Convert an AVCHD / MTS file to MP4 using ffmpeg

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Convert an .MTS file to a .MP4 file

We want to convert it to .MP4, for instance to show it on a mobile device Android, or to play it om xbmc, or to import into kdenlive.

For a whole directory, type:

```
IFS=$(echo -en "\n\b"); for i in *.MTS; do ffmpeg -i "$i" -vcodec mpeg4 -b:v 15M -acodec libmp3lame -b:a 192k "$i.mp4"; done
```

or offtopic:

```
find . -print0 | while read -d $'\0' file
do
  echo -v "$file"
done
```

Now, if you want to resize it for some reason (show on mobile phone):

```
#ffmpeg -i 00031.MTS -s 480x320 -b:v 4000k 00031.MP4
```

-i = input file

-s = size <=== PUT THE SIZE PARAMETER JUST AFTER THE INPUTFILENAME, OTHERWISE YOU GET AN ERROR

-b:v = videobitrate, 8000k gives a slightly better image, but doubles the filesize -b:a = audiobitrate

Using these parameters you shrink a 25MB movie to a 6 MB movie.

Convert an .DV file to a .MP4 file

```
ffmpeg -i tape.dv -vcodec mpeg4 -b:v 15M -acodec libmp3lame -ab 192k -threads 2 -ilme tape.mp4
```

-ilme = Force interlacing support in encoder (MPEG-2 and MPEG-4 only). Use this option if your input file is interlaced and you want to keep the interlaced format for minimum losses. The alternative is to deinterlace the input stream with -deinterlace, but deinterlacing introduces losses.

Convert an .MTS file to a .DV file for video editing

We want to convert it to .DV, because then our video editing program (kdenlive) will process the clips much much faster!!!

```
#ffmpeg -i 00005.MTS -f avi -b:v 16000k -ab 192k 00005.DV
```

-i = input file

-f = format, appeared neccessary

-b:v = videobitrate, this value of 16000k is exactly the same as the source file, because we don't want any loss!!

-b:a = audio bitrate, this value of 192k is exactly the same as the source file, because we don't want any loss!!

ALTERNATIVE

I also found this commandline, worked very well:

```
ffmpeg-kino -threads 2 -i 00120.MTS -s 720x576 -r pal -aspect 16:9 -ac 2 -ar 48000 -pix_fmt yuv420p -y 00120.MTS.dv
```

Another commandline:

```
ffmpeg -y -i 00141.MTS -vcodec mpeg4 -b:v 8000000 -ab 128000 -s 1280x720 new2.mp4
ffmpeg -y -i 00101.MTS -vcodec mpeg4 -b:v 14M -acodec ac3 -ab 192k new.mp4 <-- deze gebruikt om .MTS in kdenlive te importeren
```

dus:

```
for i in *; do ffmpeg -y -i "$i" -vcodec mpeg4 -b:v 14M -acodec ac3 -ab 192k "$i".mp4; done
```

Convert to WebM (VP8)

A valid WebM file can only contain VP8 video and Vorbis audio in a .webm container.

```
ffmpeg -i bla.mp4 -vcodec libvpx -b:v 15M -acodec libvorbis -b:a 192k out.webm
```

For web page (reduced size):

```
# ffmpeg -i 44.mp4 -s 568x320 -vcodec libvpx -b:v 300k -acodec  libvorbis -b:a 64k 44.webm
```

Convert an .MTS file to Flash (FLV)

```
ffmpeg -i bla.mts -s 640x360 -ar 22050 -b:v 1M blaat.flv
```

of pas de bitrate aan voor hogere kwaliteit:

```
ffmpeg -i bla.mts -s 640x360 -ar 22050 -b:v 3M blaat.flv
```

Convert an old analogue letterbox recording to SD digital format

The input file was

```
Input #0, mpeg, from '1106_20091226203000.mpg':
  Duration: 04:24:55.20, start: 0.276144, bitrate: 6934 kb/s
    Stream #0.0[0x1e0]: Video: mpeg2video (Main), yuv420p, 720x576 [PAR 64:45 DAR 16:9], 8000 kb/s, 25 fps, 25 tbr, 90k tbn, 50 tbc
    Stream #0.1[0x1c0]: Audio: mp2, 48000 Hz, stereo, s16, 384 kb/s
```

and the picture has big black borders on the top and bottom and looks squashed. It was supposed to be stretched to fill up the screen (Our old analogue TV did that automatically).

This must be done in 2 steps: first the cropping, then rescaling back to 16:9

The first command is

```
ffmpeg -i input.mpg -vf crop=720:430 -vcodec mpeg2video -b:v 8M -acodec mp2 -b:a 384k 25ycrop.mpg
```

Note that we try to keep the audio/video exactly the same as the sourcefile. The commandline options -sameq and -vcodec copy don't seem to work here.

Next we must scale the video back to full screen, again the same settings for vcodec and acodec:

```
ffmpeg -i 25ycrop.mpg -s 720x576 -aspect 16:9 -vcodec mpeg2video -b:v 8M -acodec mp2 -b:a 384k bla.mpg
```

Other examples

```
 # ffmpeg -i 00039.MTS -f avi -vcodec mpeg4 -b:v 16000 bla.wmv
 # ffmpeg -i 00039.MTS -f avi -vcodec msmpeg4v2 -b:v 16000 bla.wmv
 # ffmpeg -y -i VIDEO0005.3gp  -vcodec wmv2 -f avi  -ar 44100 kerst2009.avi
```

```
 # ffmpeg -formats            -> lists formats
 # ffmpeg -f avi              -> force avi format
 # ffmpeg -codecs             -> lists codecs
 # ffmpeg -vcodec mpeg4       -> use codec
 # ffmpeg -acodec libmp3lame  -> use mp3 audio codec
 # ffmpeg -i <inputfile>      -> show info about movie file
 # ffmpeg -y                  -> overwrite outputfiles
 # ffmpeg -vcodec copy -ss 00:01:00 -t 00:03:00 -i infile.mpg outfile.mpg -> this cut the file from 1 minute to 4 minutes (t=duration)
or
 # ffmpeg -i inputfilename.mpg -sameq -ss 00:01:00 -t 00:03:00 outfile.mpg
The above will extract 3 minutes of mpg file from the 1 minute mark using same quality as the source file. This is useful for Variable Bit Rate (VBR) encoded files.
 # ffmpeg -target dvd|vcd|svcd|dv|dv50  -> all options are set automagically, but you can overrule as long as they don't conflict w/ the standard
          -r  --> set framerate, default = 25. also 'pal' is accepted
          -threads --> set thread count
 # ffmpeg -i 00090.MTS -f avi -b 6000k -ab 192k -vcodec mpeg2video 00090.mpg
    convert MTS to XBOX readable format
```

Sharpening

Using the -vf option.

```
# Strong luma sharpen effect parameters
unsharp=7:7:2.5

PvdM: dit betekent [unsharp @ 0x64f7c0] effect:sharpen type:luma msize_x:7 msize_y:7 amount:2.50

# Strong blur of both luma and chroma parameters
unsharp=7:7:-2:7:7:-2

# Use the default values with ffmpeg
./ffmpeg -i in.avi -vf "unsharp" out.mp4

PvdM: dit betekent [unsharp @ 0x64f7a0] effect:sharpen type:luma msize_x:5 msize_y:5 amount:1.00
```

Example:

```
ffmpeg -i part1.dv -vf "unsharp" -target dvd test2.mpg
```

Timestamps

To **set** the timestamp of the **file** to the video's internal **creation date/time**, you can use:

```
exiftool '-CreateDate>FileModifyDate' FILE
```

To force a date/time when converting:

```
ffmpeg -i 00041.MTS -vcodec mpeg4 -acodec copy -timestamp 2000012312:21:34 bla.mp4
```

Split video files

```
ffmpeg -i input.mpg -ss 00:00:10 -t 00:00:30 out1.mpg
```

-ss is the start point in hh:mm:ss from the beginning of your video file

-t is the length of time in hh:mm:ss of your new segment.

So, in the above example, you're starting 10 seconds in from the beginning of the original file and ending 30 seconds later.

If you want to create multiple parts in one pass then the following should work:

```
ffmpeg -i input.mpg -ss 00:00:10 -t 00:00:30 out1.mpg -ss 00:00:35 -t 00:00:30 out2.mpg
```

In this example, the first segment is the same as the first example, but you're also creating a second file starting at 35 seconds in and being 30 seconds long.

Remember to use the correct encoding:

```
ffmpeg -i input.mpg -ss 00:00:10 -vcodec copy -acodec copy output.mpg
```

Cut an avi file from second 1 to 12.9.

```
mencoder -ss 00:01 -endpos 00:12.900 -ovc copy -oac copy -o out.avi in.avi
```

Merge video files

To merge 2 or more files, use the 'cat' command and pipe it through ffmpeg, like this:

```
cat 1.mpg 2.mpg | ffmpeg (-f mpeg) -i - -vcodec copy -acodec copy outfile.mpg
```

Unfortunately, this does not work. Again, mencoder to the rescue:

```
mencoder -oac copy -ovc copy -o output.mp4 1.mp4 2.mp4
```

Flip video files

hflip and vflip

```
ffmpeg -i input.mp4 -vf hflip,vflip,format=yuv420p -codec:v libx264 -preset medium -crf 23 -codec:a copy output.mkv
```

The above did not work, but this did:

```
ffmpeg -i VID_20130915_110755.mp4 -vf transpose=2,transpose=2 output.mp4
```

rotate video files 90 degrees counterclockwise

```
ffmpeg -i 20160416_152451.mp4 -vf transpose=2 -c:a copy output.mp4
```

create timelapse movie

To create a timelapse movie from images in a directory, use:

```
mencoder "mf://*.jpg" -mf fps=5 -o test.avi -ovc lavc -lavcopts vcodec=msmpeg4v2:vbitrate=1000
```

I know, this is mencoder, but it works.

