NAME

make_h264 -- Generate an MP4/H.264 file

SYNOPSIS

make_h264 -i *input_path* **-o** *output_file*
make_h264 -h | -x

DESCRIPTION

Bash_AVpres is a collection of Bash scripts for audio-visual preservation. One of these small programs is **make_h264**. It encodes a video file or a folder containing single images into an H.264 stream and muxes it into an MP4 container (".mp4" file).

This script should work correctly with Bash from version 3.2 (released back on 2006-10-11), however we strongly advise using the current version 5.3.9 (released on 2025-12-10).

OPTIONS

BASIC OPTIONS

-i *input_path*, **--input=***input_path*

input_path is a file if the content is stream based, or a folder if the content is single-image based

When a folder is passed, the script extracts the regular expressions ("regex") for processing all the files and determines the actual number of the first frame. The naming must follow one of the two formats:

path/to/filename_digits.extension
path/to/digits.extension

where *digits* is the numbering, which must be either alone or at the end of the filename, divided by an underscore from the rest of the filename and by a period from the extension (the filename can contain other underscore signs). The numbering can start at any number, but all successive frames must be present, from the beginning to the end of the interval. This can be verified by using the **missing_files** script.

-o *output_file*, **--output=***output_file*

output file

ADVANCED OPTIONS

The default arguments of the advanced options can be overwritten by the user. Please remember that any string containing spaces must be quoted, or its spaces must be escaped. To cancel a default argument use

--<option>='#'

--ffmpeg='/bin/ffmpeg'
path to the **ffmpeg** command

--ffprobe='/bin/ffprobe'
path to the **ffprobe** command

--ff_glo_opt='-y'
A possibly already existing output file is overwritten.

The following two input file default parameters are used only when single-image-based content is provided:

--f='image2'
Probably this parameter should never be modified. It forces the use of the image file demuxer for the input.

--framerate=*framerate*
The default frame rate for video is *25*. The standardised projection speed for sound films is *24* frames per second, which is the default value in **make_h264**. Silent films or amateur films have often a different projection speed, for example *18*.

Video codec options with their default parameters:

--c_v=(*libx264*|*libx264rgb*|*h264*)
The video codec *libx264* is chosen by default. Other encoders such as *libx264rgb* or FFmpeg own's *h264* can be used.

--preset=*preset*
A slower encoding preset means a better compression rate. Possible values include:
veryslow (default)
slow
medium
fast
veryfast

--crf='18'
constant rate factor (CRF)

--qp='18'
The quantisation parameter (QP) is used only when the CRF value is not provided.

--pix_fmt=(*yuv420p*|*yuv420p10le*)
pixel format for 8-bit (default) and 10-bit encoding

--filter_v=''
This can be used, for example, to provide scaling and/or padding video filters.

Audio codec options with their default parameters:

--c_a='aac'
The AAC audio codec is the most compatible with the MP4 container.

If no sound stream is present, then the **ffmpeg** parameter '-an' is used instead.

--filter_a=''
This can be used to provide audio filters.

Output file default parameters:

--movflags='+faststart+write_colr'
The flag 'faststart' allows to start playing before the whole file is loaded.
The flag 'write_colr' is experimental and writes the 'colr' atom even if the colour information is unspecified.

--suffix='_h264'
The suffix is inserted at the end of the filename, immediately before the period and the extension.
Note that a preceding underscore, if wished, must be added.

--extension='mp4'
Please change the extension only if you know exactly what you are doing.

INFORMATIVE OPTIONS

-h, --help
display a help message

-x, --options
display the advanced options with their default arguments and indicate if a local configuration has been defined or not

NOTES

CONFIGURATION FILE

An external configuration file
${HOME}/.config/AVpres/Bash_AVpres/make_h264.txt

can be defined, allowing the script to import alternate default values for the following options:
ffmpeg_bin
ffprobe_bin
ff_glo_opt
f
framerate
filter_v
c_v
preset
crf
qp
pix_fmt
filter_a
c_a
movflags
suffix
extension

Example:
framerate='18'
suffix=''

LOG FILES

Temporary log files are stored at
/tmp/AVpres/make_h264.XXXXXXXXXX

The log files can be used for debugging, for example by running **cat** on the address prompted with fatal error messages:

cat /tmp/AVpres/make_h264.*XXXXXXXXXX*

SEE ALSO

Reto Kromer: "Video into H.264 / MPEG-4 AVC" entry of the "FFmpeg Cookbook for Archivists", since 2013
https://avpres.net/FFmpeg/im_H264

Reto Kromer: "Image sequence into H.264 / MPEG-4 AVC" entry of the "FFmpeg Cookbook for

Archivists", since 2013
https://avpres.net/FFmpeg/sq_H264

ffmpeg(1) and **ffprobe**(1).

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