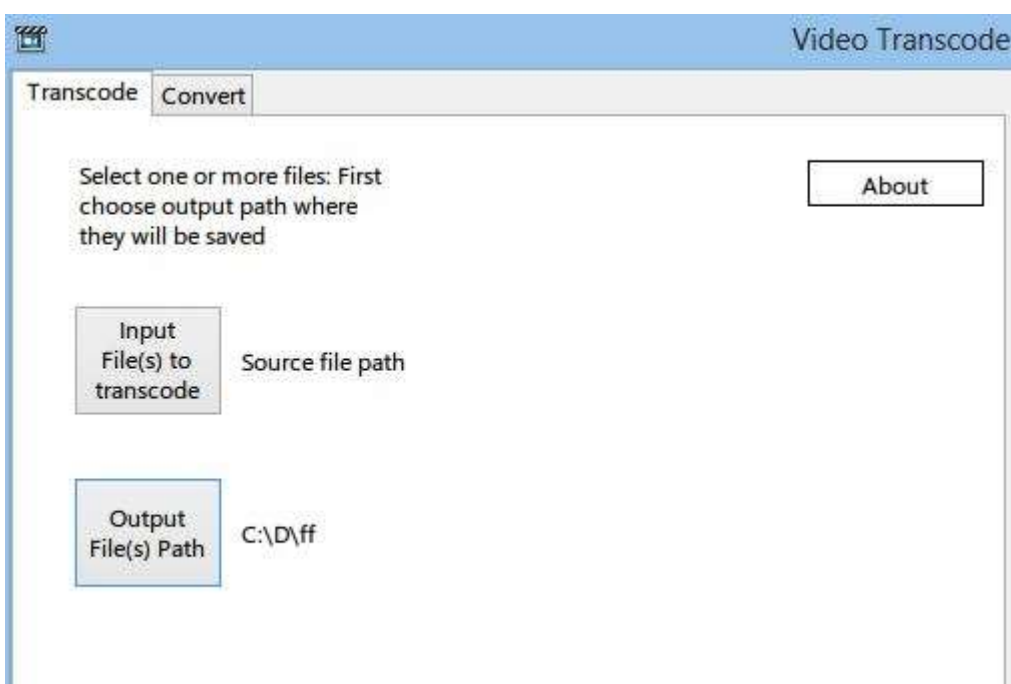


You now know where your files will be saved.

Select Input File(s)

Now, upper button is enabled, and you can click "Input File(s) to Transcode" to select one or more files that you want to transcode to another format.

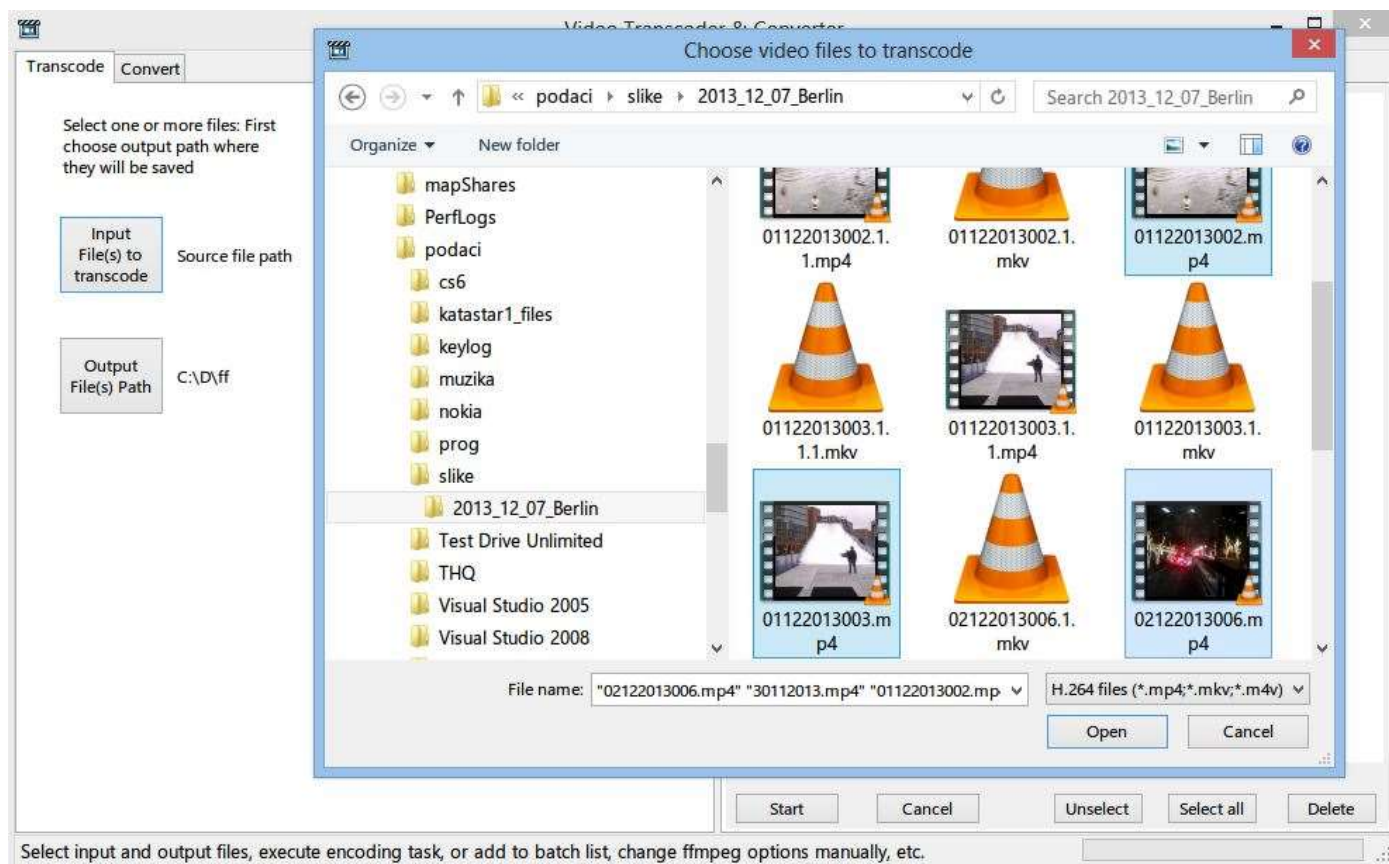
*Update: Drag&Drop is now possible. You can drop files from Windows Explorer to the button instead of clicking it!



If you choose MP4, new file name will be given automatically with MKV extension. If you choose MKV, new file will get MP4 extension. Also, ".1" will be added to the file name, to make distinction to the original name.

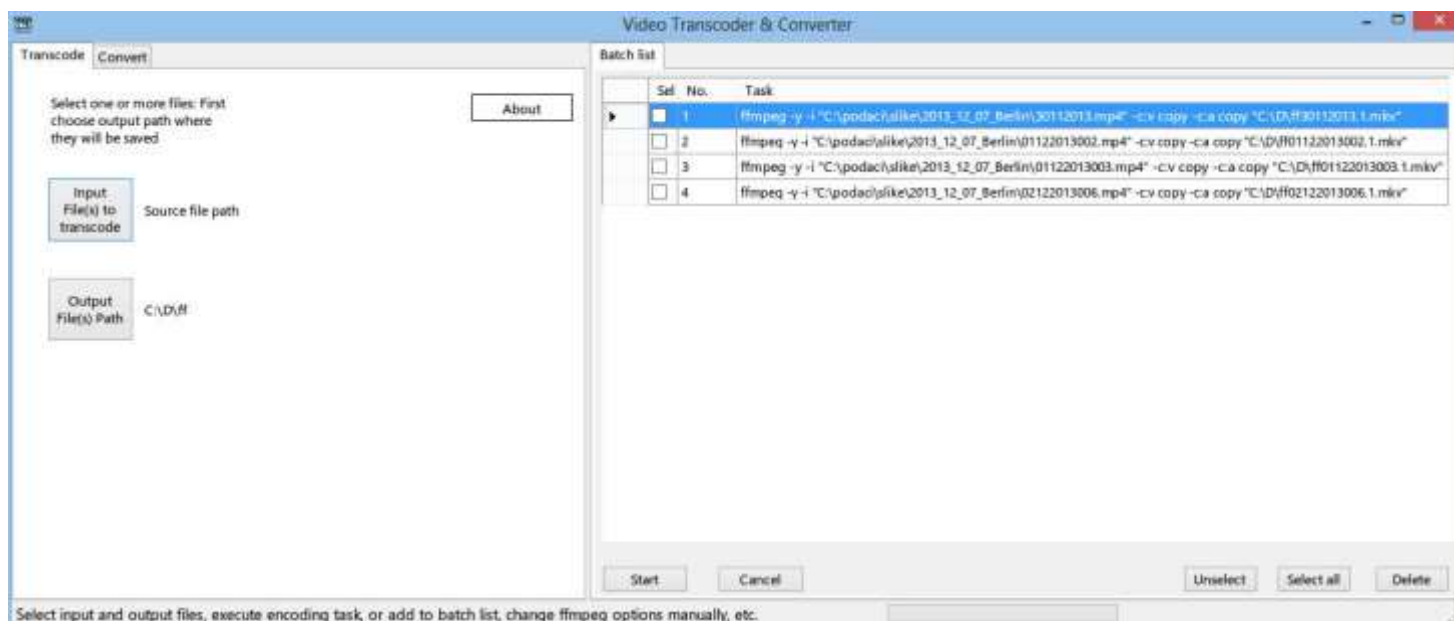
Choice of input as MKV or MP4 (or M4V)

You can also select mix of MKV and MP4 (or M4V), and corresponding new files will automatically get the opposite extension: MKV → MP4; MP4 or M4V → .



