

FILM9

Film restoration software



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VERSION 3.0 - 21 March 2019

Version 3.01 - 8 June 2020

Version 3.10 - 15 July 2020

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AMENDMENTS TO THIS

VERSION 3.0 OF FILM9

(A history of all versions since V2.1 is given at the end of this document)

Version 3.00 - 21.03.2019

- Accept image files in .tif, .jpg, .bmp, .png format
- New design of the framing module.
- Implementation of new settings significantly improving the AutoGain and AutoWhite functions.
- Ability to minimize the application during the export of clips.
- Improved the presentation of the Clips/Actions grid during export.
- Update of VirtualDub2.
- Fixed a bug closing the application at the start of processing a clip.
- Optimization of the code.

Version 3.01 - 08.06.2020

- Correction of the detection bug of the new Microsoft C ++ 2015-2019 pack
- Accepts the processing of ".tif" or ".tiff" files

Version 3.10 - 13.07.2020

- Overall simplification of the Installation.
- Automatic installation of programs linked to Microsoft (Runtime C++).
- Single Form "Preferences" form for associated software and various commands.
- This Form is available after the opening of FILM9.
- Establishment of Directories specific to each Project.
- Simplification of the names of Final Clips.
- Possibility of automating the launch of Processing for all the Clips to be processed.
- Ability to adjust Max Memory dedicated to Avisynth
- Update of VirtualDub2
- Update of many DLLs dedicated to Avisynth.
- Some improvements to discover during use.
- Numerous improvements to the code. New compiler.

INTRODUCTION

FILM9 is a software for the restoration of old films, films and cassettes. It is developed based on the use of AVISYNTH and VIRTUALDUB.

These 2 associated tools require an often painstaking learning, especially to understand and develop the AVISYNTH scripts.

And so, FILM9 was developed to allow to use the fabulous powers of these 2 tools, but in an affordable way by the greatest number. Its interface is intended to be as intuitive as possible.

FILM9 is offered for free for personal or family use, but any professional use is prohibited without the permission of the authors.

That said, it is thanks to your donations that we can continue to develop and update this software. A big thanks to all of you !

Click on this link : XXXX

FILM9 is offered without any warranty. It is therefore usable under your own responsibility to process your personal videos.

But the authors remain at your disposal in case of problems.

You can contact us by Mail at the following address:

XXXX

You can also share your comments and suggestions on the "Film Transfer" French website which is at the origin of FILM9:

[Site "Le Transfert Pellicule"](#)

And on the English website :

[VideoHelp / Restoration / Film9](#)

And then, you will always be welcome on our FILM9 Site :

[XXXX](#)

INSTALLATION

In the homepage of the **FILM9 Site**, there is a button to download the software. This file is named "**SetupFilm9.exe**". Once downloaded, just launch it and FILM9 will install automatically.



With this Version 3.10 of FILM9, installation of the application has been greatly simplified. For more transparency, the installation of third-party software is done once the application is open.

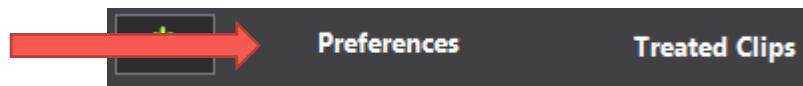
All configuration options are made from ONE form, grouping together all the possible choices. In particular:

- The Display and Style of some windows
- Various Commands available
- The Programs necessary for the functioning of FILM9

