

NAME

make_prores - Generate a ProRes 422 or ProRes 4444 file

SYNOPSIS

make_prores -i *input_path* **-o** *output_file*

make_prores -h | -x

DESCRIPTION

Bash AVpres is a collection of Bash scripts for audio-visual preservation. One of these small programs is **make_prores**. It encodes a video file or a folder containing single images into a ProRes 422 or 4444 stream and muxes it into a Matroska (".mkv" file), QuickTime (".mov" file) or Material eXchange Format (".mxf" file) container.

Bash version 3.2 or later is strongly recommended. We advise to use the current version 5.2.

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_prores**. Silent films or amateur films have often a different projection speed, for example 18.

Video codec options with their default parameters:

--c_v=(<prores|prores_aw|prores_ks|prores_videotoolbox>)

FFmpeg comes with two different ProRes encoders: *prores* or *prores_aw* and *prores_ks* which is the default. These have been reverse engineered, because Apple is unwilling to disclose its ProRes 4444 and 422 format families.

The hardware encoder *prores_videotoolbox* is supported if present.

--profile_v=<video_profile>

Possible values for the *prores_ks* implementation are:

5 = 4444xq = ProRes 4444 XQ

4 = 4444 = ProRes 4444

3 = hq = ProRes 422 HQ (default)

2 = standard = ProRes 422
1 = lt = ProRes 422 LT
0 = proxy = ProRes 422 Proxy

Either the number or the abbreviation are valid.

The formats ProRes RAW HQ and ProRes RAW, introduced by Apple in 2018, are currently not supported by FFmpeg.

--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='copy'

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:

--suffix='_prores'

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=(mkv|mov|mx)

Possible containers are Quicktime (mov) and Matroska (mkv), while sadly Material eXchange Format (mx) is not working yet in FFmpeg. Matroska is the default.

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

COMPATIBILITY

The two FFmpeg's ProRes codec implementations have been back engineered. Therefore the resulting files are not the same that Apple's one would generate.

CONFIGURATION FILE

An external configuration file

```
${HOME}/.config/AVpres/Bash_AVpres/make_prores.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  
profile_v  
filter_a  
c_a  
suffix  
extension
```

LOG FILES

Temporary log files are stored at

```
/tmp/AVpres/make_prores.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_prores.XXXXXXXXXX
```

SEE ALSO

"ProRes" section of the "FFmpeg Codecs Documentation"

<https://ffmpeg.org/ffmpeg-codecs.html#ProRes>

FFmpeg Cookbook for Archivists, entry "Video into ProRes"

https://avpres.net/FFmpeg/im_ProRes

FFmpeg Cookbook for Archivists, entry "Image sequence into ProRes"
https://avpres.net/FFmpeg/sq_ProRes

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

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