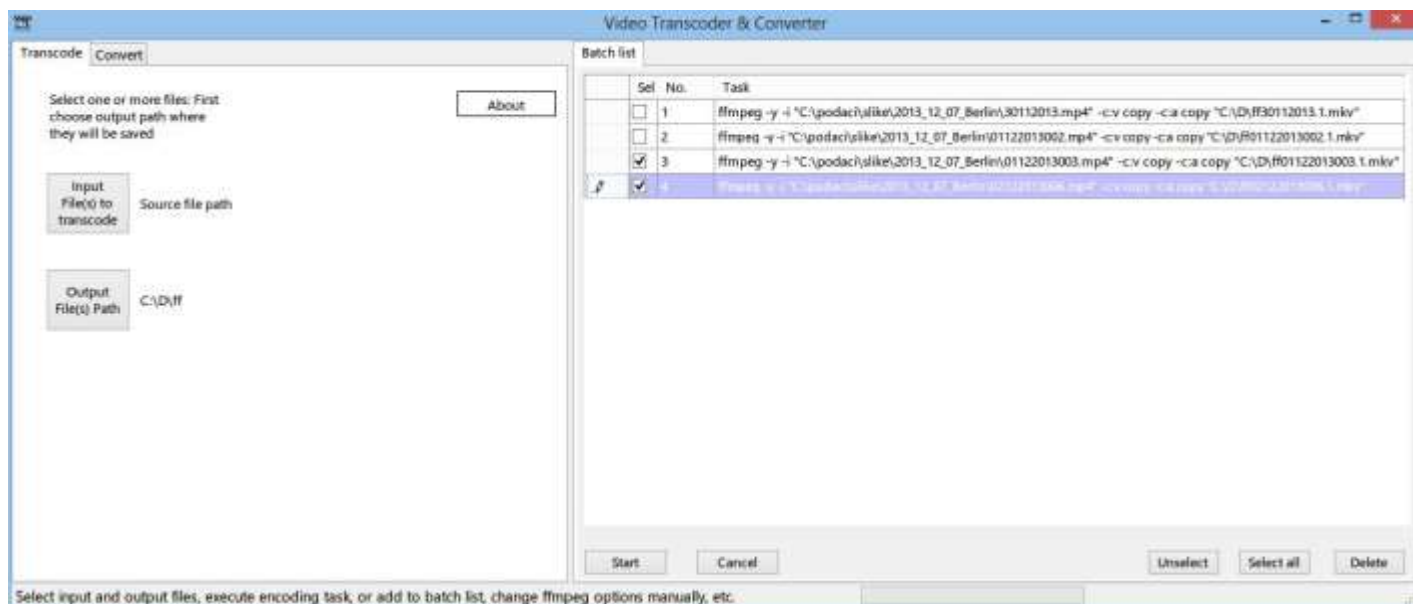
Populating batch list

You notice that the left side of the window, which bears title “Batch list”, is populated with entries that you selected. It contains the exact ffmpeg command that will be executed. Advanced users can manually edit each line if they want to change anything. If you are happy with this, you can click “Start” button to transcode selected files. But, for educational purposes, let’s not do that right now. I will use the next few pictures to explain all options that are possible.



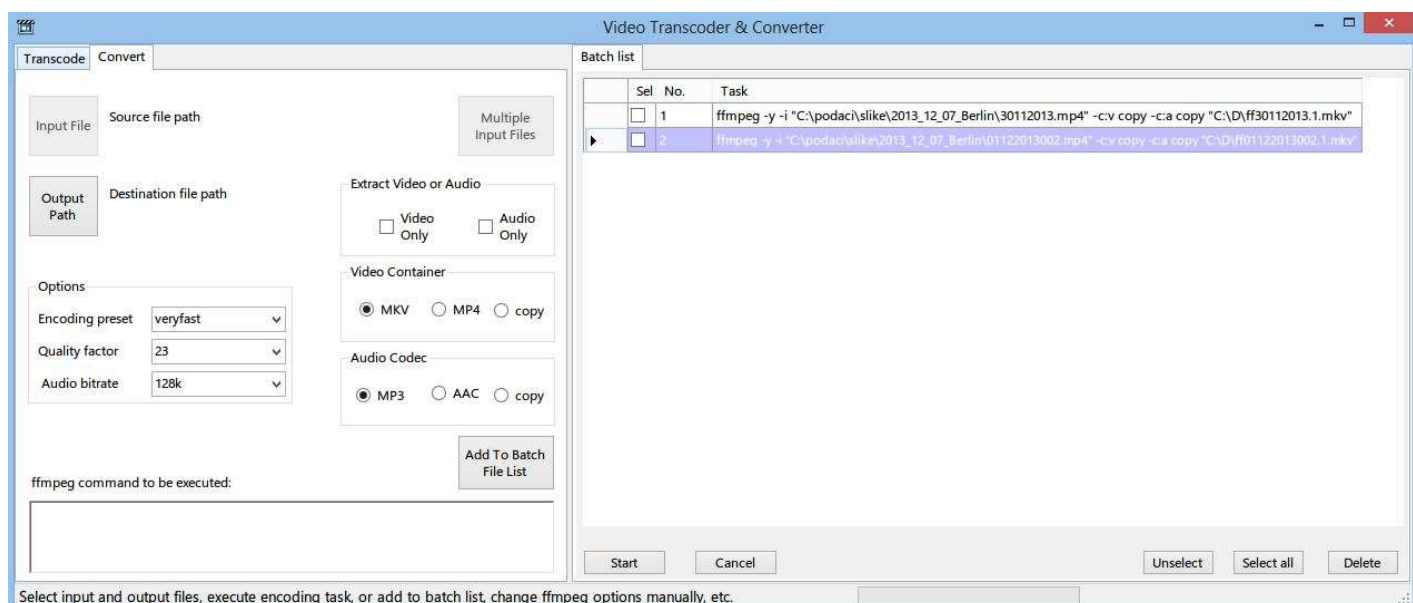
Deleting tasks from list

Let's say that you don't want last 2 files, that you changed you mind. You can use buttons at the bottom to select and remove items from the list. Select last 2 and click "Delete".



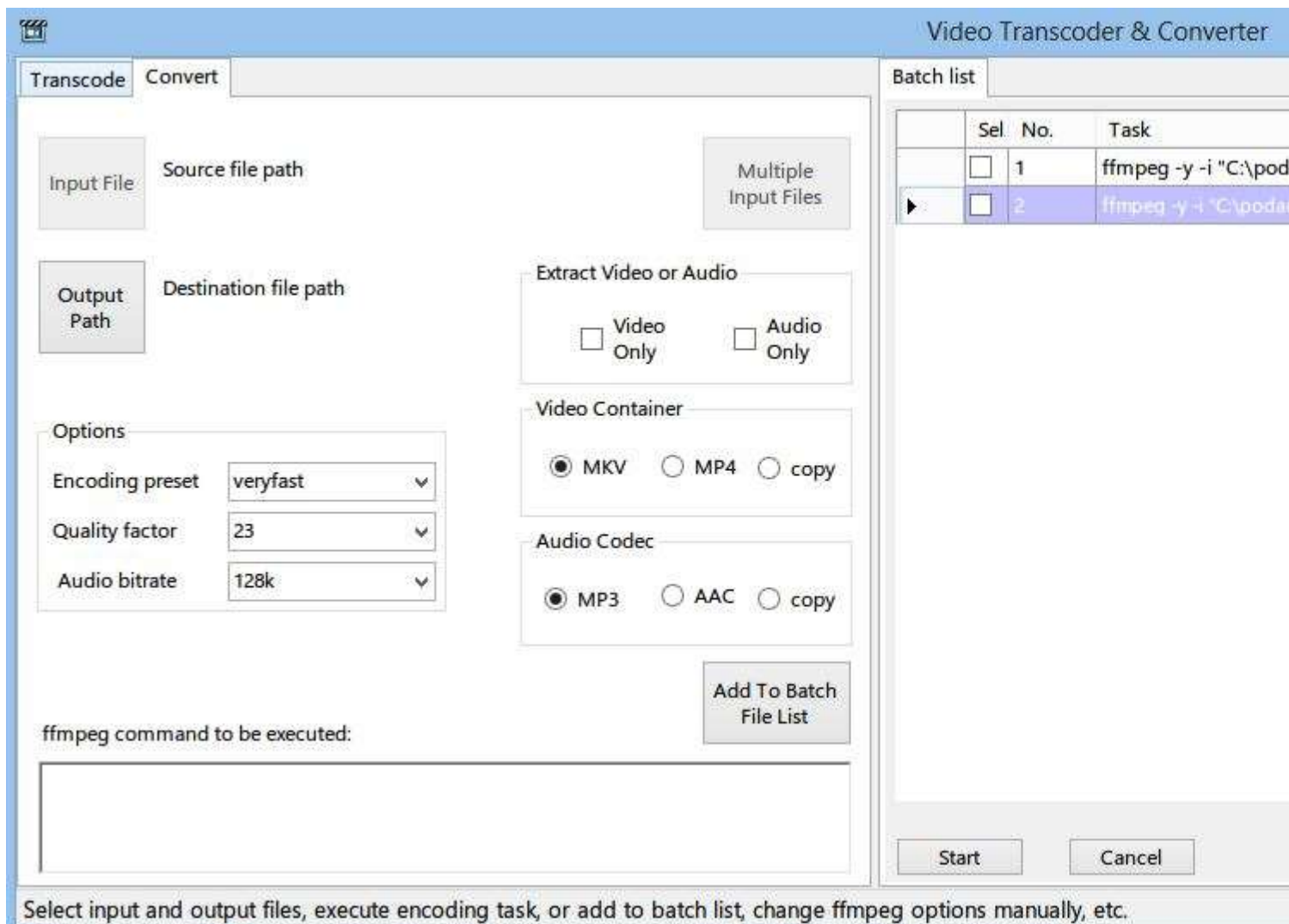
Convert Tab

Now, there are only 2 items left.



Ok, these are files that you want to transcode from MP4 to MKV. But, maybe you want also to do full convert of some other files.

Here is the other tab: "Convert".



As you can see, there are more options. There are 2 ways that can be used to add files for conversion:

“Multiple Input Files” – FIRST, you MUST select all options that you see on this screen, then click the mentioned button to select many files with same conversion options.

*Update: now it is possible to Drop many files on that button!