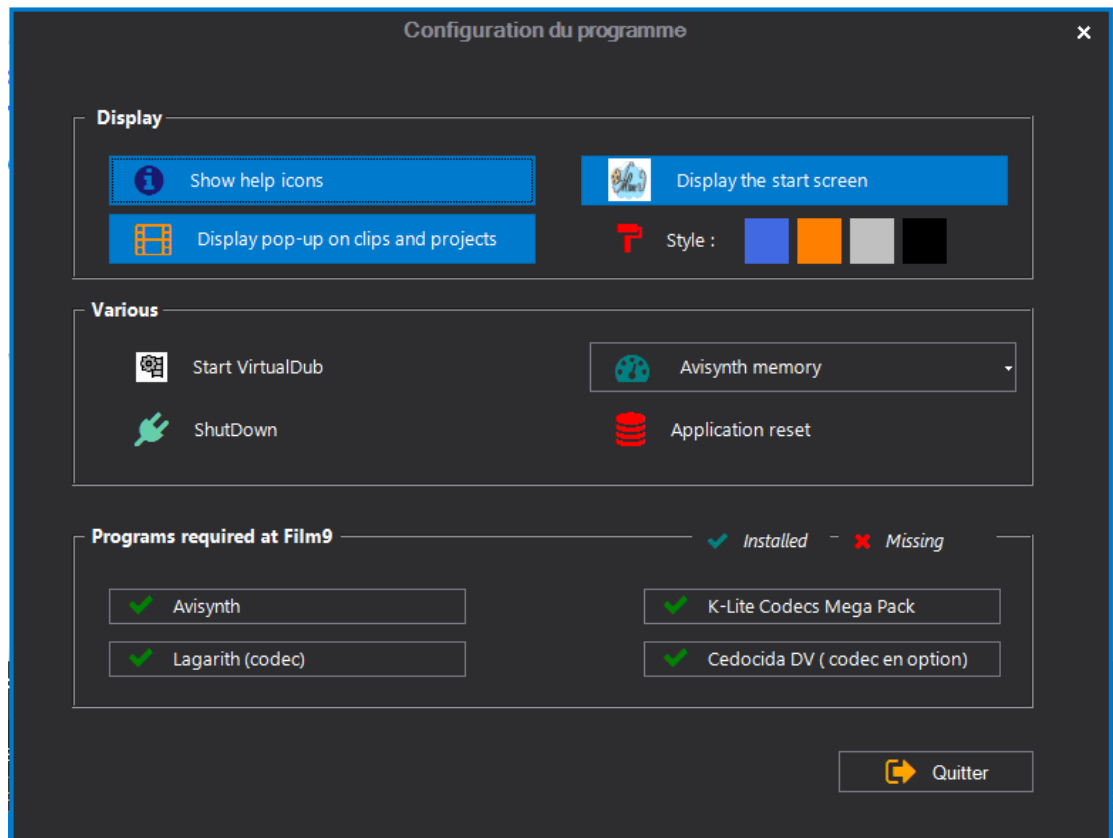
But before looking at this detail, we must clarify the following point. Recent Windows updates have forced us to review the installation of operating system libraries, such as Microsoft C ++ Runtime.

The main DLLs associated with these Runtime are now checked and installed (if necessary) when FILM9 is started. There is no longer any need to deal with it separately.



So, once FILM9 is open, click on **Preferences**



And this form will open :



The "**Display**" options will allow :

- Whether or not to display all of the Help icons found on the FILM9 interface. These icons  which allow to have a local explanation.
- Whether or not to display Pop-Up  in the Projects and Clips windows
- To suppress or not the splash screen

- To give a background color to the interface (Black by default).

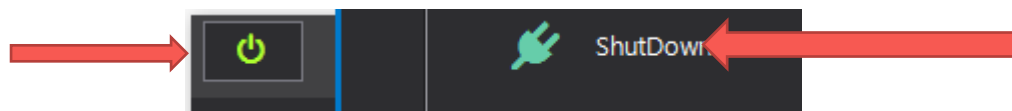


The "**Divers**" options will allow:

- Open "**VirtualDub**" and / or position it on your screen. Its position will be memorized.

VirtualDub is integrated into FILM9. There is no need to install it. This is the **VirtualDub2** version which is used and which has been updated (Version 43382).

- The "**ShutDown**" button. This allows a possible **automatic shutdown** of the computer once all the Clips have been processed.

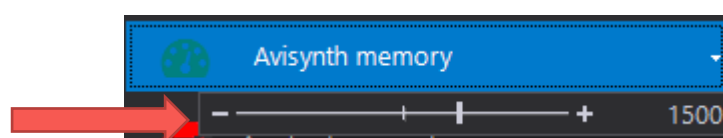


No automatic shutdown



Automatic shutdown

- The "**Avisynth Memory**" option allows access to a cursor which goes from 400 to 2000. It is set by default to 1500. This allows the Max Memory dedicated to Avisynth to be adjusted. Because, it has been noted that according to some PCs, there could be crashes if the memory threshold is too high.



- The "**Application Reset**" button. This button allows FILM9 to be reset as when it was first opened. All settings, all projects will be disabled.

The "**Programs required at Film9**" options will allow:

- **Avisynth** : Allows you to check and possibly install this program.
- **Lagarith** : This Codec is essential for the functioning of FILM9. Its installation is therefore mandatory if it is not detected.
- **K-Lite Codecs Mega Pack** : If FILM9 detects that the **x264** Codecs are already present on your PC, you can, if necessary, skip this step. But, in case of non-detection, you can also authorize the installation of K-Lite Mega Codecs Pack. FILM9 will launch this application automatically. You just need to follow and authorize the possible steps.