FFmpeg uses the following format:

```
ffmpeg -f image2 -r 10 -b:v 1M -i %03d.jpg test2.mp4
```

but this doesn't work. Also it requires the imagefilenames to be of name 001.jpg - 999.jpg, which is not always the case.

Rename files sequentially

```
cnt=1;for i in `ls *.jpg`; do mv ${i} ${cnt}.jpg;cnt=$((cnt+1)); done
```

To list available formats (supported pixel formats, video formats, and frame sizes) for a particular input device:

```
$ ffmpeg -f v4l2 -list_formats all -i /dev/video0
```

Alternatively you could use

```
v4l2-ctl --list-formats-ext
```

to list available formats.

To take a picture with a webcam

```
ffmpeg -f video4linux2 -i /dev/video0 -vframes 1 test.jpeg
```

record the screen, capture the desktop

Use the x11grab device:

```
ffmpeg -video_size 1024x768 -framerate 25 -f x11grab -i :0.0+100,200 output.mp4
```

This will grab the image from desktop, starting with the upper-left corner at (x=100, y=200) with the width and height of 1024x768.

If you need audio too you can use ALSA (see Capture/ALSA for more info):

```
ffmpeg -video_size 1024x768 -framerate 25 -f x11grab -i :0.0+100,200 -f alsa -ac 2 -i hw:0 output.mkv
```

Or the pulse input device:

```
ffmpeg -video_size 1024x768 -framerate 25 -f x11grab -i :0.0+100,200 -f pulse -ac 2 -i default output.mkv
```

Merging video and audio, with audio re-encoding

See this example, taken from this blog entry but updated for newer syntax. It should be something to the effect of:

```
ffmpeg -i video.mp4 -i audio.wav -c:v copy -c:a aac -strict experimental output.mp4
```

Here, we assume that the video file does not contain any audio stream yet, and that you want to have the same output format (here, MP4) as the input format.

The above command transcodes the audio, since MP4s cannot carry PCM audio streams. You can use any other desired audio codec if you want. See the AAC Encoding Guide for more info.

If your audio or video stream is longer, you can add the -shortest option so that ffmpeg will stop encoding once one file ends.

Copying the audio without re-encoding

If your output container can handle (almost) any codec – like MKV – then you can simply copy both audio and video streams:

```
ffmpeg -i video.mp4 -i audio.wav -c copy output.mkv
```

Replacing audio stream

If your input video already contains audio, and you want to replace it, you need to tell ffmpeg which audio stream to take:

```
ffmpeg -i video.mp4 -i audio.wav -c:v copy -c:a aac -strict experimental -map 0:v:0 -map 1:a:0 output.mp4
```

The map option makes ffmpeg only use the first video stream from the first input and the first audio stream from the second input for the output file.

extract images from a video

```
ffmpeg -i giveafuck.mp4 image-%3d.jpeg
```

-r This is used to set the frame rate of video. i.e. no. of frames to be extracted into images per second. The default value is 25, using which, would have yielded a large number of images.

Create a thumbnail image every X seconds of the video

Output a single frame from the video into an image file:

```
ffmpeg -i input.flv -ss 00:00:14.435 -vframes 1 out.png
```

This example will seek to the position of 0h:0m:14sec:435msec and output one frame (-vframes 1) from that position into a PNG file.

Output one image every second, named out1.png, out2.png, out3.png, etc.:

```
ffmpeg -i input.flv -vf fps=1 out%d.png
```

Output one image every minute, named img001.jpg, img002.jpg, img003.jpg, etc. The %03d dictates that the ordinal number of each output image will be formatted using 3 digits:

```
ffmpeg -i myvideo.avi -vf fps=1/60 img%03d.jpg
```

Output one image every ten minutes:

```
ffmpeg -i test.flv -vf fps=1/600 thumb%04d.bmp
```

Merge pictures into an Animated GIF

```
convert -delay <ticks>x<ticks-per-second> -loop 0 out*gif <output-gif-file>
```

In the command, "-delay" is an option that controls the animation speed. This option indicates that [ticks/ticks-per-second] seconds must elapse before the display of the next frame. The "-loop 0" option indicates infinite loops of

animation. If you want, you can specify "-loop N", in which case the animation will repeat itself N times.

For example, to create an animated GIF image with 20 frames-per-second and infinite loop, use the following command.

```
$ convert -delay 1x20 -loop 0 out*.gif animation.gif
```

The last (optional) step is to reduce the size of the created GIF file, by using ImageMagick's GIF optimizer.

Use the following command to reduce the GIF size.

```
$ convert -layers Optimize animation.gif animation_small.gif
```

DVD

Re-encode for DVD use

```
# mythreplex --demux --fix_sync -o /data/stream -v 224 -c 128 "/data/newfile2.mpg
# tcrequant /data/stream.mv2 /data/video.small.m2v 1.17052143685
```

Pull Chapters from VOB

You can pull chapters from VOB files using mplayer. Here's a command line to pull chapter 3 from the DVD drive and dump it to a VOB.

```
mplayer dvd:// -chapter 3-3 -dumpstream -dumpfile 3.vob
```

Rip VOB to mpeg4

and **deinterlace** as well.

```
ffmpeg -i VTS_01_1.VOB -vcodec mpeg4 -b:v 10M -acodec copy -deinterlace lan1deinterlaced.mp4
```

Rip VOB to DV

The following command will rip a VOB file strait from an unencrypted DVD and convert it to a strait DV file.

```
ffmpeg -i /cdrom/VIDEO_TS/VTS_01_1.VOB -target dv /home/joel/Videos/game_vi.dv
```

Rip VOB to DVD

The following command will rip a VOB file to an MPEG2 video with AC3 audio for a DVD. It also uses the '-sameq' option which uses the same quality factor in the encoder as in the decoder, allowing almost lossless encoding.

```
ffmpeg -i myfile.vob -target dvd -sameq myfile.mpg
```

Rip VOB to VCD

The following command will rip a VOB file to a MPEG1 video with MP1 audio.

```
ffmpeg -i myfile.vob -target vcd myfile.mpg
```

Rip VOB to Flash (FLV)

The following command will rip a VOB file to 352×240 (the same size as VCD) and will save it as a flash file.

```
ffmpeg -i myfile.vob -s 352x240 myfile.flv
```

Audio

combine multiple sources to one destination

```
# ffmpeg -f concat -i /tmp/list.txt output3.flac
```

where list.txt contains:

```
file '/tmp/file1'
file '/tmp/file2'
```

or try:

```
ffmpeg -i "concat:input1.mpg|input2.mpg|input3.mpg" -c copy output.mpg
```

better still:

```
ffmpeg -f concat -i <( for f in *.wav; do echo "file '$(pwd)/$f'"; done ) output.wav
```

Convert .dsf files (SACD) to standard .wav files (PCM - CD quality)

```
ffmpeg -i 04.dsf -acodec pcm_s16le -ar 44100 -ac 2 output.wav
```

This however, does not give enough audio quality.

The Golden Line:

```
ffmpeg -i input.dsf -acodec pcm_s24le -ar 44100 -ac 2 44100_24.wav
```

I have tried it with 32 bits and with 88200 and higher, could not hear it.

copy/convert from multistream sources

Given the following input file:

```
# fmpeg -i input.mkv

ffmpeg version ... Copyright (c) 2000-2012 the FFmpeg developers
...
Input #0, matroska,webm, from 'input.mkv':
  Duration: 01:39:44.02, start: 0.000000, bitrate: 5793 kb/s
    Stream #0:0(eng): Video: h264 (High), yuv420p, 1920x800, 23.98 fps, 23.98 tbr, 1k tbn, 47.95 tbc (default)
    Stream #0:1(ger): Audio: dts (DTS), 48000 Hz, 5.1(side), s16, 1536 kb/s (default)
    Stream #0:2(eng): Audio: dts (DTS), 48000 Hz, 5.1(side), s16, 1536 kb/s
    Stream #0:3(ger): Subtitle: text (default)
```

If we want to extract only audio streams, from input file, then we can do it like this:

```
ffmpeg -i input.mkv -map 0:1 -map 0:2 -c copy output.mkv
```

or use the appropriate codecs

Create multichannel WAVs or FLACs

This command will 'rip' the first 5 minutes (which is the first song actually) of a quadraphonic (4.0) .WAV file that is 45 minutes long:

```
ffmpeg -i The\ Doobie\ Bothers-\ Toulouse\ Street.wav -acodec pcm_s16le -b:a 1400k -ss 0:0:0 -t 0:5:0 \
-ac 4 -map_channel 0.0.0 -map_channel 0.0.1 -map_channel 0.0.4 -map_channel 0.0.5 output.wav -y
```

The resulting file 'output.wav' will be a multichannel wav with the following channel order:

1. front left
2. front right
3. rear left
4. rear right

When loaded into audacity, and then when exported into either .WAV or .FLAC move the channel slider to 6 channels and the following channel mix must be done:

output 1 -> channel: 1

output 2 -> channel: 2

output 3 -> channel: 5

output 4 -> channel: 6

Channel identification

I found this:

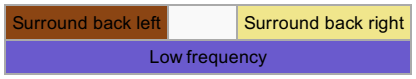
```
The track order of all 5.1 surround files follows the standard
as defined by SMPT/EBU and implemented by SourceForge in FLAC (v. 1.2.1b):
L - R - C - Lfe - Ls - Rs flac.sourceforge.net
```

Also:

In accordance with ANSI/CEA-863-A<ref>Consumer Electronics Association standards: Setup and Connection</ref>

Zero-based order within multi-channel mp3/wav/flac datastream	Order within DTS/AAC	Channel name	Color-coding on commercial receiver and cabling
0	1	Front left	White
1	2	Front right	Red
2	0	Center	Green
3	5	Low frequency	Purple
4	3	Surround left	Blue
5	4	Surround right	Grey
6	6	Surround back left	Brown
7	7	Surround back right	Khaki

Front left	Center	Front right
Surround left		Surround right



Standard speaker channels

This table shows the various speaker configurations that are commonly used for end-user equipment. The order and identifiers are those specified for the channel mask in the standard uncompressed WAV file format (which contains a raw multichannel PCM stream) and are used according to the same specification for most PC connectible digital sound hardware and PC operating systems capable of handling multiple channels. While it is certainly possible to build any speaker configuration, there isn't a lot of commercially available movie or music content for alternative speaker configurations. Such cases, however, can be worked around by remixing the source content channels to the speaker channels using a matrix table specifying how much of each content channel is played through each speaker channel.