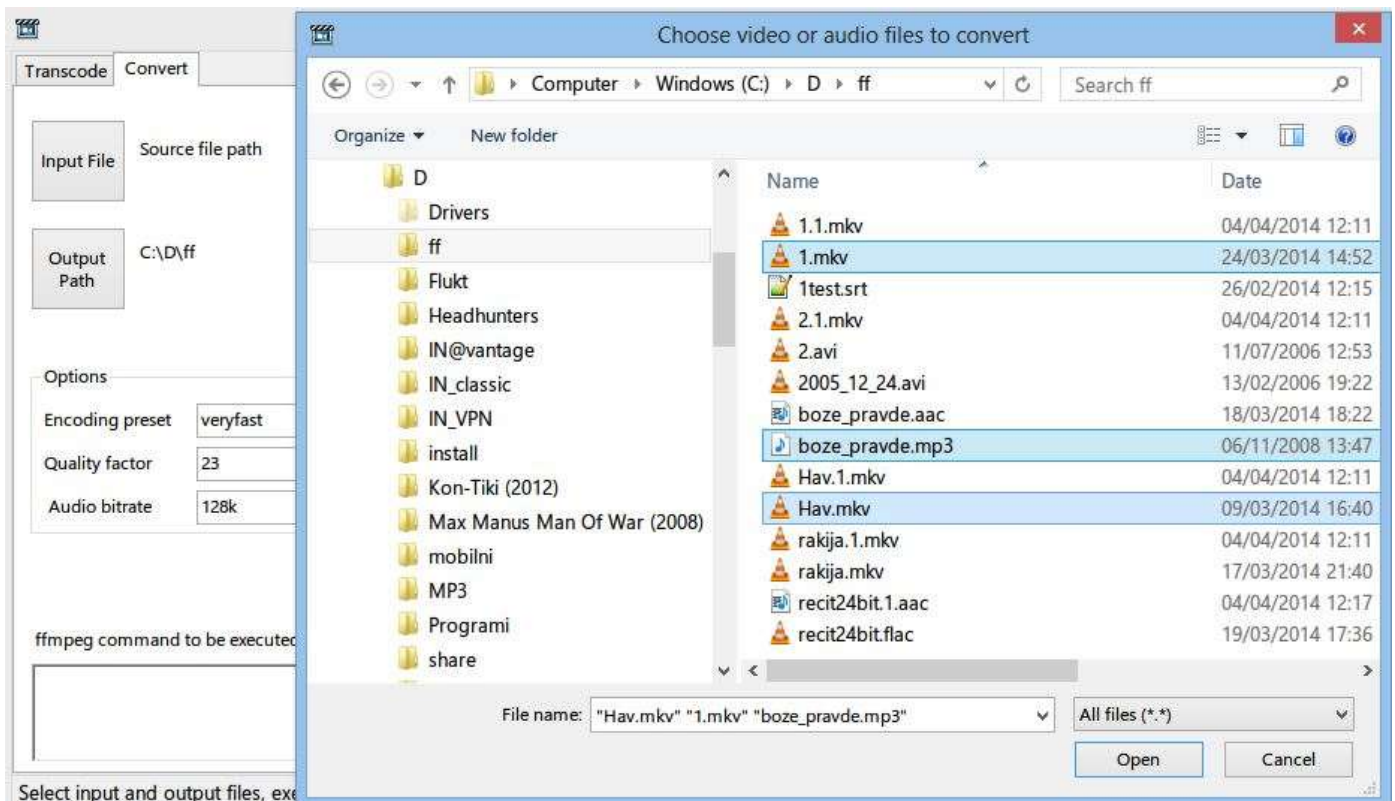
“Input File” – you select one by one file (*Update: you can also drop file on that button), each of which can have its own conversion options and output path. For each file you can manually tune ffmpeg in a box “ffmpeg command to be executed” and for each one, every option change is interactive and visible immediately in that text box.

Select Output Path for converting files

But first, we must decide where our converted files will be stored, so click “Output Path”.

*Update: you can now select or drop files first to the “Multiple Input File(s)”. Output will be saved in the same folder as input files.

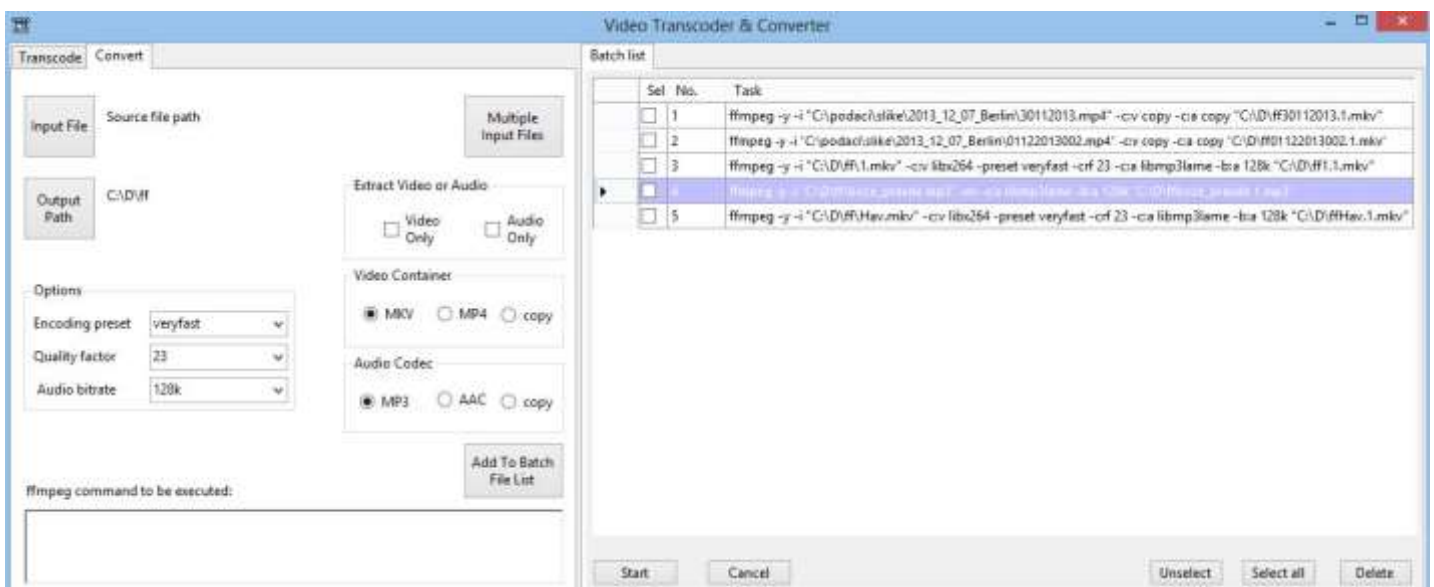
I don’t have picture for that but after you select the folder with enough space for your new files, all buttons will be enabled. First, check option to add multiple files for conversion “Multiple Input Files”.



In this window I have chosen file filter at the bottom "All files (*.*)", so I see video files, audio files, etc. For presentation purposes I have chosen mix of 2 video and 1 audio file.

Adding multiple jobs to the existing list

After clicking "Open" the batch list is populated with new entries in addition to the existing 2 from previous tab.

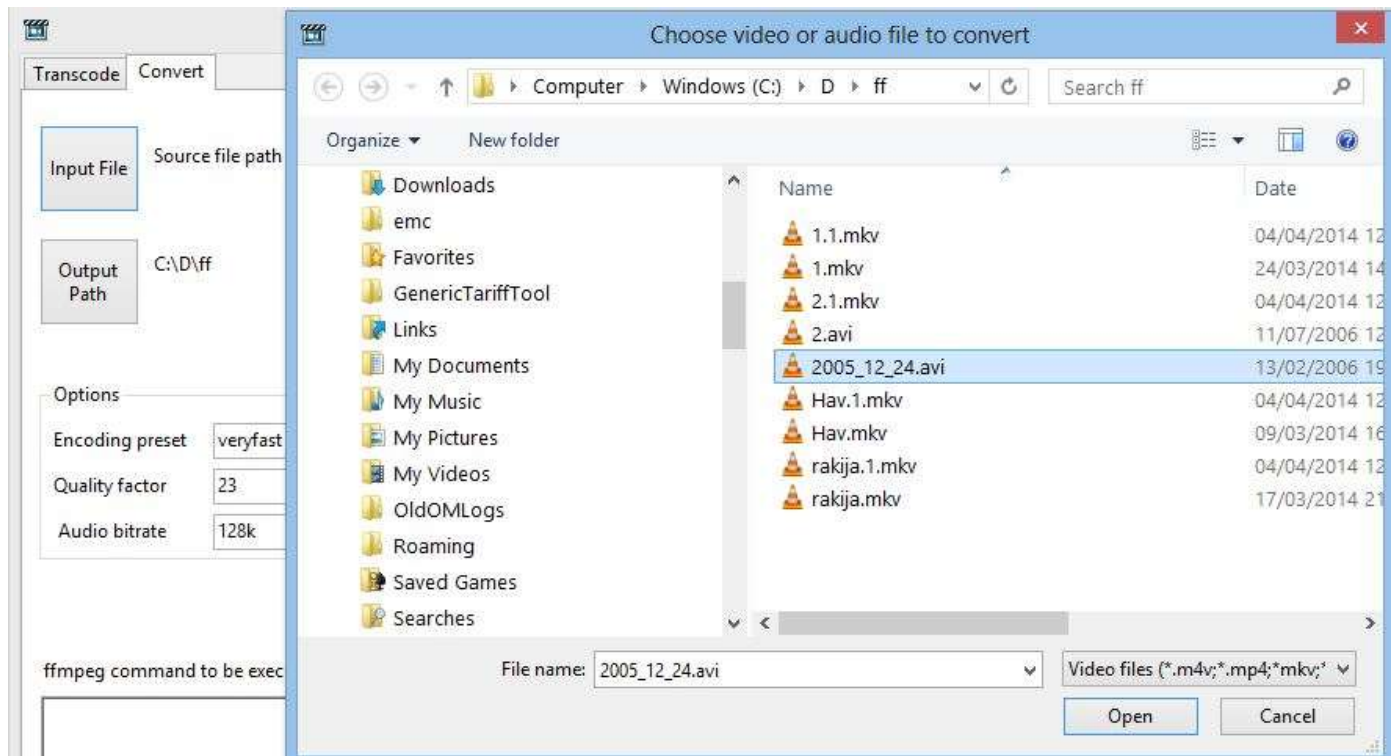


You can notice 2 things: one is **that audio file is recognized and it will be saved with audio codec option only selected (MP3)**, and video files are added with audio and video options selected on the left portion of the window. I use this audio option a lot for converting FLAC audio.