This pack of Codecs will install many codecs and in particular all those who are under the standard H264 (MTS, M2TS, MPG, etc ...)

If your Captured Clips were encoded in H264, it is essential to install the corresponding Codecs and in this case K-Lite is able to do it.

Of course, K-Lite will install other tools that are not essential for FILM9, but which you may have the benefit of elsewhere (like the MPC-HD player).

But if you do not want to install K-Lite, you can refuse the installation. In this case, reading files encoded in x264 may not be possible.

- **Cedocida** : If FILM9 detects that **CEDOCIDA** is already present on your PC, you can skip this step. In case of non-detection, you can authorize the installation. FILM9 will launch this installation automatically.

This software will allow the decoding of captured files with the SD Codec called "**dvsd**". This codec is mostly used when capturing tapes, but also when capturing movies with SD format (AVI / DV - 720x576). This codec is very strongly recommended for its effectiveness. If its installation is chosen, it will replace a possible old codec "dvsd".

But if you do not want to install K-Lite, you can refuse the installation. In this case, reading files encoded in x264 may not be possible.

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UPDATE

When FILM9 is installed and at each opening of the Software, it will check if there is a new version. You will be offered to install it.

To perform this check, FILM9 needs to be connected to the Internet.

WINDOWS COMPATIBILITY

FILM9 works with all Windows versions since Windows 7-SP1 and Windows 8.1. Older versions are no longer supported, such as XP, Vista and Windows 8.

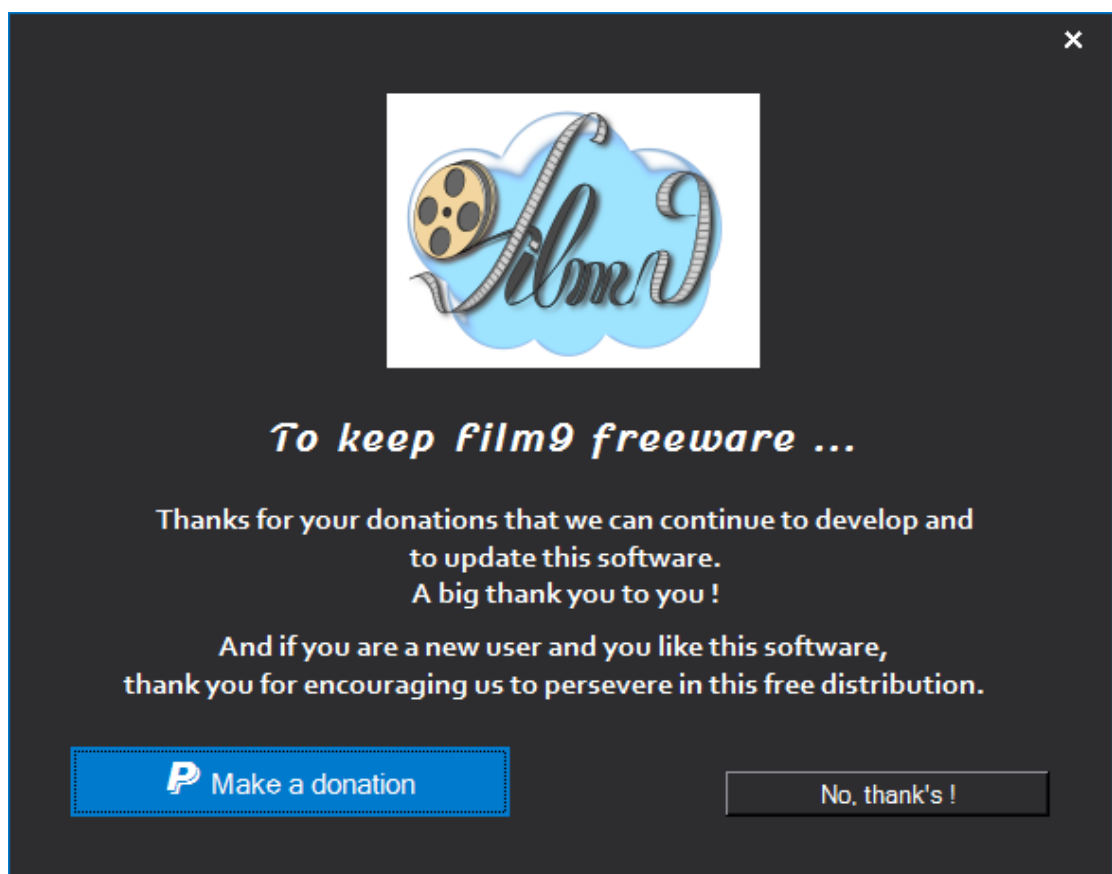
In case of installation or startup problem, check that the Framework 4.7.2 is installed on your PC. A priori, this is no longer necessary with the latest versions of Windows 10.