Standard speaker channels

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Downmix of multichannel 5.1 audio to real quad 4 channel four speaker

A lot of music is supplied in a 5.1 channel format. That means front left, front right, center, rear left, rear right and subwoofer channel. But if you have a quadraphonic setup like me, you only have 4 speakers, which are real speakers, so no subwoofer is present nor needed. Center speaker is also absent. So you have left front, right front, left rear and right rear.

But then you have a problem with the voices in the surround mix, which are usually mixed on the center channel. The vocals will sound thin, if present at all. So what is needed is a downmix of the center channel to the two front channels. Or in other words:

```
destination:        source:
left front       <- left front + center channel
right front      <- right front + center channel
left rear        <- left rear
right rear       <- right rear
```

This can be achieved by the following ffmpeg command:

```
ffmpeg -i "$i" -af "pan=quad|c0<c0+c2|c1<c1+c2|c2=c4|c3=c5" "$i.flac"
```

Or, for a complete directory:

```
IFS=$(echo -en "\n\b"); for i in *.wav; do ffmpeg -i "$i" -af "pan=quad|c0<c0+c2|c1<c1+c2|c2=c4|c3=c5" "$i.flac"; done
```

HTC Hero

For the HTC Hero (Android) the default movie properties are:

```
Input #0, mov,mp4,m4a,3gp,3g2,mj2, from '26112009004.mp4':
  Duration: 00:00:39.06, start: 0.000000, bitrate: 424 kb/s
    Stream #0.0(und): Video: mpeg4, yuv420p, 320x240 [PAR 1:1 DAR 4:3], 372 kb/s, 15 tbr, 30k tbn, 30k tbc
    Stream #0.1(und): Audio: aac, 48000 Hz, mono, s16, 48 kb/s
  Metadata
    major_brand     : mp42
    minor_version   : 0
    compatible_brands: mp423gp4isom
```

HTC Desire

Screen size: 800x480 For the Desire, the default movie properties are:

- Convert .MTS files for Desire:

```
for i in * ; do ffmpeg -i $i -s 800x480 -b 8000k /media/disk/DCIM/oostenrijk\ videos/$i.MP4; done
```

Samsung Galaxy S Plus

Screen size: 800x480

Encode videos for Samsung Galaxy S Plus

```
ffmpeg -i "27.mp4" -s 800x480 -vcodec mpeg4 -b 768k -acodec libmp3lame -ab 128k -dmix_mode loro "27.mobile.mp4"
```

where

- 512k gives rather bad image
- 1M gives perfect image
- 768k hits the sweetspot
- -dmix_mode loro is used for downmixing surround sound

Codecs

most used video codecs that ffmpeg can encode

WARNING!!! DEPRECATED !!!!!!

```
Codecs:
 D..... = Decoding supported
 .E.... = Encoding supported
 ..V... = Video codec
 ..A... = Audio codec
 ..S... = Subtitle codec
 ...S.. = Supports draw_horiz_band
 ....D. = Supports direct rendering method 1
 .....T = Supports weird frame truncation
 ------
 dvvideo          DV (Digital Video)
 flashsv          Flash Screen Video
 flc              Flash Video (FLV) / Sorenson Spark / Sorenson H.263
 libtheora        libtheora Theora
 libx264          libx264 H.264 / AVC / MPEG-4 AVC / MPEG-4 part 10
 libxvid          libxvidcore MPEG-4 part 2
 mjpeg            MJPEG (Motion JPEG)
 mpeg1video       MPEG-1 video
 mpeg2video       MPEG-2 video
 mpeg4            MPEG-4 part 2
 msmpeg4          MPEG-4 part 2 Microsoft variant version 3
 msmpeg4v1        MPEG-4 part 2 Microsoft variant version 1
 msmpeg4v2        MPEG-4 part 2 Microsoft variant version 2
 wmv1             Windows Media Video 7
 wmv2             Windows Media Video 8
```