This was straightforward. Let us not start encoding yet. Next thing is to explore option to add individual files and change options for each one.

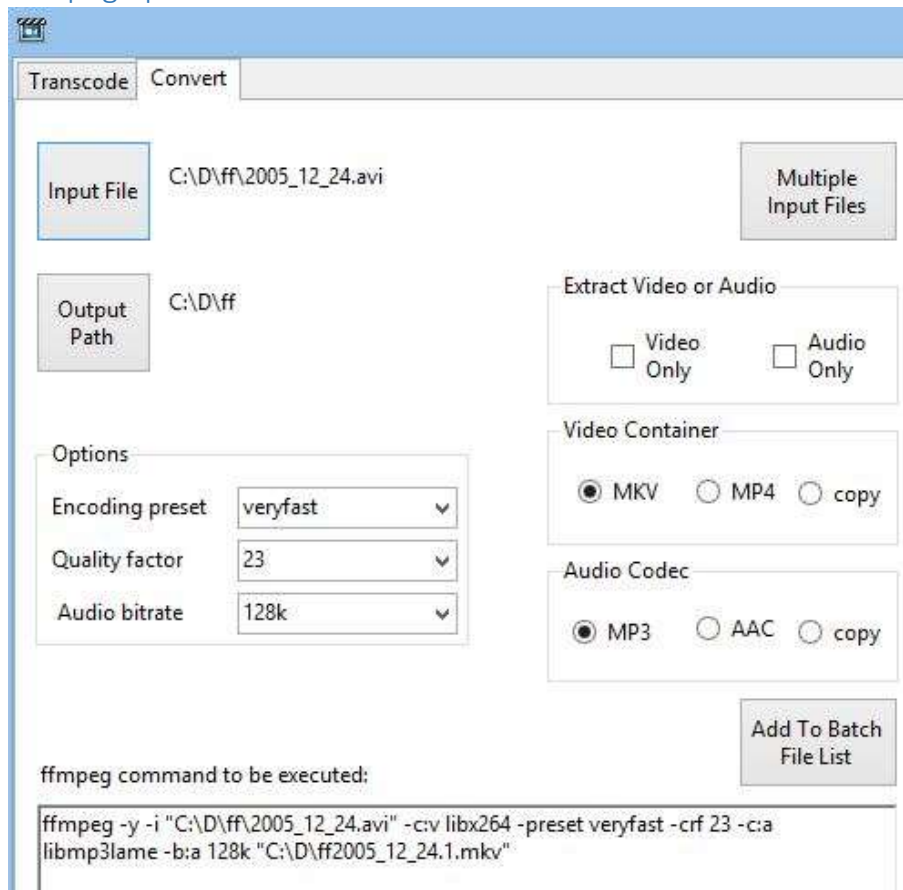
Adding individual files

Click, “Input File”.



I selected file filter “Video files”. You may use filter “Audio files” or “All files” like in previous example. I select 1 AVI file. I use this a lot since my video collection in past contained mostly XVID avis and since last year I use h.264. Click “Open” and new ffmpeg command will appear in the lower left text box. As you will see, this box has changed, but new task is not yet added to the batch list.

FFmpeg options



You can now **play with options, change output path, and when you are happy with your options, you can click “Add To Batch File List”**. Only then new task will be added to the list. But, first check options that you can use.

IMPORTANT: **you don’t have to change any options if you don’t know what they do.** Most of the people will probably use only output path. I put the most sensible default values that will be fine for most of the people. I will quickly explain those options. You can play with video conversion and if you are not satisfied with a result, try to change them. Bear in mind that full conversion will take 2 or more hours, depending on power of your PC, so once you like the result, you can use it again for next conversions.

Encoding preset

Transcode Convert

Input File C:\D\ff\2005_12_24.avi Multiple Input Files

Output Path C:\D\ff

Options

Encoding preset medium

Quality factor 23

Audio bitrate 128k

Extract Video or Audio

☐ Video Only ☐ Audio Only

Video Container

☒ MKV ☐ MP4 ☐ copy

Audio Codec

☒ MP3 ☐ AAC ☐ copy

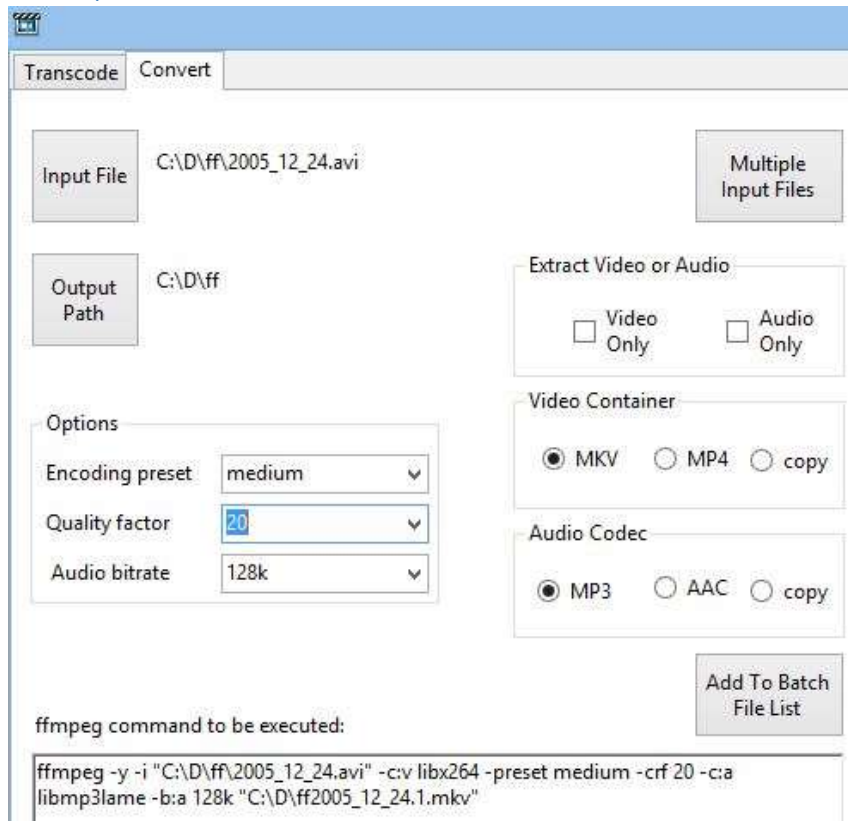
Add To Batch File List

ffmpeg command to be executed:

```
ffmpeg -y -i "C:\D\ff\2005_12_24.avi" -c:v libx264 -preset medium -crf 23 -c:a libmp3lame -b:a 128k "C:\D\ff\2005_12_24.1.mkv"
```

It basically determines the speed of the conversion, but also the size of the output file. I advise the slowest you can bear. It will provide the smallest file size. On my machine, “slowest” takes 3-4 hours for one movie and “ultrafast” takes 20-30 minutes (Intel i5). But, file size is can be 70% bigger for “ultrafast”. Decide yourself what is the best for you.

Quality factor

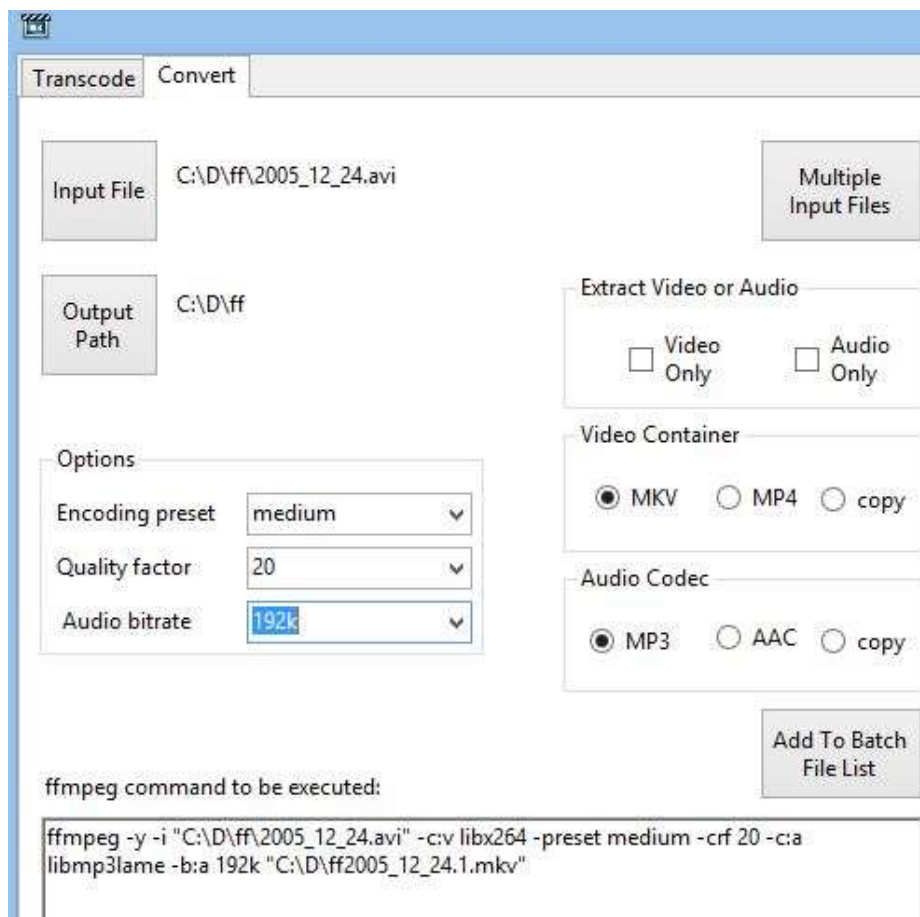


The screenshot shows the HandBrake Transcode tab. The 'Input File' is 'C:\D\ff\2005_12_24.avi' and the 'Output Path' is 'C:\D\ff'. In the 'Options' section, 'Encoding preset' is 'medium', 'Quality factor' is '20', and 'Audio bitrate' is '128k'. The 'Extract Video or Audio' section has 'Video Only' selected. The 'Video Container' section has 'MKV' selected. The 'Audio Codec' section has 'MP3' selected. A button 'Add To Batch File List' is visible. At the bottom, the 'ffmpeg command to be executed:' is shown.

```
ffmpeg -y -i "C:\D\ff\2005_12_24.avi" -c:v libx264 -preset medium -crf 20 -c:a libmp3lame -b:a 128k "C:\D\ff\2005_12_24.1.mkv"
```

It is an option of the x264 encoder. In essence, **for HD content, 20-23 is excellent**, but choosing 24 or 25 can reduce file size while not noticing quality loss. **For SD content, 19-21 gives excellent results**. Again, the choice is yours. Play a little bit until you get the most satisfactory results.