As indicated in the Introduction chapter, this FreeWare software has been offered free for several years.

Numerous contacts by email and on the forums also make it possible to give advice. And it takes time...

This is why, we very much appreciate a sympathetic gesture on behalf of the users of FILM9. Many thank us for having found memories thanks to these old restored films.

A simple form is broadcast, from time to time, at the opening of FILM9, to indicate that your request will be very encouraging.



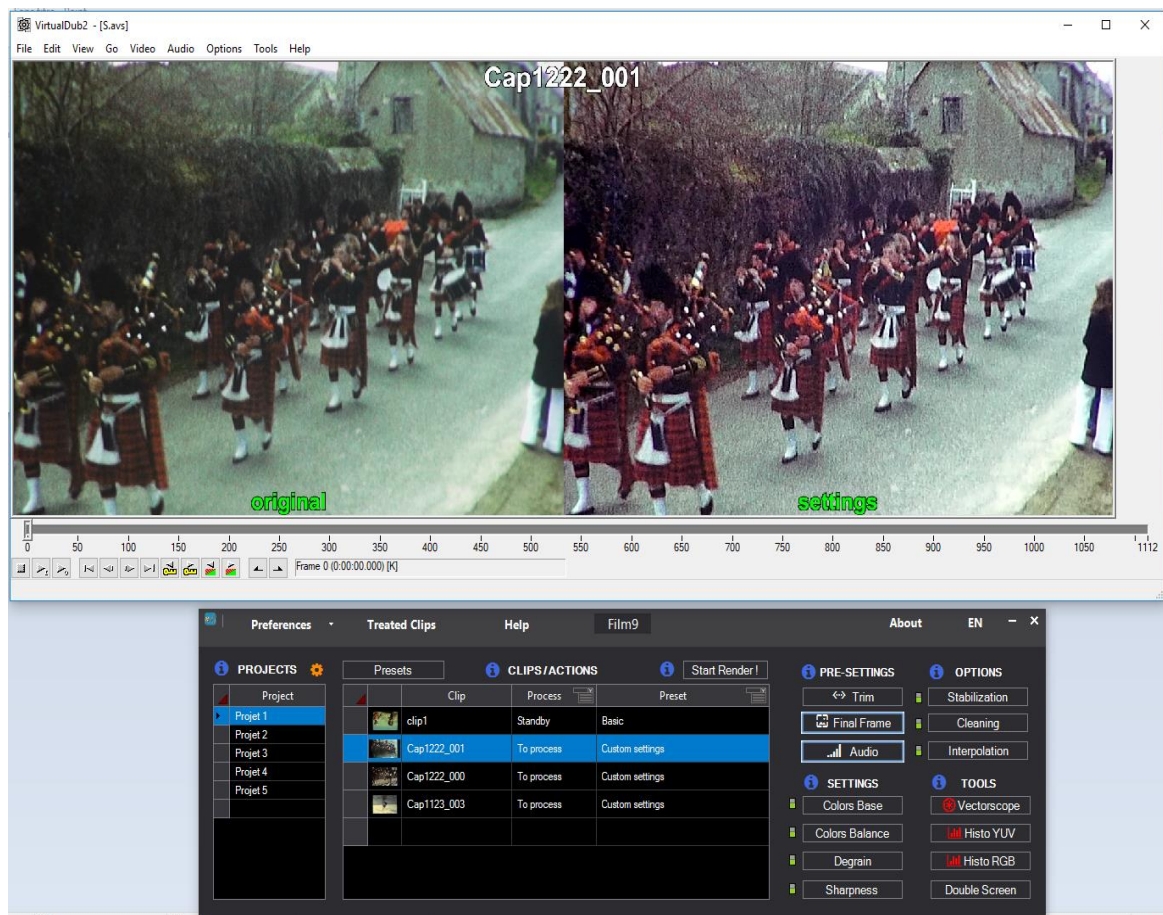
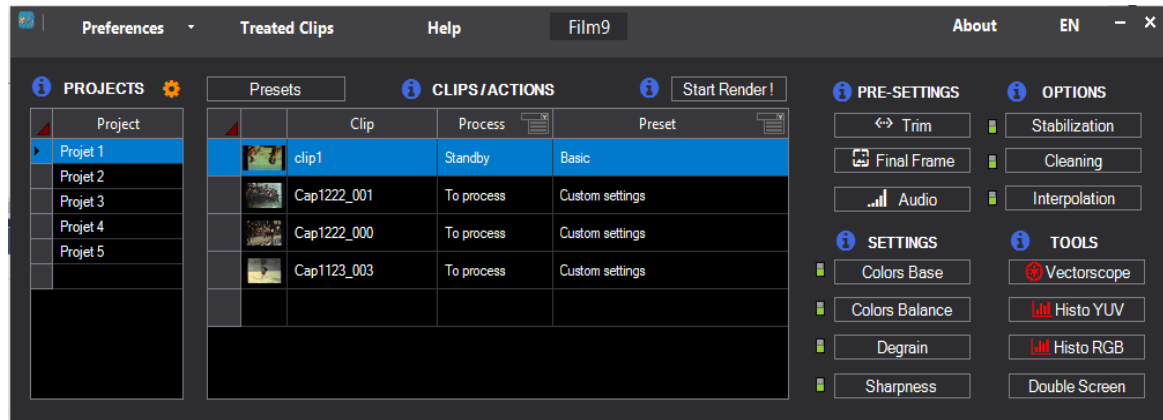
CLIC