all video codecs that ffmpeg can encode

```
Codecs:
 D..... = Decoding supported
 .E.... = Encoding supported
 ..V... = Video codec
 ..A... = Audio codec
 ..S... = Subtitle codec
 ...I.. = Intra frame-only codec
 ....L. = Lossy compression
 .....S = Lossless compression
 -------
 D.VI.. 012v                 Uncompressed 4:2:2 10-bit
 D.V.L. 4xm                  4X Movie
 D.VI.S 8bps                 QuickTime 8BPS video
 .EVIL. a64_multi            Multicolor charset for Commodore 64 (encoders: a64multi )
 .EVIL. a64_multi5           Multicolor charset for Commodore 64, extended with 5th color (colram) (encoders: a64multi5 )
 D.V..S aasc                 Autodesk RLE
 D.VIL. aic                  Apple Intermediate Codec
 DEVIL. amv                  AMV Video
 D.V.L. anm                  Deluxe Paint Animation
 D.V.L. ansi                 ASCII/ANSI art
 DEVIL. asv1                 ASUS V1
 DEVIL. asv2                 ASUS V2
 D.VIL. aura                 Auravision AURA
 D.VIL. aura2                Auravision Aura 2
 D.V... avrn                 Avid AVI Codec
 DEVI.. avrp                 Avid 1:1 10-bit RGB Packer
 D.V.L. avs                  AVS (Audio Video Standard) video
 DEVI.. avui                 Avid Meridien Uncompressed
 DEVI.. ayuv                 Uncompressed packed MS 4:4:4:4
 D.V.L. bethsoftvid          Bethesda VID video
 D.V.L. bfi                  Brute Force & Ignorance
 D.V.L. binkvideo            Bink video
 D.VI.. bintext              Binary text
 DEVI.S bmp                  BMP (Windows and OS/2 bitmap)
 D.V..S bmv_video            Discworld II BMV video
 D.VI.S brender_pix          BRender PIX image
 D.V.L. c93                  Interplay C93
 D.V.L. cavs                 Chinese AVS (Audio Video Standard) (AVS1-P2, JiZhun profile)
 D.V.L. cdgraphics           CD Graphics video
 D.VIL. cdxl                 Commodore CDXL video
 D.V.L. cinepak              Cinepak
 DEVIL. cljr                 Cirrus Logic AccuPak
 D.VI.S cllc                 Canopus Lossless Codec
 D.V.L. cmv                  Electronic Arts CMV video (decoders: eacmv )
 D.V... cpia                 CPiA video format
 D.V..S cscd                 CamStudio (decoders: camstudio )
 D.VIL. cyuv                 Creative YUV (CYUV)
 D.V.L. dfa                  Chronomaster DFA
 DEV.LS dirac                Dirac (decoders: dirac libschroedinger ) (encoders: libschroedinger )
 DEVIL. dnxhd                VC3/DNxHD
 DEVI.S dpx                  DPX image
 D.V.L. dsicinvideo          Delphine Software International CIN video
 DEVIL. dvvideo              DV (Digital Video)
 D.V..S dxa                  Feeble Files/ScummVM DXA
 D.VI.S dxtory               Dxtory
 D.V.L. escape124            Escape 124
 D.V.L. escape130            Escape 130
 D.VILS exr                  OpenEXR image
 DEV..S ffv1                 FFmpeg video codec #1
 DEVI.S ffvhuff              Huffyuv FFmpeg variant
 DEV..S flashsv              Flash Screen Video v1
 DEV.L. flashsv2             Flash Screen Video v2
 D.V..S flic                 Autodesk Animator Flic video
 DEV.L. flv1                 FLV / Sorenson Spark / Sorenson H.263 (Flash Video) (decoders: flv ) (encoders: flv )
 D.V..S fraps                Fraps
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D.VI.S frwu                 Forward Uncompressed
D.V.L. g2m                  Go2Meeting
DEV..S gif                  GIF (Graphics Interchange Format)
DEV.L. h261                 H.261
DEV.L. h263                 H.263 / H.263-1996, H.263+ / H.263-1998 / H.263 version 2
D.V.L. h263i                Intel H.263
DEV.L. h263p                H.263+ / H.263-1998 / H.263 version 2
DEV.LS h264                 H.264 / AVC / MPEG-4 AVC / MPEG-4 part 10 (decoders: h264 h264_vdpau ) (encoders: libx264 libx264rgb )
DEVI.S huffyuv              HuffYUV
D.V.L. idcin                id Quake II CIN video (decoders: idcinvideo )
D.VI.. idf                  iCEDraw text
D.V.L. iff_byterun1         IFF ByteRun1 (decoders: iff )
D.V.L. iff_ilbm             IFF ILBM (decoders: iff )
D.V.L. indeo2               Intel Indeo 2
D.V.L. indeo3               Intel Indeo 3
D.V.L. indeo4               Intel Indeo Video Interactive 4
D.V.L. indeo5               Intel Indeo Video Interactive 5
D.V.L. interplayvideo       Interplay MVE video
DEVILS jpeg2000             JPEG 2000
DEVILS jpegls               JPEG-LS
D.VIL. jv                   Bitmap Brothers JV video
D.V.L. kgv1                 Kega Game Video
D.V.L. kmvc                 Karl Morton's video codec
D.VI.S lagarith             Lagarith lossless
.EVI.S ljpeg                Lossless JPEG
D.VI.S loco                 LOCO
D.V.L. mad                  Electronic Arts Madcow Video (decoders: eamad )
D.VIL. mdec                 Sony PlayStation MDEC (Motion DECoder)
D.V.L. mimic                Mimic
DEVIL. mjpeg                Motion JPEG
D.VIL. mjpegb               Apple MJPEG-B
D.V.L. mmvideo              American Laser Games MM Video
D.V.L. motionpixels         Motion Pixels video
DEV.L. mpeg1video           MPEG-1 video (decoders: mpeg1video mpeg1video_vdpau )
DEV.L. mpeg2video           MPEG-2 video (decoders: mpeg2video mpegvideo mpegvideo_vdpau )
DEV.L. mpeg4                MPEG-4 part 2 (decoders: mpeg4 mpeg4_vdpau ) (encoders: mpeg4 libxvid )
D.V.L. mpegvideo_xvmc       MPEG-1/2 video XvMC (X-Video Motion Compensation)
D.V.L. msa1                 MS ATC Screen
D.V.L. msmpeg4v1            MPEG-4 part 2 Microsoft variant version 1
DEV.L. msmpeg4v2            MPEG-4 part 2 Microsoft variant version 2
DEV.L. msmpeg4v3            MPEG-4 part 2 Microsoft variant version 3 (decoders: msmpeg4 ) (encoders: msmpeg4 )
D.V..S msrle                Microsoft RLE
D.V.L. mss1                 MS Screen 1
D.VIL. mss2                 MS Windows Media Video V9 Screen
DEV.L. msvideo1             Microsoft Video 1
D.VI.S mszh                 LCL (LossLess Codec Library) MSZH
D.V.L. mts2                 MS Expression Encoder Screen
D.VIL. mvc1                 Silicon Graphics Motion Video Compressor 1
D.VIL. mvc2                 Silicon Graphics Motion Video Compressor 2
D.V.L. mxpeg                Mobotix MxPEG video
D.V.L. nuv                  NuppelVideo/RTJPEG
D.V.L. paf_video            Amazing Studio Packed Animation File Video
DEVI.S pam                  PAM (Portable AnyMap) image
DEVI.S pbm                  PBM (Portable BitMap) image
DEVI.S pcx                  PC Paintbrush PCX image
DEVI.S pgm                  PGM (Portable GrayMap) image
DEVI.S pgmyuv               PGMYUV (Portable GrayMap YUV) image
D.VIL. pictor               Pictor/PC Paint
DEV..S png                  PNG (Portable Network Graphics) image
DEVI.S ppm                  PPM (Portable PixelMap) image
DEVIL. prores               Apple ProRes (iCodec Pro) (decoders: prores prores_lgpl ) (encoders: prores prores_aw prores_ks )
D.VIL. ptx                  V.Flash PTX image
D.VI.S qdraw                Apple QuickDraw
D.V.L. qpeg                 Q-team QPEG
DEV..S qtrle                QuickTime Animation (RLE) video
DEVI.S r10k                 AJA Kona 10-bit RGB Codec
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DEVI.S r210                 Uncompressed RGB 10-bit
DEVI.S rawvideo             raw video
D.VIL. rl2                  RL2 video
DEV.L. roq                  id RoQ video (decoders: roqvideo ) (encoders: roqvideo )
D.V.L. rpza                 QuickTime video (RPZA)
DEV.L. rv10                 RealVideo 1.0
DEV.L. rv20                 RealVideo 2.0
D.V.L. rv30                 RealVideo 3.0
D.V.L. rv40                 RealVideo 4.0
D.V.L. sanm                 LucasArts SMUSH video
DEVI.S sgi                  SGI image
D.VI.S sgirle               SGI RLE 8-bit
D.V.L. smackvideo           Smacker video (decoders: smackvid )
D.V.L. smc                  QuickTime Graphics (SMC)
D.V... smv                  Sigmatel Motion Video (decoders: smvjpeg )
DEV.LS snow                 Snow
D.VIL. sp5x                 Sunplus JPEG (SP5X)
DEVI.S sunrast              Sun Rasterfile image
DEV.L. svq1                 Sorenson Vector Quantizer 1 / Sorenson Video 1 / SVQ1
D.V.L. svq3                 Sorenson Vector Quantizer 3 / Sorenson Video 3 / SVQ3
DEVI.S targa                Truevision Targa image
D.VI.. targa_y216           Pinnacle TARGA CineWave YUV16
D.V.L. tgq                  Electronic Arts TGQ video (decoders: eatgq )
D.V.L. tgv                  Electronic Arts TGV video (decoders: eatgv )
DEV.L. theora               Theora (encoders: libtheora )
D.VIL. thp                  Nintendo Gamecube THP video
D.V.L. tiertexseqvideo      Tiertex Limited SEQ video
DEVI.S tiff                 TIFF image
D.VIL. tmv                  8088flex TMV
D.V.L. tqi                  Electronic Arts TQI video (decoders: eatqi )
D.V.L. truemotion1          Duck TrueMotion 1.0
D.V.L. truemotion2          Duck TrueMotion 2.0
D.V..S tscc                 TechSmith Screen Capture Codec (decoders: camtasia )
D.V.L. tscc2                TechSmith Screen Codec 2
D.VIL. txd                  Renderware TXD (TeXture Dictionary) image
D.V.L. ulti                 IBM UltiMotion (decoders: ultimotion )
DEVI.S utvideo              Ut Video
DEVI.S v210                 Uncompressed 4:2:2 10-bit
D.VI.S v210x
DEVI.. v308                 Uncompressed packed 4:4:4
DEVI.. v408                 Uncompressed packed QT 4:4:4:4
DEVI.S v410                 Uncompressed 4:4:4 10-bit
D.V.L. vb                   Beam Software VB
D.VI.S vble                 VBLE Lossless Codec
D.V.L. vc1                  SMPTE VC-1 (decoders: vc1 vc1_vdpau )
D.V.L. vc1image             Windows Media Video 9 Image v2
D.VIL. vcr1                 ATI VCR1
D.VIL. vixl                 Miro VideoXL (decoders: xl )
D.V.L. vmdvideo             Sierra VMD video
D.V..S vmnc                 VMware Screen Codec / VMware Video
D.V.L. vp3                  On2 VP3
D.V.L. vp5                  On2 VP5
D.V.L. vp6                  On2 VP6
D.V.L. vp6a                 On2 VP6 (Flash version, with alpha channel)
D.V.L. vp6f                 On2 VP6 (Flash version)
DEV.L. vp8                  On2 VP8 (decoders: vp8 libvpx ) (encoders: libvpx )
..V.L. vp9                  Google VP9
D.V.L. webp                 WebP
DEV.L. wmv1                 Windows Media Video 7
DEV.L. wmv2                 Windows Media Video 8
D.V.L. wmv3                 Windows Media Video 9 (decoders: wmv3 wmv3_vdpau )
D.V.L. wmv3image            Windows Media Video 9 Image
D.VIL. wnv1                 Winnov WNV1
D.V.L. ws_vqa               Westwood Studios VQA (Vector Quantized Animation) video (decoders: vqavideo )
D.V.L. xan_wc3              Wing Commander III / Xan
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D.V.L. xan_wc4              Wing Commander IV / Xxan
D.VI.. xbin                 eXtended BINary text
DEVI.S xbm                  XBM (X BitMap) image
DEVIL. xface                X-face image
DEVI.S xwd                  XWD (X Window Dump) image
DEVI.. y41p                 Uncompressed YUV 4:1:1 12-bit
D.V.L. yop                  Psygnosis YOP Video
DEVI.. yuv4                 Uncompressed packed 4:2:0
D.V..S zerocodec            ZeroCodec Lossless Video
DEVI.S zlib                 LCL (LossLess Codec Library) ZLIB
DEV..S zmbv                 Zip Motion Blocks Video
D.A.L. 8svx_exp             8SVX exponential
D.A.L. 8svx_fib             8SVX fibonacci
DEA.L. aac                  AAC (Advanced Audio Coding) (encoders: aac libvo_aacenc )
D.A.L. aac_latm             AAC LATM (Advanced Audio Coding LATM syntax)
DEA.L. ac3                  ATSC A/52A (AC-3) (encoders: ac3 ac3_fixed )
D.A.L. adpcm_4xm            ADPCM 4X Movie
DEA.L. adpcm_adx            SEGA CRI ADX ADPCM
D.A.L. adpcm_afc            ADPCM Nintendo Gamecube AFC
D.A.L. adpcm_ct             ADPCM Creative Technology
D.A.L. adpcm_dtk            ADPCM Nintendo Gamecube DTK
D.A.L. adpcm_ea             ADPCM Electronic Arts
