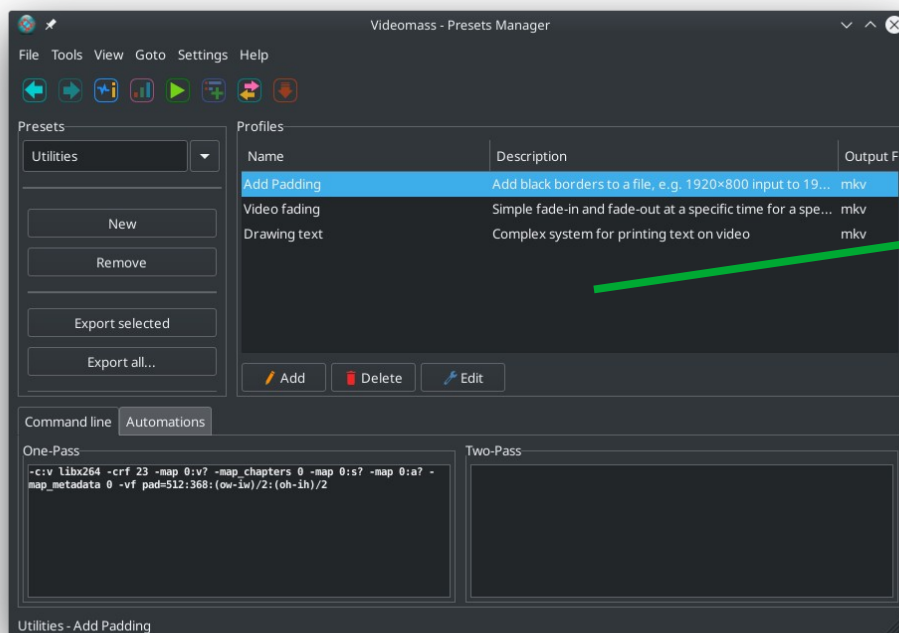# Video filters on Videomass

If on the Presets Manager it is possible to save and perform conversions with a multitude of filters available in FFmpeg, on AV-Conversions the availability of video filters is limited to the most used ones, with the advantage that each filter has a convenient graphical interface suitable for all users.
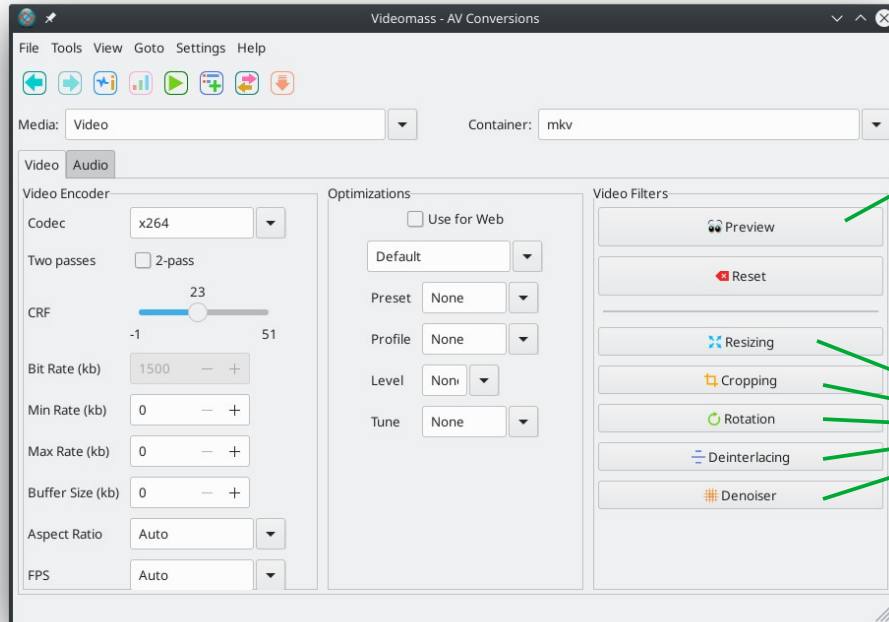
Some examples of the video filters available on the Preset Manager

These filters do not have a graphical interface, and all parameter changes will have to be handled through the command line text.