Audio bitrate

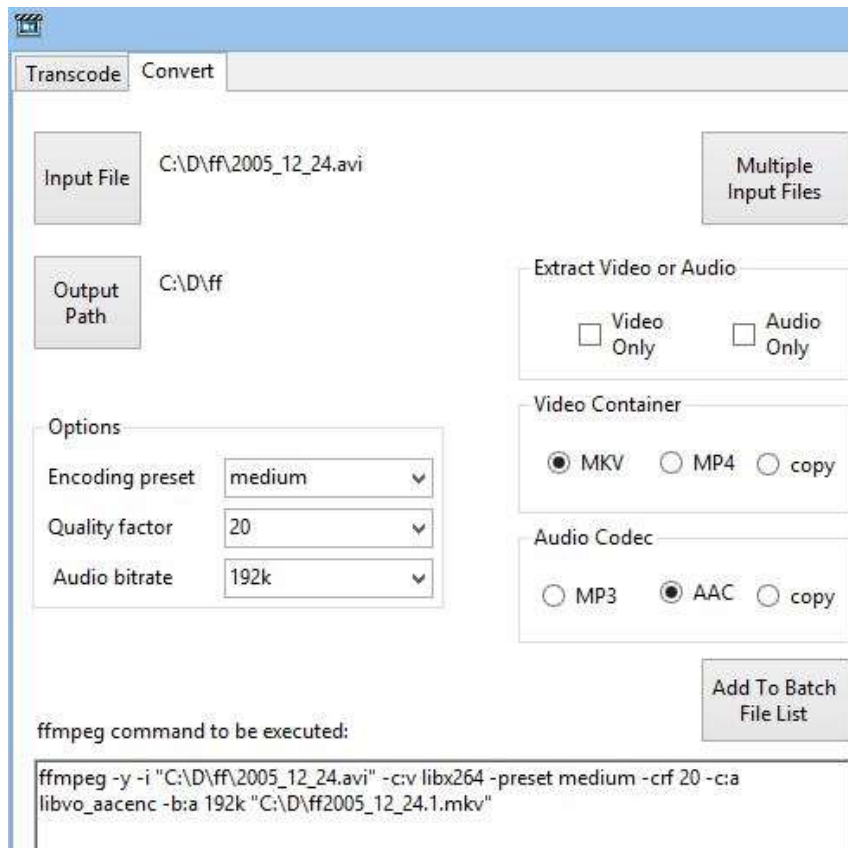


The screenshot shows the HandBrake Transcode tab. The 'Input File' is 'C:\D\ff\2005_12_24.avi' and the 'Output Path' is 'C:\D\ff'. In the 'Options' section, 'Encoding preset' is 'medium', 'Quality factor' is '20', and 'Audio bitrate' is '192k'. The 'Extract Video or Audio' section has 'Video Only' selected. The 'Video Container' section has 'MKV' selected. The 'Audio Codec' section has 'MP3' selected. A button 'Add To Batch File List' is visible. At the bottom, the 'ffmpeg command to be executed:' is shown.

```
ffmpeg -y -i "C:\D\ff\2005_12_24.avi" -c:v libx264 -preset medium -crf 20 -c:a libmp3lame -b:a 192k "C:\D\ff\2005_12_24.1.mkv"
```

Does not need much explanation. For most of the users, 128k is good (CD quality). But, maybe you want more or less (smaller file size).

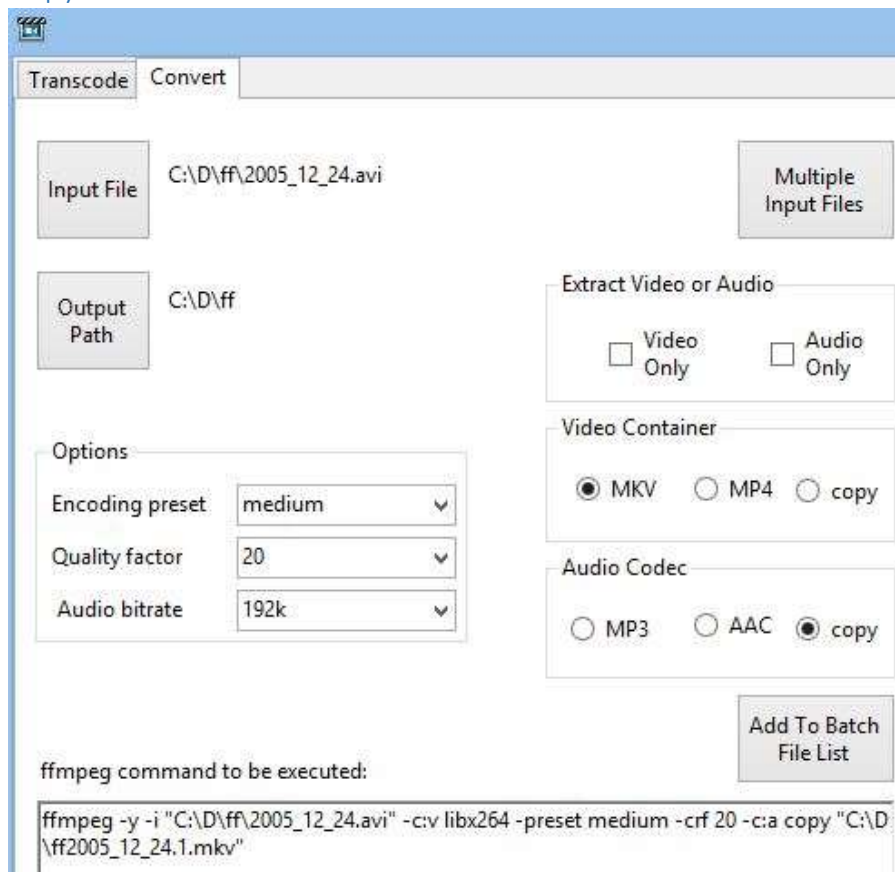
Audio codec



The screenshot shows the HandBrake Transcode tab. The 'Input File' is 'C:\D\ff\2005_12_24.avi' and the 'Output Path' is 'C:\D\ff'. The 'Options' section has 'Encoding preset' set to 'medium', 'Quality factor' set to '20', and 'Audio bitrate' set to '192k'. The 'Extract Video or Audio' section has 'Video Only' and 'Audio Only' checkboxes, both of which are unchecked. The 'Video Container' section has 'MKV' selected with a radio button, and 'MP4' and 'copy' are unselected. The 'Audio Codec' section has 'MP3', 'AAC', and 'copy' radio buttons, with 'AAC' selected. There is an 'Add To Batch File List' button. At the bottom, the 'ffmpeg command to be executed:' is shown as: `ffmpeg -y -i "C:\D\ff\2005_12_24.avi" -c:v libx264 -preset medium -crf 20 -c:a libvo_aacenc -b:a 192k "C:\D\ff\2005_12_24.1.mkv"`

You can choose between MP3, AAC and “copy”. Copy means that audio will be copied from original file, no conversion will be applied. I use it often, especially if I want to preserve original multichannel audio.

Copy audio stream



This screenshot is identical to the previous one, but with the 'copy' radio button selected under the 'Audio Codec' section. The 'ffmpeg command to be executed:' at the bottom is now: `ffmpeg -y -i "C:\D\ff\2005_12_24.avi" -c:v libx264 -preset medium -crf 20 -c:a copy "C:\D\ff\2005_12_24.1.mkv"`

Notice how the ffmpeg command change when you change options.

Video container

The screenshot shows the 'Transcode' tab of a media conversion tool. The 'Input File' is 'C:\D\ff\2005_12_24.avi' and the 'Output Path' is 'C:\D\ff'. The 'Options' section has 'Encoding preset' set to 'medium', 'Quality factor' to '20', and 'Audio bitrate' to '192k'. The 'Extract Video or Audio' section has 'Video Only' and 'Audio Only' checkboxes, both of which are unchecked. The 'Video Container' section has three radio buttons: 'MKV', 'MP4' (which is selected), and 'copy'. The 'Audio Codec' section has three radio buttons: 'MP3', 'AAC', and 'copy' (which is selected). There is an 'Add To Batch File List' button. At the bottom, the 'ffmpeg command to be executed:' is shown as: `ffmpeg -y -i "C:\D\ff\2005_12_24.avi" -c:v libx264 -preset medium -crf 20 -c:a copy "C:\D\ff\2005_12_24.1.mp4"`