D.A.L. adpcm_ea_maxis_xa    ADPCM Electronic Arts Maxis CDROM XA
D.A.L. adpcm_ea_r1          ADPCM Electronic Arts R1
D.A.L. adpcm_ea_r2          ADPCM Electronic Arts R2
D.A.L. adpcm_ea_r3          ADPCM Electronic Arts R3
D.A.L. adpcm_ea_xas         ADPCM Electronic Arts XAS
DEA.L. adpcm_g722           G.722 ADPCM (decoders: g722 ) (encoders: g722 )
DEA.L. adpcm_g726           G.726 ADPCM (decoders: g726 ) (encoders: g726 )
D.A.L. adpcm_ima_amv        ADPCM IMA AMV
D.A.L. adpcm_ima_apc        ADPCM IMA CRYO APC
D.A.L. adpcm_ima_dk3        ADPCM IMA Duck DK3
D.A.L. adpcm_ima_dk4        ADPCM IMA Duck DK4
D.A.L. adpcm_ima_ea_eacs    ADPCM IMA Electronic Arts EACS
D.A.L. adpcm_ima_ea_sead    ADPCM IMA Electronic Arts SEAD
D.A.L. adpcm_ima_iss        ADPCM IMA Funcom ISS
D.A.L. adpcm_ima_oki        ADPCM IMA Dialogic OKI
DEA.L. adpcm_ima_qt         ADPCM IMA QuickTime
D.A.L. adpcm_ima_rad        ADPCM IMA Radical
D.A.L. adpcm_ima_smjpeg     ADPCM IMA Loki SDL MJPEG
DEA.L. adpcm_ima_wav        ADPCM IMA WAV
D.A.L. adpcm_ima_ws         ADPCM IMA Westwood
DEA.L. adpcm_ms             ADPCM Microsoft
D.A.L. adpcm_sbpro_2        ADPCM Sound Blaster Pro 2-bit
D.A.L. adpcm_sbpro_3        ADPCM Sound Blaster Pro 2.6-bit
D.A.L. adpcm_sbpro_4        ADPCM Sound Blaster Pro 4-bit
DEA.L. adpcm_swf            ADPCM Shockwave Flash
D.A.L. adpcm_thp            ADPCM Nintendo Gamecube THP
D.A.L. adpcm_xa             ADPCM CDROM XA
DEA.L. adpcm_yamaha         ADPCM Yamaha
DEA..S alac                 ALAC (Apple Lossless Audio Codec)
DEA.L. amr_nb               AMR-NB (Adaptive Multi-Rate NarrowBand) (decoders: amrnb libopencore_amrnb ) (encoders: libopencore_amrnb )
D.A.L. amr_wb               AMR-WB (Adaptive Multi-Rate WideBand) (decoders: amrwb libopencore_amrwb )
D.A..S ape                  Monkey's Audio
D.A.L. atrac1               Atrac 1 (Adaptive TRansform Acoustic Coding)
D.A.L. atrac3               Atrac 3 (Adaptive TRansform Acoustic Coding 3)
..A.L. atrac3p              Sony ATRAC3+
D.A.L. binkaudio_dct        Bink Audio (DCT)
D.A.L. binkaudio_rdft       Bink Audio (RDFT)
D.A.L. bmv_audio            Discworld II BMV audio
..A.L. celt                 Constrained Energy Lapped Transform (CELT)
DEA.L. comfortnoise         RFC 3389 Comfort Noise
D.A.L. cook                 Cook / Cooker / Gecko (RealAudio G2)
D.A.L. dsicinaudio          Delphine Software International CIN audio
DEA.LS dts                  DCA (DTS Coherent Acoustics) (decoders: dca ) (encoders: dca )
..A.L. dvaudio
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DEA.L. eac3                 ATSC A/52B (AC-3, E-AC-3)
D.A.L. evrc                 EVRC (Enhanced Variable Rate Codec)
DEA..S flac                 FLAC (Free Lossless Audio Codec)
DEA.L. g723_1               G.723.1
D.A.L. g729                 G.729
DEA.L. gsm                  GSM (decoders: gsm libgsm ) (encoders: libgsm )
DEA.L. gsm_ms               GSM Microsoft variant (decoders: gsm_ms libgsm_ms ) (encoders: libgsm_ms )
D.A.L. iac                  IAC (Indeo Audio Coder)
..A.L. ilbc                 iLBC (Internet Low Bitrate Codec)
D.A.L. imc                  IMC (Intel Music Coder)
D.A.L. interplay_dpcm       DPCM Interplay
D.A.L. mace3                MACE (Macintosh Audio Compression/Expansion) 3:1
D.A.L. mace6                MACE (Macintosh Audio Compression/Expansion) 6:1
D.A..S mlp                  MLP (Meridian Lossless Packing)
D.A.L. mp1                  MP1 (MPEG audio layer 1) (decoders: mp1 mp1float )
DEA.L. mp2                  MP2 (MPEG audio layer 2) (decoders: mp2 mp2float ) (encoders: mp2 libtwolame )
DEA.L. mp3                  MP3 (MPEG audio layer 3) (decoders: mp3 mp3float ) (encoders: libmp3lame )
D.A.L. mp3adu               ADU (Application Data Unit) MP3 (MPEG audio layer 3) (decoders: mp3adu mp3adufloat )
D.A.L. mp3on4               MP3onMP4 (decoders: mp3on4 mp3on4float )
D.A..S mp4als               MPEG-4 Audio Lossless Coding (ALS) (decoders: als )
D.A.L. musepack7            Musepack SV7 (decoders: mpc7 )
D.A.L. musepack8            Musepack SV8 (decoders: mpc8 )
DEA.L. nellymoser           Nellymoser Asao
DEA.L. opus                 Opus (Opus Interactive Audio Codec) (decoders: libopus ) (encoders: libopus )
D.A.L. paf_audio            Amazing Studio Packed Animation File Audio
DEA.L. pcm_alaw             PCM A-law / G.711 A-law
D.A..S pcm_bluray           PCM signed 16|20|24-bit big-endian for Blu-ray media
D.A..S pcm_dvd              PCM signed 20|24-bit big-endian
DEA..S pcm_f32be            PCM 32-bit floating point big-endian
DEA..S pcm_f32le            PCM 32-bit floating point little-endian
DEA..S pcm_f64be            PCM 64-bit floating point big-endian
DEA..S pcm_f64le            PCM 64-bit floating point little-endian
D.A..S pcm_lxf              PCM signed 20-bit little-endian planar
DEA.L. pcm_mulaw            PCM mu-law / G.711 mu-law
DEA..S pcm_s16be            PCM signed 16-bit big-endian
DEA..S pcm_s16be_planar     PCM signed 16-bit big-endian planar
DEA..S pcm_s16le            PCM signed 16-bit little-endian
DEA..S pcm_s16le_planar     PCM signed 16-bit little-endian planar
DEA..S pcm_s24be            PCM signed 24-bit big-endian
DEA..S pcm_s24daud          PCM D-Cinema audio signed 24-bit
DEA..S pcm_s24le            PCM signed 24-bit little-endian
DEA..S pcm_s24le_planar     PCM signed 24-bit little-endian planar
DEA..S pcm_s32be            PCM signed 32-bit big-endian
DEA..S pcm_s32le            PCM signed 32-bit little-endian
DEA..S pcm_s32le_planar     PCM signed 32-bit little-endian planar
DEA..S pcm_s8               PCM signed 8-bit
DEA..S pcm_s8_planar        PCM signed 8-bit planar
DEA..S pcm_u16be            PCM unsigned 16-bit big-endian
DEA..S pcm_u16le            PCM unsigned 16-bit little-endian
DEA..S pcm_u24be            PCM unsigned 24-bit big-endian
DEA..S pcm_u24le            PCM unsigned 24-bit little-endian
DEA..S pcm_u32be            PCM unsigned 32-bit big-endian
DEA..S pcm_u32le            PCM unsigned 32-bit little-endian
DEA..S pcm_u8               PCM unsigned 8-bit
D.A.L. pcm_zork             PCM Zork
D.A.L. qcelp                QCELP / PureVoice
D.A.L. qdm2                 QDesign Music Codec 2
..A.L. qdmc                 QDesign Music
DEA.L. ra_144               RealAudio 1.0 (14.4K) (decoders: real_144 ) (encoders: real_144 )
D.A.L. ra_288               RealAudio 2.0 (28.8K) (decoders: real_288 )
D.A..S ralf                 RealAudio Lossless
DEA.L. roq_dpcm             DPCM id RoQ
DEA..S s302m                SMPTE 302M
D.A..S shorten              Shorten
D.A.L. sipr                 RealAudio SIPR / ACELP.NET
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 D.A.L. smackaudio          Smacker audio (decoders: smackaud )
 ..A.L. smv                 SMV (Selectable Mode Vocoder)
 D.A.L. sol_dpcm            DPCM Sol
 DEA... sonic               Sonic
 .EA... sonicls             Sonic lossless
 DEA.L. speex               Speex (decoders: libspeex ) (encoders: libspeex )
 D.A..S tak                 TAK (Tom's lossless Audio Kompressor)
 D.A..S truehd              TrueHD
 D.A.L. truespeech          DSP Group TrueSpeech
 DEA..S tta                 TTA (True Audio)
 D.A.L. twinvq              VQF TwinVQ
 D.A.L. vima                LucasArts VIMA audio
 D.A.L. vmdaudio            Sierra VMD audio
 DEA.L. vorbis              Vorbis (decoders: vorbis libvorbis ) (encoders: vorbis libvorbis )
 ..A.L. voxware             Voxware RT29 Metasound
 D.A... wavesynth           Wave synthesis pseudo-codec
 D.A.LS wavpack             WavPack
 D.A.L. westwood_snd1       Westwood Audio (SND1) (decoders: ws_snd1 )
 D.A..S wmalossless         Windows Media Audio Lossless
 D.A.L. wmapro              Windows Media Audio 9 Professional
 DEA.L. wmav1               Windows Media Audio 1
 DEA.L. wmav2               Windows Media Audio 2
 D.A.L. wmavoice            Windows Media Audio Voice
 D.A.L. xan_dpcm            DPCM Xan
 ..D... dvd_nav_packet      DVD Nav packet
 ..D... klv                 SMPTE 336M Key-Length-Value (KLV) metadata
 DES... ass                 ASS (Advanced SSA) subtitle
 DES... dvb_subtitle        DVB subtitles (decoders: dvbsub ) (encoders: dvbsub )
 ..S... dvb_teletext        DVB teletext
 DES... dvd_subtitle        DVD subtitles (decoders: dvdsub ) (encoders: dvdsub )
 ..S... eia_608             EIA-608 closed captions
 D.S... hdmv_pgs_subtitle   HDMV Presentation Graphic Stream subtitles (decoders: pgssub )
 D.S... jacosub             JACOsub subtitle
 D.S... microdvd            MicroDVD subtitle
 DES... mov_text            MOV text
 D.S... mpl2                MPL2 subtitle
 D.S... pjs                 PJS (Phoenix Japanimation Society) subtitle
 D.S... realtext            RealText subtitle
 D.S... sami                SAMI subtitle
 DES... srt                 SubRip subtitle with embedded timing
 DES... ssa                 SSA (SubStation Alpha) subtitle
 DES... subrip              SubRip subtitle
 D.S... subviewer           SubViewer subtitle
 D.S... subviewer1          SubViewer v1 subtitle
 D.S... text                raw UTF-8 text
 D.S... vplayer             VPlayer subtitle
 D.S... webvtt              WebVTT subtitle
 DES... xsub                XSUB
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all ffmpeg codecs that are supported

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Codecs:
 D..... = Decoding supported
 .E.... = Encoding supported
 ..V... = Video codec
 ..A... = Audio codec
 ..S... = Subtitle codec
 ...S.. = Supports draw_horiz_band
 ....D. = Supports direct rendering method 1
 .....T = Supports weird frame truncation
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 D V D  4xm             4X Movie
 D V D  8bps            QuickTime 8BPS video
 D A    8svx_exp        8SVX exponential
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D A    8svx_fib        8SVX fibonacci
D A    8svx_raw        8SVX rawaudio
 EV    a64multi        Multicolor charset for Commodore 64
 EV    a64multi5       Multicolor charset for Commodore 64, extended with 5th color (colram)
DEA    aac             Advanced Audio Coding
D A    aac_latm        AAC LATM (Advanced Audio Codec LATM syntax)
D V D  aasc            Autodesk RLE
DEA    ac3             ATSC A/52A (AC-3)
 EA    ac3_fixed       ATSC A/52A (AC-3)
D A    adpcm_4xm       ADPCM 4X Movie
DEA    adpcm_adx       SEGA CRI ADX ADPCM
D A    adpcm_ct        ADPCM Creative Technology
D A    adpcm_ea        ADPCM Electronic Arts
D A    adpcm_ea_maxis_xa ADPCM Electronic Arts Maxis CDROM XA
D A    adpcm_ea_r1     ADPCM Electronic Arts R1
D A    adpcm_ea_r2     ADPCM Electronic Arts R2
D A    adpcm_ea_r3     ADPCM Electronic Arts R3
D A    adpcm_ea_xas    ADPCM Electronic Arts XAS
D A    adpcm_ima_amv   ADPCM IMA AMV
D A    adpcm_ima_dk3   ADPCM IMA Duck DK3
D A    adpcm_ima_dk4   ADPCM IMA Duck DK4
D A    adpcm_ima_ea_eacs ADPCM IMA Electronic Arts EACS
D A    adpcm_ima_ea_sead ADPCM IMA Electronic Arts SEAD
D A    adpcm_ima_iss   ADPCM IMA Funcom ISS
DEA    adpcm_ima_qt    ADPCM IMA QuickTime
D A    adpcm_ima_smjpeg ADPCM IMA Loki SDL MJPEG
DEA    adpcm_ima_wav   ADPCM IMA WAV
D A    adpcm_ima_ws    ADPCM IMA Westwood
DEA    adpcm_ms        ADPCM Microsoft
D A    adpcm_sbpro_2   ADPCM Sound Blaster Pro 2-bit
D A    adpcm_sbpro_3   ADPCM Sound Blaster Pro 2.6-bit
D A    adpcm_sbpro_4   ADPCM Sound Blaster Pro 4-bit
DEA    adpcm_swf       ADPCM Shockwave Flash
D A    adpcm_thp       ADPCM Nintendo Gamecube THP
D A    adpcm_xa        ADPCM CDROM XA
DEA    adpcm_yamaha    ADPCM Yamaha
DEA    alac            ALAC (Apple Lossless Audio Codec)
D A    als             MPEG-4 Audio Lossless Coding (ALS)
D A    amrnb           Adaptive Multi-Rate NarrowBand
D A    amrwb           Adaptive Multi-Rate WideBand
D V    amv             AMV Video
D V D  anm             Deluxe Paint Animation
D V D  ansi            ASCII/ANSI art