It is always possible to add (create or edit) new filters on the Presets Manager profiles.

The video filters on the AV-Conversions panel

Preview has the ability to chain some enabled video filters.

Each of these video filters has a graphical interface.

Remember that all the video filters present on the AV-Conversions panel can be added (saved) as profiles on the Presets Manager.

- Resizing (scale filter)

- Cropping (crop filter)

- Rotation (transpose filter)

- Deinterlacing (w3fdif/yadif/interlace filters)

- Denoiser (nlmeans/hqdn3d filters)

- Video Stabilizer (vidstabdetect/vidstabtransform/unsharp filters)

Resizing (scale filter)

Resize the input video or image to change the resolution result.

Box New size in pixel:

If you want to keep the aspect ratio, you have to select the checkbox and specify only one component (width or height), and set the other component (width or height) to -1 or -2. The **setdar** and **setsar** functions will be disabled.

Any value of 0 means to disable a component and implies the cancellation of the setting.

Width: sets the width in pixels of the output video.

Height: sets the height in pixels of the output video.

Box Apsect Ratio (setdar and setsar)

Any value at 0 means to disable a component and implies the cancellation of the setting.

Setdar: set the frame (d)isplay (a)spect (r)atio. The setdar filter sets the display aspect ratio for the output video. The result to be entered corresponds to the fractional unit of the numerator and denominator, for example: 16/9.

Setsar: (S)ample (known as Pixel) (A)spect (R)atio for the output video. As with setdar, the result to be entered corresponds to the fractional unit of the numerator and denominator, for example: 1/1.

Some examples:

To reduce a video in 1280X720 to 640X360, then keeping the same aspect ratio to 16/9 there are 3 ways:

1) set width to 640 pixel and set heigth to 360

2) set width to 640 pixel and set height to -1 or -2

3) set heigth to 360 pixel and set width to -1 or -2

setdar/setsar (aspect ratio) should not need to be set.

To reduce the same video to a resolution of 640X480, we should also set the 4/3 setdar filter.

To change the resolution on undefined aspect ratio (400X200), you can use setsar filter: setsar to 1:1

Confirm your choices with the **Apply** button. The **Cancel** button, restores the values to defaults parameters and disables the filter if you confirm with the Apply button. However, the values equal to 0 set on all input fields disable this filter.

Cropping (crop filter)

The crop filter crops specific portions in the frame area. It is used by specifying values in pixels on the coordinates concerning height, width, horizontal distance (Y) and vertical distance (X). The starting point of the X and Y coordinates always starts from 0, which is the upper left end of the frame (the highlighted red corner of the image below). Each of the coordinates can only be disabled with the value -1 independently, which implies the centering of the frame (see image below).

Height and **Width** represent the area selected for cropping.

X, The horizontal position of the left edge. The value 0 sets the position on the extreme left of the frame. Values above 0 move the position to the right side of the frame. The -1 value to center the frame horizontally.

Y, The vertical position of the top edge of the left corner. Values above 0 move the position towards the bottom side of the frame. The -1 value to center the frame vertically.
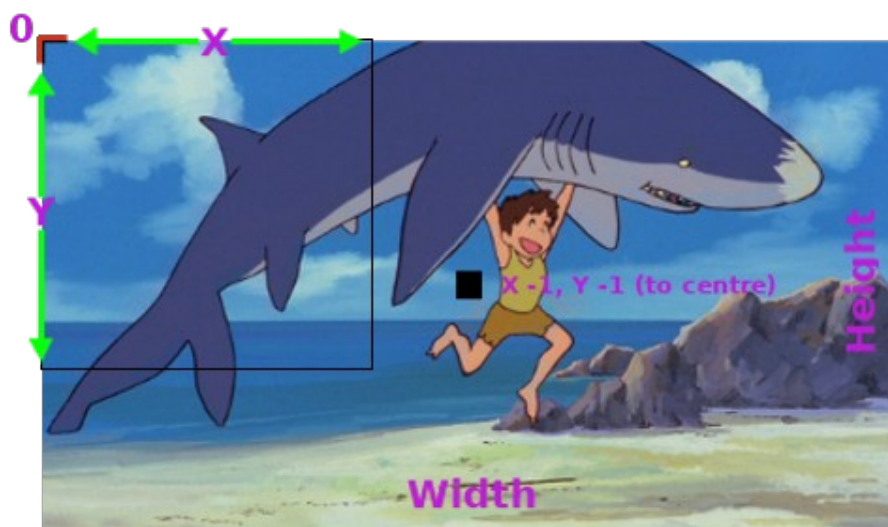
Confirm your choices with the **Apply** button. The **Reset** button restores the default values and will disable the filter if re-confirmed. Values equal to 0 set to width and height disable this filter.