P Make a donation

MAIN INTERFACE

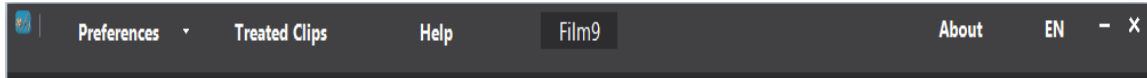
When opening FILM9, you have access to this main interface which will be located at the bottom of your screen. This will give way to VirtualDub which will open just above when loading a Clip.



We will now look in detail at the different areas of this interface.

MAIN MENU

This Menu is located at the top of this Interface and includes the following tabs: Preferences / Treated Clips / Help / About / FR or EN

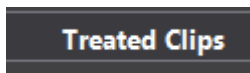


Let's look at the details :

- Preferences

In the previous chapter, we have just seen that this command allows you to select different parameters for the functioning of FILM9. It is to be opened during the first use. But you can modify certain parameters during other uses.

- Treated Clips

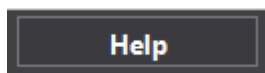


This tab is used to access the destination directory that is decided in the Projects window (which we will see later). In this place is therefore all the clips that have been processed by FILM9.

Attention : With this version 3.10, the Processed Clips will be stored in different "Projects" directories. Those that you will have identified in the PROJECTS window that we will see below.


To play a clip, you must use your Media Player. The one you have determined in Windows. It can be one of these drives: Windows Media, MPC-HC, VLC, etc ...

- Help



This button open this document that can be completed as and when comments by users.

That being the case, there are 2 other places where you can find Help:

- On the Interface, all the little blue icons allow you to have explanations. 

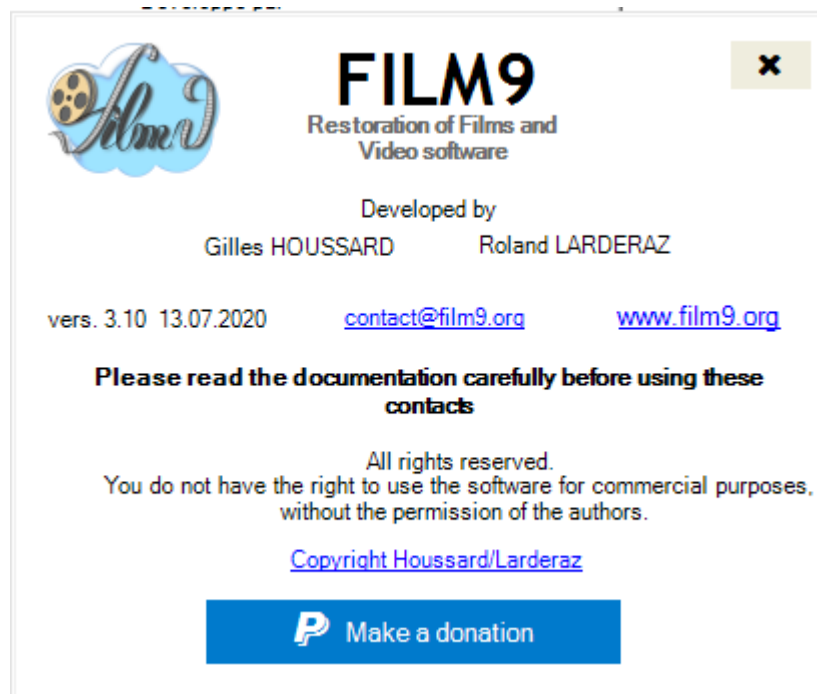
- On the FILM9 Site, in the FAQ page, there are also explanations. This page is also present at the end of this documentation.