D A    ape             Monkey's Audio
DES    ass             Advanced SubStation Alpha subtitle
DEV D  asv1            ASUS V1
DEV D  asv2            ASUS V2
D A    atrac1          Atrac 1 (Adaptive TRansform Acoustic Coding)
D A    atrac3          Atrac 3 (Adaptive TRansform Acoustic Coding 3)
D V D  aura            Auravision AURA
D V D  aura2           Auravision Aura 2
D V D  avs             AVS (Audio Video Standard) video
D V D  bethsoftvid     Bethesda VID video
D V D  bfi             Brute Force & Ignorance
D A    binkaudio_dct   Bink Audio (DCT)
D A    binkaudio_rdft  Bink Audio (RDFT)
D V    binkvideo       Bink video
DEV D  bmp             BMP image
D V D  c93             Interplay C93
D V D  camstudio       CamStudio
D V D  camtasia        TechSmith Screen Capture Codec
D V D  cavs            Chinese AVS video (AVS1-P2, JiZhun profile)
D V D  cdgraphics      CD Graphics video
D V D  cinepak         Cinepak
D V D  cljr            Cirrus Logic AccuPak
```

```
D A    cook            COOK
D V D  cyuv            Creative YUV (CYUV)
DEA    dca
D V D  dfa             Chronomaster DFA
DEV D  dnxhd           VC3/DNxHD
DEV    dpx             DPX image
D A    dsicinaudio     Delphine Software International CIN audio
D V D  dsicinvideo     Delphine Software International CIN video
DES    dvbsub          DVB subtitles
DES    dvdsub          DVD subtitles
DEV D  dvvideo         DV (Digital Video)
D V D  dxa             Feeble Files/ScummVM DXA
DEA    eac3            ATSC A/52 E-AC-3
D V D  eacmv           Electronic Arts CMV video
D V D  eamad           Electronic Arts Madcow Video
D V D  eatgq           Electronic Arts TGQ video
D V    eatgv           Electronic Arts TGV video
D V D  eatqi           Electronic Arts TQI Video
D V D  escape124       Escape 124
DEV D  ffv1            FFmpeg video codec #1
DEVSD  ffvhuff         Huffyuv FFmpeg variant
DEA    flac            FLAC (Free Lossless Audio Codec)
DEV D  flashsv         Flash Screen Video
 EV    flashsv2        Flash Screen Video Version 2
D V D  flic            Autodesk Animator Flic video
DEVSD  flv             Flash Video (FLV) / Sorenson Spark / Sorenson H.263
D V D  fraps           Fraps
D V D  frwu            Forward Uncompressed
DEA    g722            G.722 ADPCM
DEA    g726            G.726 ADPCM
DEV D  gif             GIF (Graphics Interchange Format)
D A    gsm             GSM
D A    gsm_ms          GSM Microsoft variant
DEV D  h261            H.261
DEVSDT h263            H.263 / H.263-1996
D VSD  h263i           Intel H.263
 EV    h263p           H.263+ / H.263-1998 / H.263 version 2
D V D  h264            H.264 / AVC / MPEG-4 AVC / MPEG-4 part 10
D V D  h264_vdpau      H.264 / AVC / MPEG-4 AVC / MPEG-4 part 10 (VDPAU acceleration)
DEVSD  huffyuv         Huffyuv / HuffYUV
D V D  idcinvideo      id Quake II CIN video
D V D  iff_byterun1    IFF ByteRun1
D V D  iff_ilbm        IFF ILBM
D A    imc             IMC (Intel Music Coder)
D V D  indeo2          Intel Indeo 2
D V D  indeo3          Intel Indeo 3
D V    indeo5          Intel Indeo Video Interactive 5
D A    interplay_dpcm  DPCM Interplay
D V D  interplayvideo  Interplay MVE video
D V    j2k
DEV D  jpegls          JPEG-LS
D V D  jv              Bitmap Brothers JV video
D V    kgv1            Kega Game Video
D V D  kmvc            Karl Morton's video codec
D V D  lagarith        Lagarith lossless
 EV    libdirac        libdirac Dirac 2.2
DEA    libgsm          libgsm GSM
DEA    libgsm_ms       libgsm GSM Microsoft variant
 EA    libmp3lame      libmp3lame MP3 (MPEG audio layer 3)
DEA    libopencore_amrnb OpenCORE Adaptive Multi-Rate (AMR) Narrow-Band
D A    libopencore_amrwb OpenCORE Adaptive Multi-Rate (AMR) Wide-Band
DEV    libschroedinger libschroedinger Dirac 2.2
DEA    libspeex        libspeex Speex Encoder
 EV    libtheora       libtheora Theora
 EA    libvorbis       libvorbis Vorbis
DEV    libvpx          libvpx VP8
```

```
 EV    libx264          libx264 H.264 / AVC / MPEG-4 AVC / MPEG-4 part 10
 EV    libxvid          libxvidcore MPEG-4 part 2
 EV    ljpeg            Lossless JPEG
D V D  loco             LOCO
D A    mace3            MACE (Macintosh Audio Compression/Expansion) 3:1
D A    mace6            MACE (Macintosh Audio Compression/Expansion) 6:1
D V D  mdec             Sony PlayStation MDEC (Motion DECoder)
D V D  mimic            Mimic
DEV D  mjpeg            MJPEG (Motion JPEG)
D V D  mjpegb           Apple MJPEG-B
D A    mlp              MLP (Meridian Lossless Packing)
D V D  mmvideo          American Laser Games MM Video
D V D  motionpixels     Motion Pixels video
D A    mp1              MP1 (MPEG audio layer 1)
D A    mp1float         MP1 (MPEG audio layer 1)
DEA    mp2              MP2 (MPEG audio layer 2)
D A    mp2float         MP2 (MPEG audio layer 2)
D A    mp3              MP3 (MPEG audio layer 3)
D A    mp3adu           ADU (Application Data Unit) MP3 (MPEG audio layer 3)
D A    mp3adufloat      ADU (Application Data Unit) MP3 (MPEG audio layer 3)
D A    mp3float         MP3 (MPEG audio layer 3)
D A    mp3on4           MP3onMP4
D A    mp3on4float      MP3onMP4
D A    mpc7             Musepack SV7
D A    mpc8             Musepack SV8
DEVSDT mpeg1video       MPEG-1 video
D V DT mpeg1video_vdpau MPEG-1 video (VDPAU acceleration)
DEVSDT mpeg2video       MPEG-2 video
DEVSDT mpeg4            MPEG-4 part 2
D V DT mpeg4_vdpau      MPEG-4 part 2 (VDPAU)
D VSDT mpegvideo        MPEG-1 video
D V DT mpegvideo_vdpau  MPEG-1/2 video (VDPAU acceleration)
D VSDT mpegvideo_xvmc   MPEG-1/2 video XvMC (X-Video Motion Compensation)
DEVSD  msmpeg4          MPEG-4 part 2 Microsoft variant version 3
D VSD  msmpeg4v1        MPEG-4 part 2 Microsoft variant version 1
DEVSD  msmpeg4v2        MPEG-4 part 2 Microsoft variant version 2
D V D  msrle            Microsoft RLE
DEV D  msvideo1         Microsoft Video-1
D V D  mszh             LCL (LossLess Codec Library) MSZH
D V D  mxpeg            Mobotix MxPEG video
DEA    nellymoser       Nellymoser Asao
D V D  nuv              NuppelVideo/RTJPEG
DEV D  pam              PAM (Portable AnyMap) image
DEV D  pbm              PBM (Portable BitMap) image
DEA    pcm_alaw         PCM A-law
D A    pcm_bluray       PCM signed 16|20|24-bit big-endian for Blu-ray media
D A    pcm_dvd          PCM signed 20|24-bit big-endian
DEA    pcm_f32be        PCM 32-bit floating point big-endian
DEA    pcm_f32le        PCM 32-bit floating point little-endian
DEA    pcm_f64be        PCM 64-bit floating point big-endian
DEA    pcm_f64le        PCM 64-bit floating point little-endian
D A    pcm_lxf          PCM signed 20-bit little-endian planar
DEA    pcm_mulaw        PCM mu-law
DEA    pcm_s16be        PCM signed 16-bit big-endian
DEA    pcm_s16le        PCM signed 16-bit little-endian
D A    pcm_s16le_planar PCM 16-bit little-endian planar
DEA    pcm_s24be        PCM signed 24-bit big-endian
DEA    pcm_s24daud      PCM D-Cinema audio signed 24-bit
DEA    pcm_s24le        PCM signed 24-bit little-endian
DEA    pcm_s32be        PCM signed 32-bit big-endian
DEA    pcm_s32le        PCM signed 32-bit little-endian
DEA    pcm_s8           PCM signed 8-bit
DEA    pcm_u16be        PCM unsigned 16-bit big-endian
DEA    pcm_u16le        PCM unsigned 16-bit little-endian
DEA    pcm_u24be        PCM unsigned 24-bit big-endian
```

```
DEA    pcm_u24le       PCM unsigned 24-bit little-endian
DEA    pcm_u32be       PCM unsigned 32-bit big-endian
DEA    pcm_u32le       PCM unsigned 32-bit little-endian
DEA    pcm_u8          PCM unsigned 8-bit
DEA    pcm_zork        PCM Zork
DEV D  pcx             PC Paintbrush PCX image
DEV D  pgm             PGM (Portable GrayMap) image
DEV D  pgmyuv          PGMYUV (Portable GrayMap YUV) image
D S    pgssub          HDMV Presentation Graphic Stream subtitles
D V D  pictor          Pictor/PC Paint
DEV D  png             PNG image
DEV D  ppm             PPM (Portable PixelMap) image
D V D  ptx             V.Flash PTX image
D A    qcelp           QCELP / PureVoice
D A    qdm2            QDesign Music Codec 2
D V D  qdraw           Apple QuickDraw
D V D  qpeg            Q-team QPEG
DEV D  qtrle           QuickTime Animation (RLE) video
D V D  r10k            AJA Kona 10-bit RGB Codec
D V D  r210            Uncompressed RGB 10-bit
DEV    rawvideo        raw video
DEA    real_144        RealAudio 1.0 (14.4K) encoder
D A    real_288        RealAudio 2.0 (28.8K)
D V D  rl2             RL2 video
DEA    roq_dpcm        id RoQ DPCM
DEV D  roqvideo        id RoQ video
D V D  rpza            QuickTime video (RPZA)
DEV D  rv10            RealVideo 1.0
DEV D  rv20            RealVideo 2.0
D V D  rv30            RealVideo 3.0
D V D  rv40            RealVideo 4.0
D A    s302m           SMPTE 302M
DEV    sgi             SGI image
D A    shorten         Shorten
D A    sipr            RealAudio SIPR / ACELP.NET
D A    smackaud        Smacker audio
D V D  smackvid        Smacker video
D V D  smc             QuickTime Graphics (SMC)
DEV D  snow            Snow
D A    sol_dpcm        DPCM Sol
DEA    sonic           Sonic
 EA    sonicls         Sonic lossless
D V D  sp5x            Sunplus JPEG (SP5X)
DES    srt             SubRip subtitle
D V D  sunrast         Sun Rasterfile image
DEV D  svq1            Sorenson Vector Quantizer 1 / Sorenson Video 1 / SVQ1
D VSD  svq3            Sorenson Vector Quantizer 3 / Sorenson Video 3 / SVQ3
DEV D  targa           Truevision Targa image
D VSD  theora          Theora
D V D  thp             Nintendo Gamecube THP video
D V D  tiertexseqvideo Tiertex Limited SEQ video
DEV D  tiff            TIFF image
D V D  tmv             8088flex TMV
D A    truehd          TrueHD
D V D  truemotion1     Duck TrueMotion 1.0
D V D  truemotion2     Duck TrueMotion 2.0
D A    truespeech      DSP Group TrueSpeech
D A    tta             True Audio (TTA)
D A    twinvq          VQF TwinVQ
D V D  txd             Renderware TXD (TeXture Dictionary) image
D V D  ultimotion      IBM UltiMotion
DEV D  v210            Uncompressed 4:2:2 10-bit
D V D  v210x           Uncompressed 4:2:2 10-bit
D V    vb              Beam Software VB
D V D  vc1             SMPTE VC-1
D V D  vc1_vdpau       SMPTE VC-1 VDPAU
```

```
 D V D  vcr1             ATI VCR1
 D A    vmdaudio         Sierra VMD audio
 D V D  vmdvideo         Sierra VMD video
 D V D  vmnc             VMware Screen Codec / VMware Video
 DEA    vorbis           Vorbis
 D VSD  vp3              On2 VP3
 D V D  vp5              On2 VP5
 D V D  vp6              On2 VP6
 D V D  vp6a             On2 VP6 (Flash version, with alpha channel)
 D V D  vp6f             On2 VP6 (Flash version)
 D V D  vp8              On2 VP8
 D V D  vqavideo         Westwood Studios VQA (Vector Quantized Animation) video
 D A    wavpack          WavPack
 D A    wmapro           Windows Media Audio 9 Professional
 DEA    wmav1            Windows Media Audio 1
 DEA    wmav2            Windows Media Audio 2
 D A    wmavoice         Windows Media Audio Voice
 DEVSD  wmv1             Windows Media Video 7
 DEVSD  wmv2             Windows Media Video 8
 D V D  wmv3             Windows Media Video 9
 D V D  wmv3_vdpau       Windows Media Video 9 VDPAU
 D V D  wnv1             Winnov WNV1
 D A    ws_snd1          Westwood Audio (SND1)
 D A    xan_dpcm         DPCM Xan
 D V D  xan_wc3          Wing Commander III / Xan
 D V D  xan_wc4          Wing Commander IV / Xxan
 D V D  xl               Miro VideoXL
 DES    xsub             DivX subtitles (XSUB)
 D V    yop              Psygnosis YOP Video
 DEV D  zlib             LCL (LossLess Codec Library) ZLIB
 DEV D  zmbv             Zip Motion Blocks Video

Note, the names of encoders and decoders do not always match, so there are
several cases where the above table shows encoder only or decoder only entries
even though both encoding and decoding are supported. For example, the h263
decoder corresponds to the h263 and h263p encoders, for file formats it is even
worse.
```