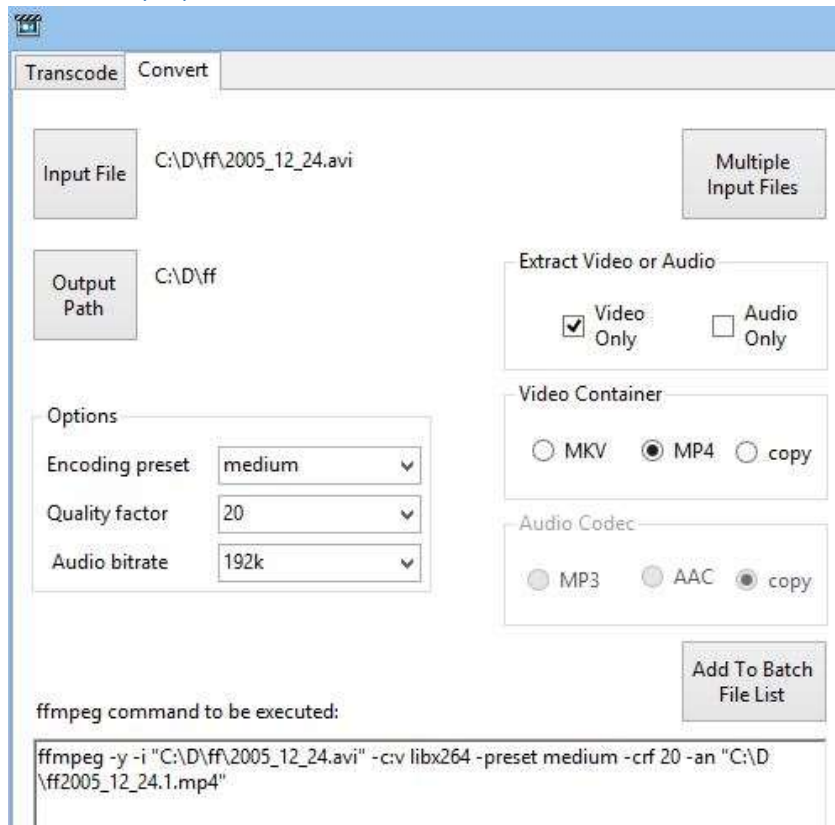
Here you change the output file format: MP4, MKV or “copy”.

Copy video stream

The screenshot shows the 'Transcode' tab of a media conversion tool. The 'Input File' is 'C:\D\ff\2005_12_24.avi' and the 'Output Path' is 'C:\D\ff'. The 'Options' section has 'Encoding preset' set to 'medium', 'Quality factor' to '20', and 'Audio bitrate' to '192k'. The 'Extract Video or Audio' section has 'Video Only' and 'Audio Only' checkboxes, both of which are unchecked. The 'Video Container' section has three radio buttons: 'MKV', 'MP4', and 'copy' (which is selected). The 'Audio Codec' section has three radio buttons: 'MP3', 'AAC', and 'copy' (which is selected). There is an 'Add To Batch File List' button. At the bottom, the 'ffmpeg command to be executed:' is shown as: `ffmpeg -y -i "C:\D\ff\2005_12_24.avi" -c:v copy -c:a copy "C:\D\ff\2005_12_24.1.avi"`

If you choose copy, input video is simply copied to the output file. I use it when I want to encode input audio that my TV does not support to the MP3, and video format is fine and I don't want to change it. Notice that here we have input copied for both audio and video. It doesn't make much sense, since output file will be the same as input file.

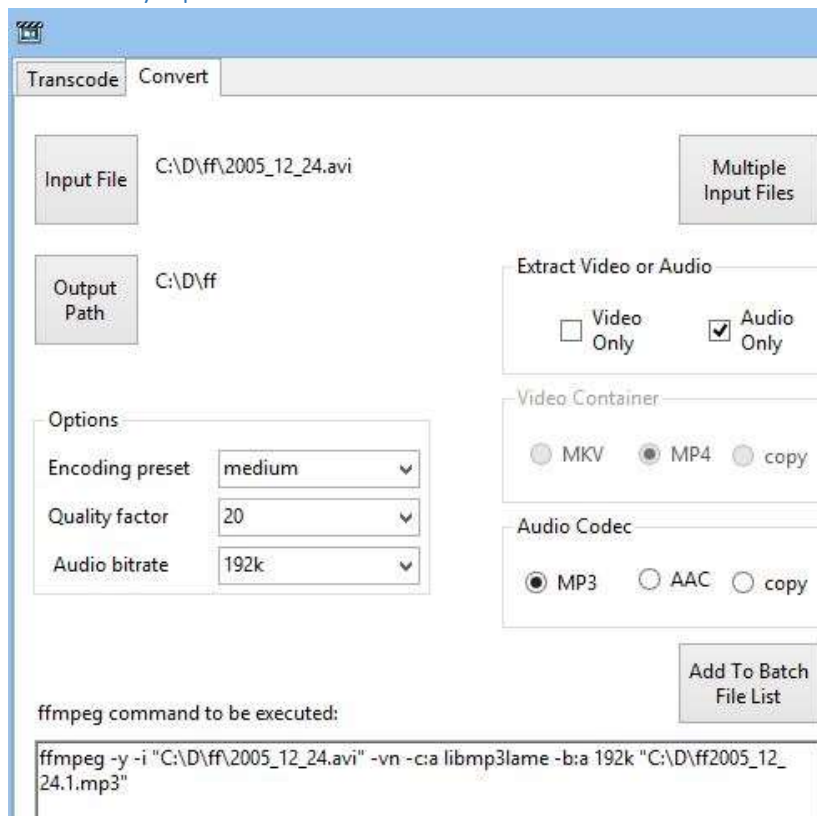
Video only option



The screenshot shows the HandBrake Transcode tab. The 'Input File' is 'C:\D\ff\2005_12_24.avi'. The 'Output Path' is 'C:\D\ff'. In the 'Extract Video or Audio' section, 'Video Only' is selected with a checked checkbox, while 'Audio Only' is unselected. The 'Video Container' section shows 'MP4' selected with a radio button, while 'MKV' and 'copy' are unselected. The 'Audio Codec' section shows 'copy' selected with a radio button, while 'MP3' and 'AAC' are unselected. The 'Options' section has 'Encoding preset' set to 'medium', 'Quality factor' set to '20', and 'Audio bitrate' set to '192k'. A button 'Add To Batch File List' is visible. At the bottom, the 'ffmpeg command to be executed:' is shown as: `ffmpeg -y -i "C:\D\ff\2005_12_24.avi" -c:v libx264 -preset medium -crf 20 -an "C:\D\ff\2005_12_24.1.mp4"`

Now, I changed video container to MP4 and used option "Video Only". Audio codec is now greyed. This option will encode only video into the output file without audio stream. I.e. your file will be without sound. Some people may use it.

Audio only option



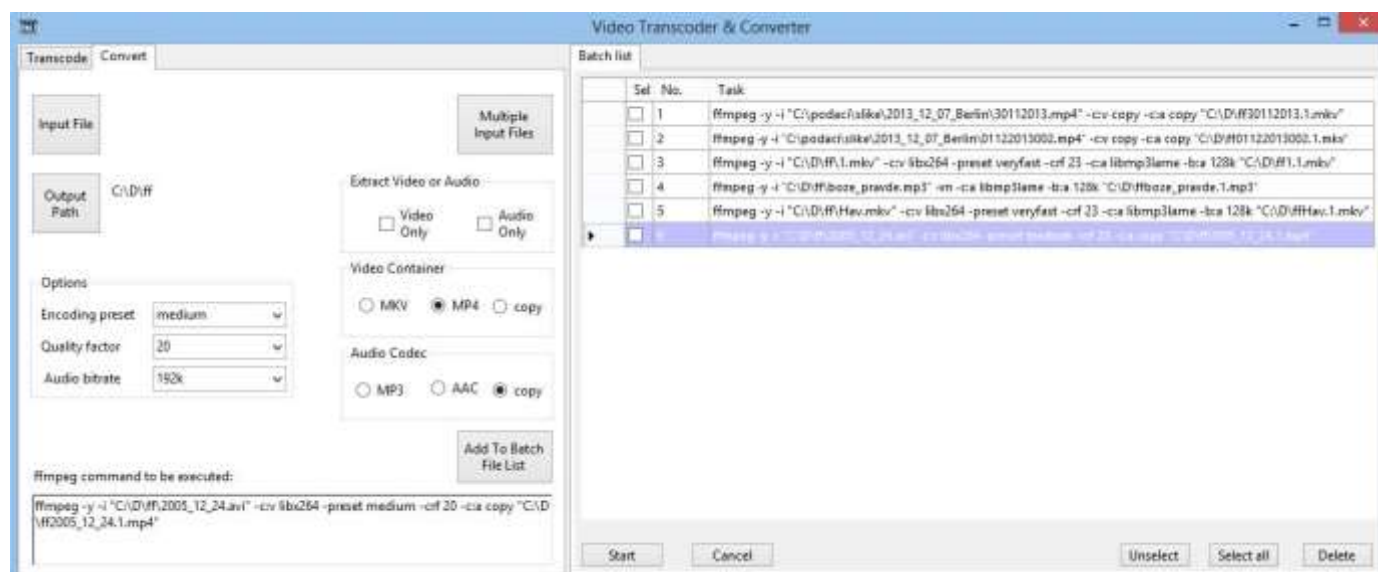
The screenshot shows the HandBrake Transcode tab. The 'Input File' is 'C:\D\ff\2005_12_24.avi'. The 'Output Path' is 'C:\D\ff'. In the 'Extract Video or Audio' section, 'Audio Only' is selected with a checked checkbox, while 'Video Only' is unselected. The 'Video Container' section shows 'MP4' selected with a radio button, while 'MKV' and 'copy' are unselected. The 'Audio Codec' section shows 'MP3' selected with a radio button, while 'AAC' and 'copy' are unselected. The 'Options' section has 'Encoding preset' set to 'medium', 'Quality factor' set to '20', and 'Audio bitrate' set to '192k'. A button 'Add To Batch File List' is visible. At the bottom, the 'ffmpeg command to be executed:' is shown as: `ffmpeg -y -i "C:\D\ff\2005_12_24.avi" -vn -c:a libmp3lame -b:a 192k "C:\D\ff\2005_12_24.1.mp3"`

Video container is now greyed out. That means output file will be audio only. That's why output file name is MP3. Very useful if you want to save only music from let's say Youtube videos.

Also, if you select audio file as an input, output file name will automatically be selected as "Audio only".