This documentation is available in English and French in the Help tab.

- About

This small window simply recalls the version number and some indications and links. And the possibility of making a donation for this software :

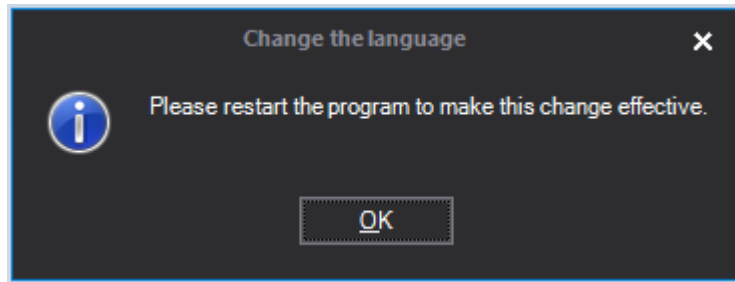
Clic



- FR or EN

EN

This tab allows you to change the language of the interface, either in French or in English. During a change, you must restart the application for it to be taken into account.



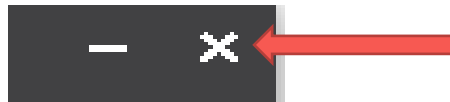
- Interface Commands



During Clip Processing, it is possible to reduce the FILM9 Interface.

When this interface is minimized, only the icons in the taskbar remain. Clicking on the icon re-normalizes the Interface of FILM9 and VirtualDub. The "Status" window will only be visible again on the next calculation.

At the end of processing, the Clips / Actions grid will display all the clips again (see the Clips/Actions section).



During processing, it is not possible to close FILM9 with this cross. It is deactivated. Only the "Stop" button is active to stop a treatment in progress. After a treatment, this cross is available again.

- **ShutDown** : As indicated in the "Installation" Chapter and the command found in "Preferences", you can indicate the type of shutdown of your PC after Processing.

Without shutdown of PC



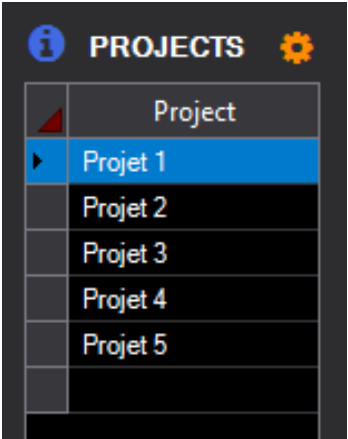
With shutdown of PC



PROJECTS WINDOW

This window is located to the left of the interface and will allow you to select, modify or delete your projects.

See the following paragraphs for more explanation :