Ffmpeg file (container) formats that are supported

```
File formats:
 D. = Demuxing supported
 .E = Muxing supported
 --
  E 3g2             3GP2 format
  E 3gp             3GP format
 D  4xm             4X Technologies format
 D  IFF             IFF format
 D  ISS             Funcom ISS format
 D  MTV             MTV format
 DE RoQ             raw id RoQ format
  E a64             a64 - video for Commodore 64
 D  aac             raw ADTS AAC
 DE ac3             raw AC-3
  E adts            ADTS AAC
 D  aea             MD STUDIO audio
 DE aiff            Audio IFF
 DE alaw            PCM A-law format
 DE alsa            ALSA audio output
 DE amr             3GPP AMR file format
 D  anm             Deluxe Paint Animation
 D  apc             CRYO APC format
 D  ape             Monkey's Audio
```

```
D  applehttp       Apple HTTP Live Streaming format
DE asf             ASF format
 E asf_stream      ASF format
DE ass             Advanced SubStation Alpha subtitle format
DE au              SUN AU format
DE avi             AVI format
 E avm2            Flash 9 (AVM2) format
D  avs             AVS format
D  bethsoftvid     Bethesda Softworks VID format
D  bfi             Brute Force & Ignorance
D  bink            Bink
D  c93             Interplay C93
DE caf             Apple Core Audio Format
DE cavsvideo       raw Chinese AVS video
D  cdg             CD Graphics Format
 E crc             CRC testing format
DE daud            D-Cinema audio format
D  dfa             Chronomaster DFA
DE dirac           raw Dirac
DE dnxhd           raw DNxHD (SMPTE VC-3)
D  dsicin          Delphine Software International CIN format
DE dts             raw DTS
DE dv              DV video format
D  dv1394          DV1394 A/V grab
 E dvd             MPEG-2 PS format (DVD VOB)
D  dxa             DXA
D  ea              Electronic Arts Multimedia Format
D  ea_cdata        Electronic Arts cdata
DE eac3            raw E-AC-3
DE f32be           PCM 32 bit floating-point big-endian format
DE f32le           PCM 32 bit floating-point little-endian format
DE f64be           PCM 64 bit floating-point big-endian format
DE f64le           PCM 64 bit floating-point little-endian format
D  fbdev           Linux framebuffer
DE ffm             FFM (FFserver live feed) format
DE ffmetadata      FFmpeg metadata in text format
D  film_cpk        Sega FILM/CPK format
DE filmstrip       Adobe Filmstrip
DE flac            raw FLAC
D  flic            FLI/FLC/FLX animation format
DE flv             FLV format
 E framecrc        framecrc testing format
 E framemd5        Per-frame MD5 testing format
DE g722            raw G.722
 E gif             GIF Animation
D  gsm             raw GSM
DE gxf             GXF format
DE h261            raw H.261
DE h263            raw H.263
DE h264            raw H.264 video format
D  idcin           id Cinematic format
DE image2          image2 sequence
DE image2pipe      piped image2 sequence
D  ingenient       raw Ingenient MJPEG
D  ipmovie         Interplay MVE format
 E ipod            iPod H.264 MP4 format
D  iv8             A format generated by IndigoVision 8000 video server
DE ivf             On2 IVF
D  jack            JACK Audio Connection Kit
D  jv              Bitmap Brothers JV
D  libdc1394       dc1394 A/V grab
D  lmlm4           lmlm4 raw format
D  lxf             VR native stream format (LXF)
DE m4v             raw MPEG-4 video format
 E matroska        Matroska file format
D  matroska,webm   Matroska/WebM file format
```

```
D  matroska,webm   Matroska/WebM file format
 E md5             MD5 testing format
DE microdvd        MicroDVD subtitle format
DE mjpeg           raw MJPEG video
DE mlp             raw MLP
D  mm              American Laser Games MM format
DE mmf             Yamaha SMAF
 E mov             MOV format
D  mov,mp4,m4a,3gp,3g2,mj2 QuickTime/MPEG-4/Motion JPEG 2000 format
 E mp2             MPEG audio layer 2
DE mp3             MPEG audio layer 3
 E mp4             MP4 format
D  mpc             Musepack
D  mpc8            Musepack SV8
DE mpeg            MPEG-1 System format
 E mpeg1video      raw MPEG-1 video
 E mpeg2video      raw MPEG-2 video
DE mpegts          MPEG-2 transport stream format
D  mpegtsraw       MPEG-2 raw transport stream format
D  mpegvideo       raw MPEG video
 E mpjpeg          MIME multipart JPEG format
D  msnwctcp        MSN TCP Webcam stream
DE mulaw           PCM mu-law format
D  mvi             Motion Pixels MVI format
DE mxf             Material eXchange Format
 E mxf_d10         Material eXchange Format, D-10 Mapping
D  mxg             MxPEG clip file format
D  nc              NC camera feed format
D  nsv             Nullsoft Streaming Video
 E null            raw null video format
DE nut             NUT format
D  nuv             NuppelVideo format
DE ogg             Ogg
D  oma             Sony OpenMG audio
DE oss             Open Sound System playback
D  pmp             Playstation Portable PMP format
 E psp             PSP MP4 format
D  psxstr          Sony Playstation STR format
D  pva             TechnoTrend PVA file and stream format
D  qcp             QCP format
D  r3d             REDCODE R3D format
DE rawvideo        raw video format
 E rcv             VC-1 test bitstream
D  rl2             RL2 format
DE rm              RealMedia format
D  rpl             RPL/ARMovie format
DE rso             Lego Mindstorms RSO format
DE rtp             RTP output format
DE rtsp            RTSP output format
DE s16be           PCM signed 16 bit big-endian format
DE s16le           PCM signed 16 bit little-endian format
DE s24be           PCM signed 24 bit big-endian format
DE s24le           PCM signed 24 bit little-endian format
DE s32be           PCM signed 32 bit big-endian format
DE s32le           PCM signed 32 bit little-endian format
DE s8              PCM signed 8 bit format
DE sap             SAP output format
 E sdl             SDL output device
D  sdp             SDP
D  shn             raw Shorten
D  siff            Beam Software SIFF
D  smk             Smacker video
D  sol             Sierra SOL format
DE sox             SoX native format
DE spdif           IEC 61937 (used on S/PDIF - IEC958)
DE srt             SubRip subtitle format
```

```
 E svcd            MPEG-2 PS format (VOB)
DE swf             Flash format
D  thp             THP
D  tiertexseq      Tiertex Limited SEQ format
D  tmv             8088flex TMV
DE truehd          raw TrueHD
D  tta             True Audio
D  tty             Tele-typewriter
D  txd             Renderware TeXture Dictionary
DE u16be           PCM unsigned 16 bit big-endian format
DE u16le           PCM unsigned 16 bit little-endian format
DE u24be           PCM unsigned 24 bit big-endian format
DE u24le           PCM unsigned 24 bit little-endian format
DE u32be           PCM unsigned 32 bit big-endian format
DE u32le           PCM unsigned 32 bit little-endian format
DE u8              PCM unsigned 8 bit format
D  vc1             raw VC-1
D  vc1test         VC-1 test bitstream format
 E vcd             MPEG-1 System format (VCD)
D  video4linux2    Video4Linux2 device grab
D  vmd             Sierra VMD format
 E vob             MPEG-2 PS format (VOB)
DE voc             Creative Voice file format
D  vqf             Nippon Telegraph and Telephone Corporation (NTT) TwinVQ
D  w64             Sony Wave64 format
DE wav             WAV format
D  wc3movie        Wing Commander III movie format
 E webm            WebM file format
D  wsaud           Westwood Studios audio format
D  wsvqa           Westwood Studios VQA format
D  wtv             Windows Television (WTV)
D  wv              WavPack
D  x11grab         X11grab
D  xa              Maxis XA File Format
D  xwma            Microsoft xWMA
D  yop             Psygnosis YOP Format
DE yuv4mpegpipe    YUV4MPEG pipe format
```