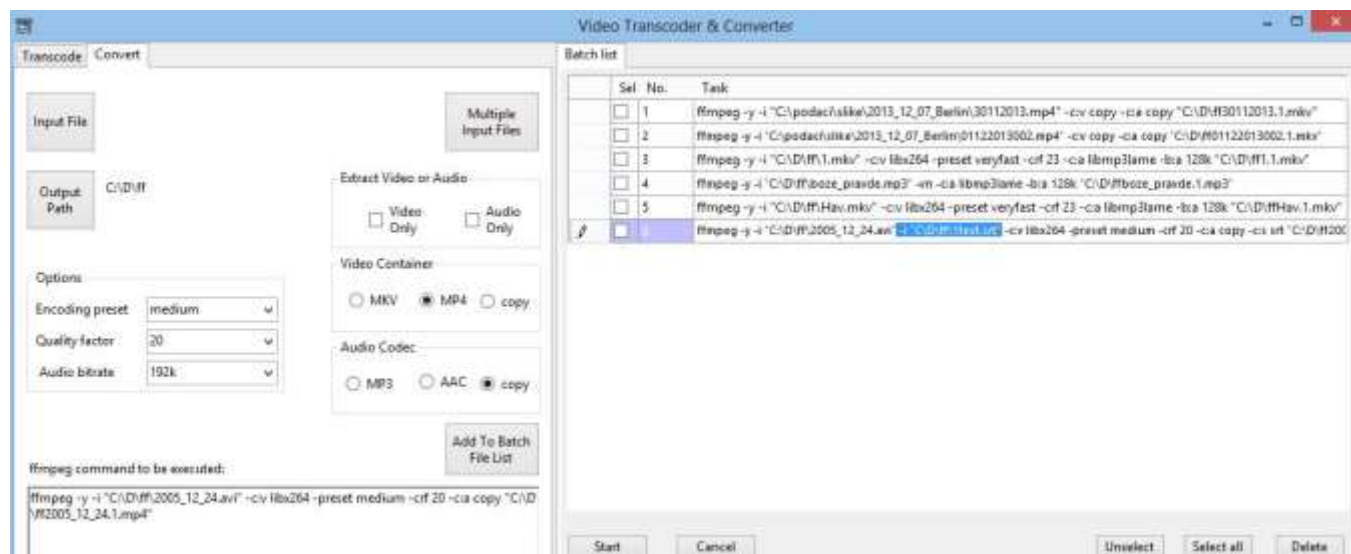
Add individual job to the list

Ok, now we are happy with options and we click “Add To Batch File List”.



Advanced editing in the list

Another possibility for advanced users is to manually edit jobs. Editing in the batch list is possible. If you are familiar with FFmpeg syntax, just click within Task column and you can edit command right there.

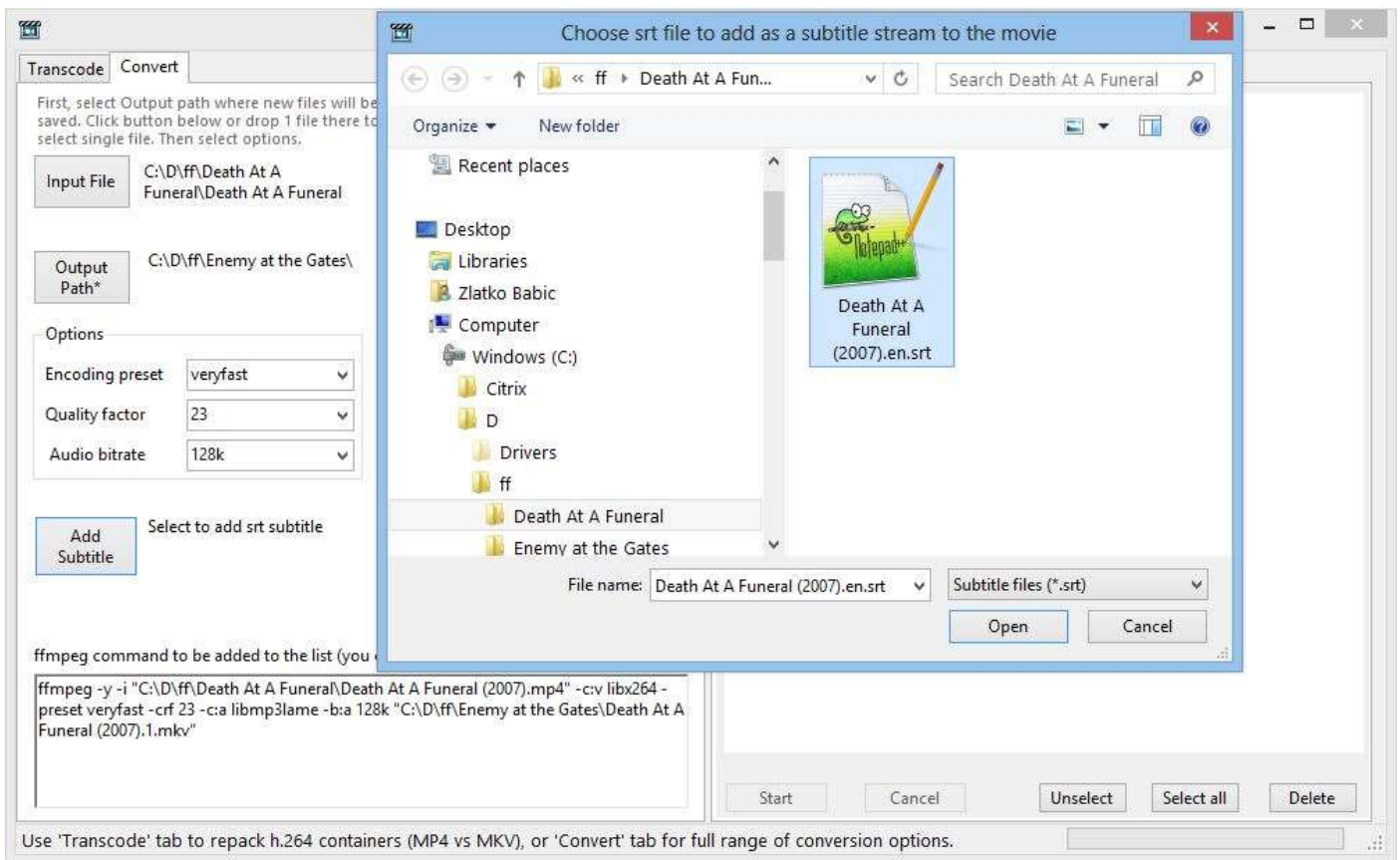


In this example, I added another subtitle stream (SRT file is supported for MKV files).

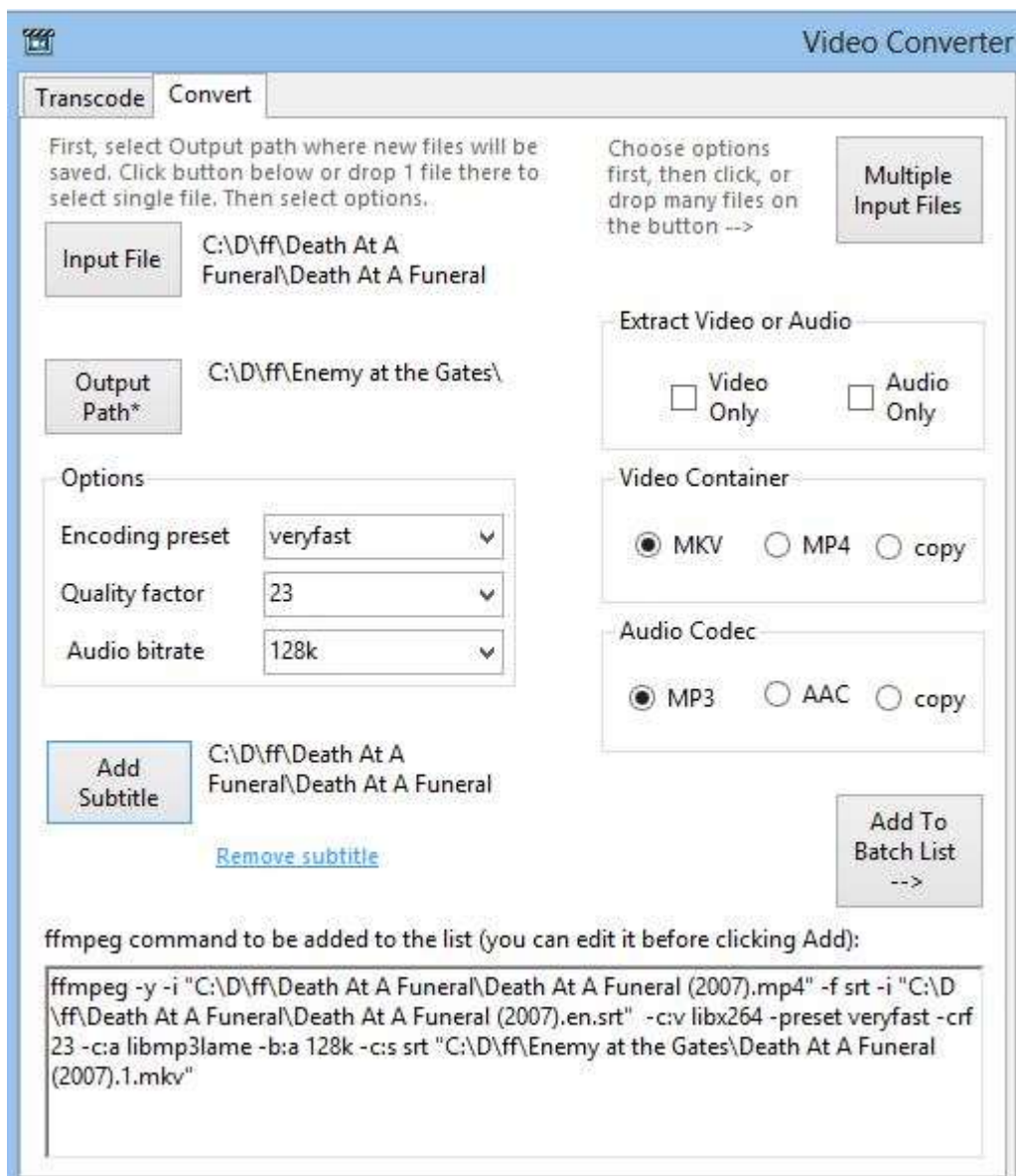
Adding external SRT subtitle as a stream in the movie

This is new feature in v1.1. **This option is only available when adding files one by one to the list.** It is logical, since no use for the same subtitle for many different files.