To access Projects Window

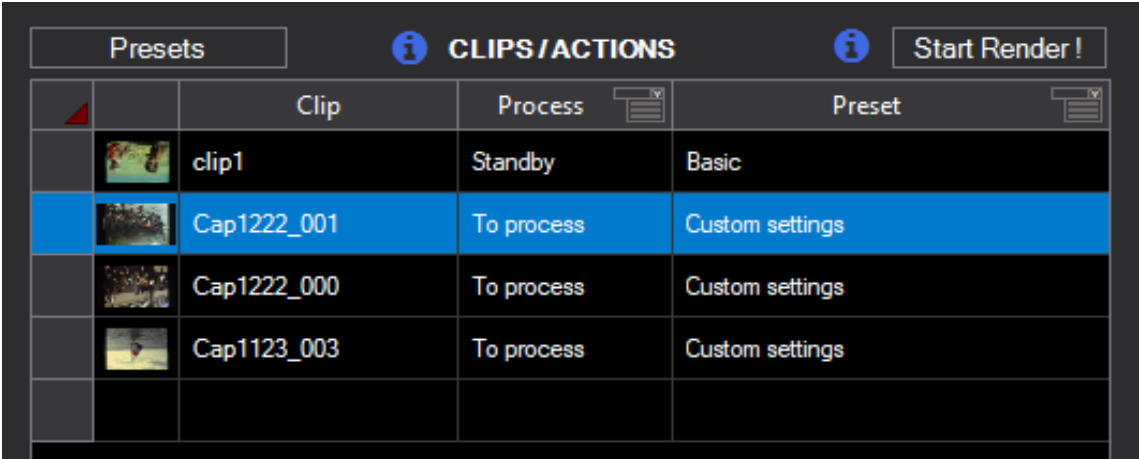


Help

=====

CLIPS / ACTIONS WINDOW

This window is located at the center of the interface. This is where you can put the Clips to be processed.



Each line of the grid will therefore have a small image of the Clip, its name, if the clip is waiting or ready to be processed and the setting pattern that has been adopted.

Above the grid, there is a **"Presets"** button to access this option (see below).

The **"Start Render"** button will also be examined in the "Clip / Actions" section.

And help is also available. 

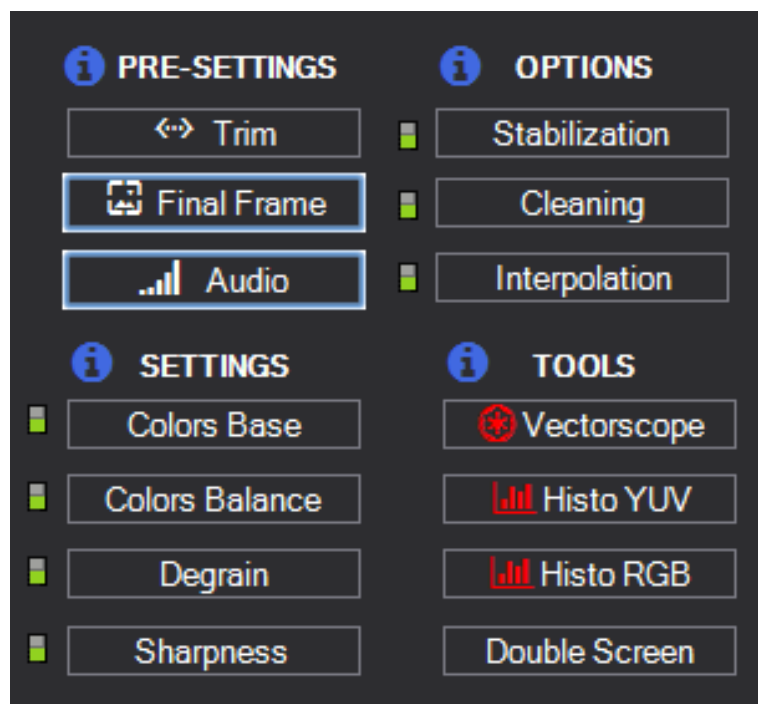
We will see in more detail the possibilities in the following paragraphs.

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SETTING ZONE

All the right part of the Interface is occupied by the different buttons to access **Pre-Settings**, **Settings**, **Options** and **Tools**.

See the following paragraphs for more explanation.



PROJECTS

A project lets you specify the capture method used, the characteristics of the original movie, and the format you choose to produce your video files.

For example, a first project may contain your shots of B/W film shot in 18 frames/second and a second project your Color film shots shot in 24 frames/second. You can move from one project to another in one click from the main interface.

Attention : With Version 3.10, each Project has its own directory in the Destination Directory that you have chosen. This simplifies the name of the Clips processed and provides a more appropriate classification.

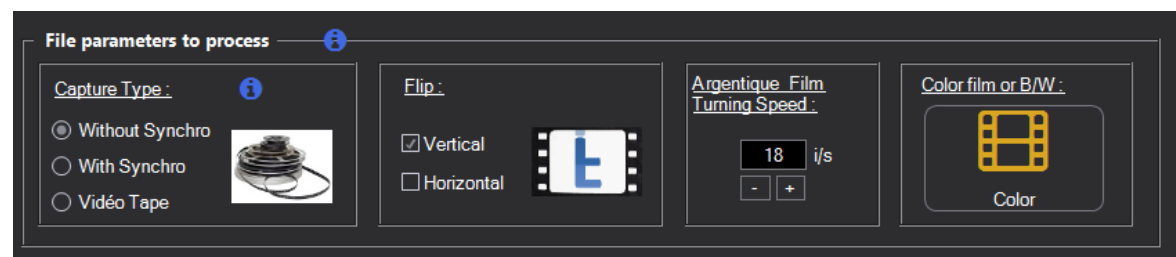
The Projects window is divided into 2 separate parts :