Channel name	Identifier	Index	Flag	1.0 Mono<ref group="Note">For historical reasons, when using (1.0) mono sound, often in technical implementations the first (left) channel is used, instead of the center speaker channel, in many other cases when playing back multichannel content on a device with a mono speaker configuration all channels are downmixed into	2.0 Stereo<ref group="Note">Stereo (2.0) is still the most common format for music, as most computers, television sets and portable audio players only feature two speakers, and the red book Audio CD standard used for retail distribution of music only allows for 2 channels. A 2.1 speaker set does generally not have a separate physical channel for the low frequency effects, as the speaker set	3.0 Stereo	3.0 Surround	4.0 Quad	4.0 Surround	5.0	5.0 Side<ref name="DTS" group="Note">THX 5.1 Surround Sound Speaker set-up. This is the correct speaker placement for 5.0/6.0/7.0 channel sound reproduction for Dolby and Digital Theater Systems.	6.0	6.0 Side<ref name="DTS" group="Note" />	7.0	7.0 Side<ref group="Note">Template:Cite web</ref>	7.0 Surround<ref name="DTS" group="Note" />

				one channel. The way standard mono and stereo plugs used for common audio devices are designed ensures this as well.</ref>	downmixes the low frequency components of the two stereo channels into one channel for the subwoofer. </ref>						</ref>					