Click on the “Add Subtitle” button and select SRT file to add as a stream into the file.



Now the subtitle is added to the ffmpeg command and new button "Remove Subtitle" is visible, in case you change your mind and want to remove it.

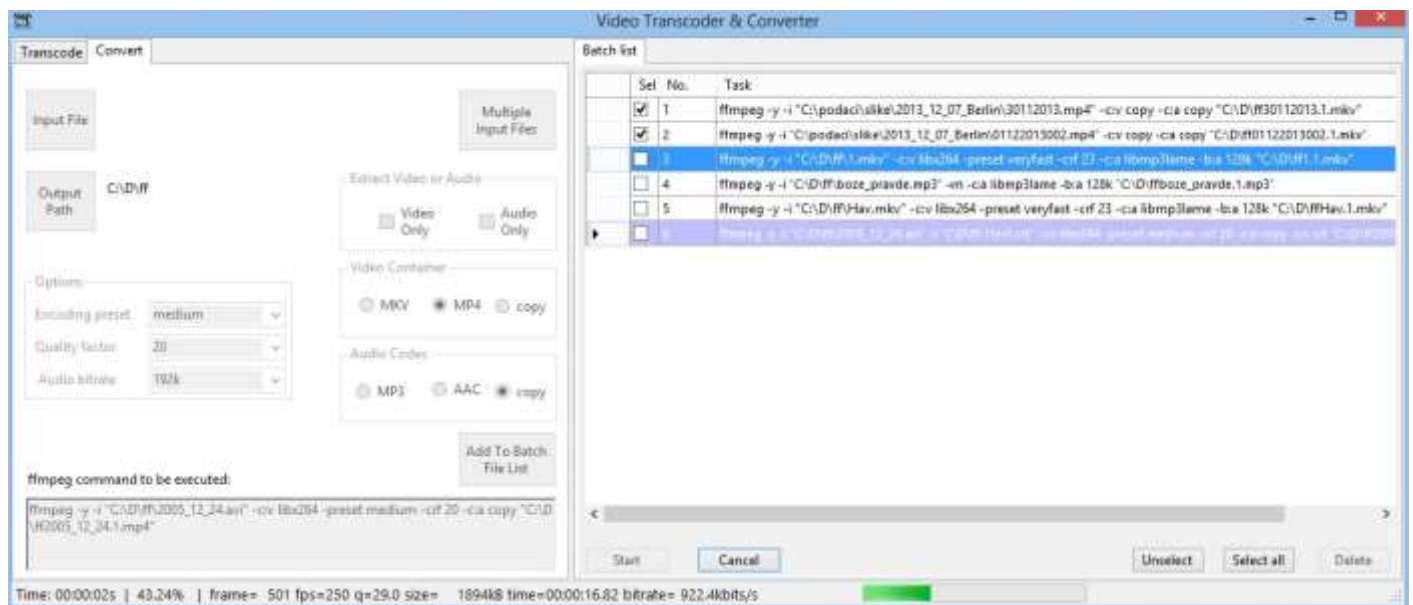


If you are happy with your options, click “Add To Batch List”.

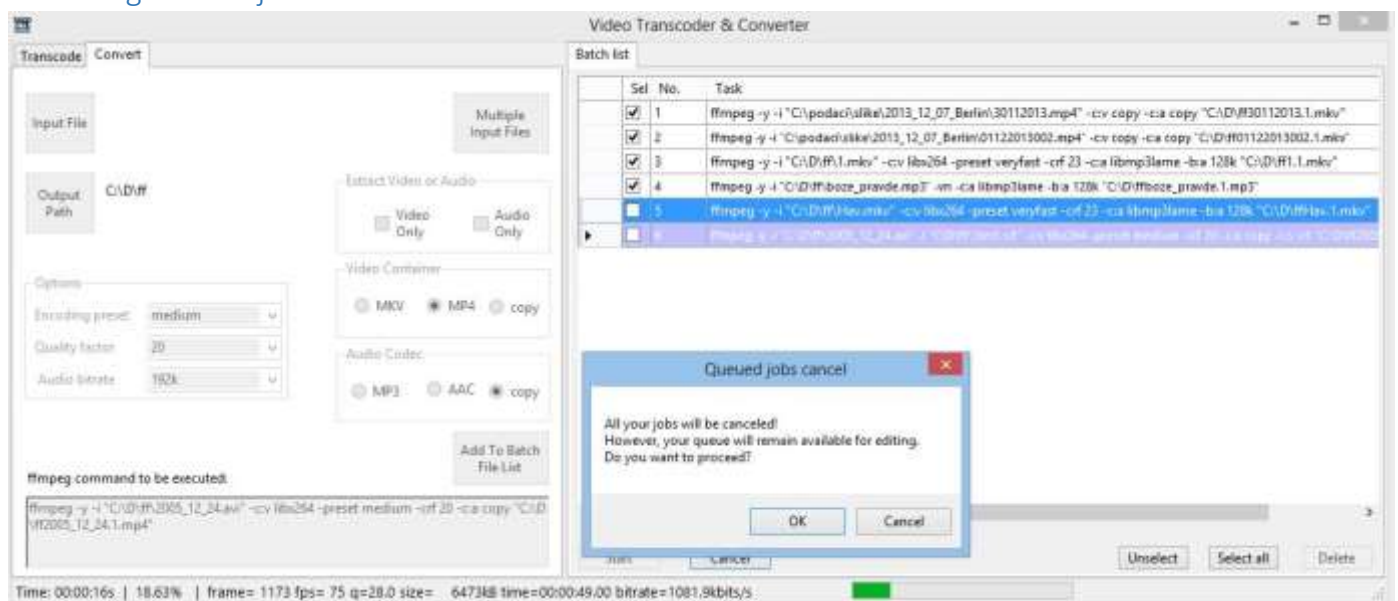
Note: different options are defined in ffmpeg command for mp4 and mkv. These subtitles are selectable in VLC, but some players don't recognize them. For example, my TV recognizes mkv with subtitle but not mp4. I did not test if it is visible on iPad.

Starting transcode and convert jobs

After this, I am happy with my list, so I can click “Start”. Tasks will be encoded one by one. After each one is completed, it will be checked. Encoding can be stopped by clicking “Cancel”. Progress is displayed in status line at the bottom.

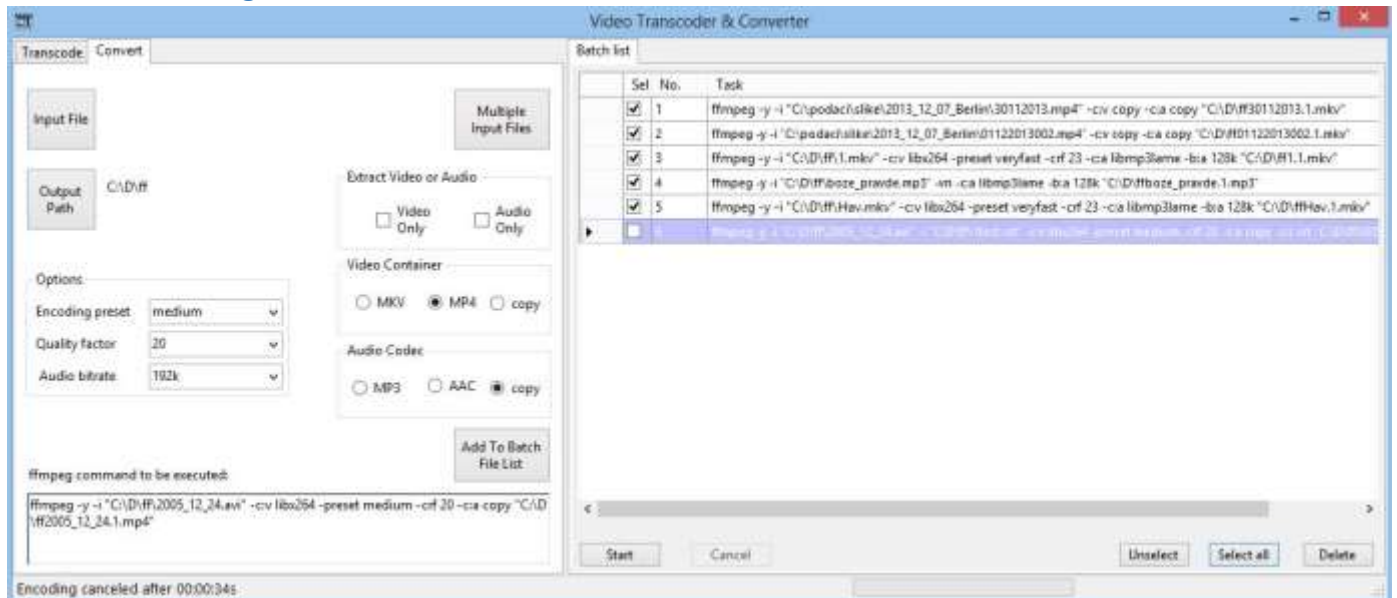


Canceling started jobs



After clicking Cancel, dialog will be shown with a warning.

Confirm canceling



After confirming, encoding is interrupted. Already finished jobs are checked in “Sel” field. Since they are done, you can delete them. The job that was interrupted is not checked, so you know it is not finished.

Final notes

In the example I have shown that:

- we can mix transcode and convert jobs,
 - we can mix video and audio files and options.
 - It depends all on your needs. I created this app considering my needs. In beginning I needed just transcode. I would just select where to store files and select the files that I wanted to transcode with one click. When I shared it with friends, they asked for more features like
 - full conversion, adding subtitle to the movie.
- You don't need to use all options. If you are happy with defaults, just click to add files, then click to start and that would be it.

Since FFmpeg is powerful tool, there are many possibilities for adding features.

If you have suggestion to add some feature, please leave a message at discussion board:

<https://sourceforge.net/p/videoconvertertranscoder/discussion/?source=navbar>