Rotation (transpose filter)

The transpose filter allows you to rotate the video image at certain degrees. Confirm your choices with the **Apply** button. The **Reset** button restores the default values and will disable the filter if re-confirmed.

Deinterlacing (w3fdif/yadif/interlace filters)

Videomass offers an interface with two different types of video de-interlacers, and a simple interlacer with the related options.
Deinterlacers are useful for removing a series of annoying little lines that disturb the image of a movie. Although not very useful, an interlacer for progressive content is also available.

Deinterlacing:

- **w3fdif** stands for *Weston 3 Field Deinterlacing Filter.* Based on the process described by Martin Weston for BBC R&D, and implemented based on the de-interlace algorithm written by Jim Easterbrook for BBC R&D, the Weston 3 field deinterlacing filter uses filter coefficients calculated by BBC R&D..

Advanced options:

filter, set the interlacing filter coefficients. Accepts one of the following values:

- simple - Simple filter coefficient set.
- complex - More-complex filter coefficient set (default)

deint, specify which frames to deinterlace. Accept one of the following values:

- *all* - Deinterlace all frames (default)
- *interlaced* - Only deinterlace frames marked as interlaced.

- **yadif** deinterlace the input video

yadif means (y)et (a)nother (d)e (i)nterlacing (f)ilter.

Advanced options:

Mode, the interlacing mode to adopt. It accepts one of the following values:

- *0, send_frame* - Output one frame for each frame.
- *1, send_field* - Output one frame for each field. (default)

- *2, send_frame_nospatial* - Like send_frame, but it skips the spatial interlacing check.

- *3, send_field_nospatial* - Like send_field, but it skips the spatial interlacing check.

<mark>Parity</mark>, the picture field parity assumed for the input interlaced video. It accepts one of the following values:

- *0, tff* - Assume the top field is first.

- *1, bff* - Assume the bottom field is first.

- *-1, auto* - Enable automatic detection of field parity (default). If the interlacing is unknown or the decoder does not export this information, top field first will be assumed.

<mark>Deint</mark>, specify which frames to deinterlace. Accept one of the following values:

- *all* - Deinterlace all frames (default)

- *interlaced* - Only deinterlace frames marked as interlaced.

Interlacing:

- **interlace** simple interlacing filter from progressive contents. This interleaves upper (or lower) lines from odd frames with lower (or upper) lines from even frames, halving the frame rate and preserving image height.

<u>Advanced options:</u>

<mark>scan</mark>, determines whether the interlaced frame is taken from the even (tff - default) or odd (bff) lines of the progressive frame.

<mark>low pass</mark>, enable (default) or disable the vertical lowpass filter to avoid twitter interlacing and reduce moire patterns. Default is no setting.

Denoiser (nlmeans/hqdn3d filters)

Videomass supports two of the most popular denoisers used by FFmpeg: nlmeans and hqdn3d

The reason for this choice is that the denoiser **nlmeans** exists only on newer versions of FFmpeg, while   **hqdn3d** exists on both new and older versions of FFmpeg. When one of them fails, try the other.

nlmeans denoise frames using Non-Local Means algorithm is capable of restoring video sequences with even strong noise. It is ideal for enhancing the quality of old VHS tapes.

hqdn3d this is a high precision/quality 3d denoise filter. It aims to reduce image noise, producing smooth images and making still images really still. It should enhance compressibility.