- **File parameters to process**
- **Choice of the final AFTER Treatment**

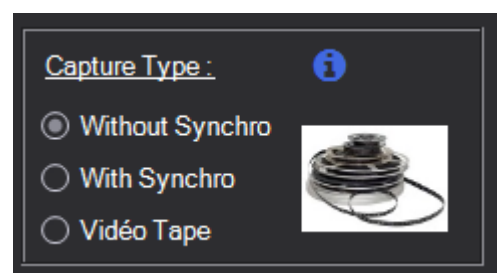
FILE PARAMETERS TO PROCESS

In this zone, there is 4 information to validate :

- Capture Type
- The orientation of the Source Clip
- The filming speed of the original film
- If the Movie is in Colors or Black and White



Capture Type



This command specifies the type of capture that was used to scan movies :

- WITHOUT SYNCHRO :

This is a capture in the projection stream. Without any synchronization system between the Projector and the Sensor. As for example, a capture made with a projector running at 16.6 frames / second.

- WITH SYNCHRO :

This is a capture made with a servo system between the Projector and the Sensor. This may allow image-by-image capture. But, it is a Video Clip.

- VIDEO TAPE :

These are captures made from a VCR (VHS, Hi8, DV).

IMPORTANT :

Since Version 3.0, FILM9 allows the import of Captures made with Images in a row.

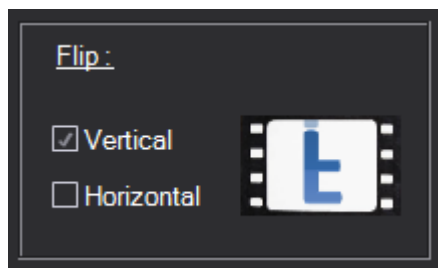
This time, it's not a video clip anymore, but a series of still images captured one by one. These images are in a specific directory.

The following photo formats are taken into account: TIFF, BMP, JPEG, PNG.

This Capture system can be selected in any of the 2 Capture Types seen previously. We can choose WITHOUT SYNCHRO or WITH SYNCHRO.

We will see in the section "Clips-Actions" the advice to follow to use these **Clips-Images or Clips-Photos**.

Source clip orientation (FLIP)



4 possible choices :

- No Flip : no flipping of the image
- Flip V : Vertical flipping of the image
- Flip H : Horizontal flipping of the image
- Flip V/H : Vertical and Horizontal flipping of the image

Original Film Turning Speed

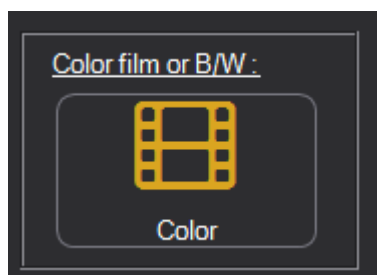


4 possible choices :

- 16 images/second
- 18 images/second
- 24 images/second
- 25 images/second (only for Clip-Images)

It is also possible to specify another speed in this window.

Color Film or Black and White



Finally, you have the possibility to indicate if the film is in Colors or Black and White. But, it is also possible to declare a film Colors in Black and White.

=====

The 2nd Zone of the Projects window concerns the choices to make for the Clip to be processed.

CHOICE OF THE FINAL FILE AFTER PROCESSING

This area will include several choices :

- Clips Destination Directory
- The Dimension of the Final Clip Image
- Choosing a Video Codec for Final Encoding
- The choice of an Audio Format

Choice of the final file after treatment ⓘ

Clips Destination Directory : ⓘ

F:\DEST

730.6 Go. libres

Choosing the size of the final clip : ⓘ

☐ Keep the dimensions of the Source Clip

☒ Desired Dimensions x

VIDEO Codec : ⓘ

Codec :

Bitrate H264 :

AUDIO Format : ⓘ

☒ Silent Film

☒ MP3 - 320Kb/s

☐ AC3 - 320Kb/s

☐ PCM

☐ Extract. WAV

Clips Destination Directory

Clips Destination Directory : ⓘ

F:\DEST

730.6 Go. libres

Here you must indicate in which directory you want to keep all the clips that will be processed. You can create it after you have chosen the location or you can add it to an existing directory.

This directory will break down into subdirectories :

- a first directory called "**Clips Film9**"

This directory will be broken down again into 2 directories :

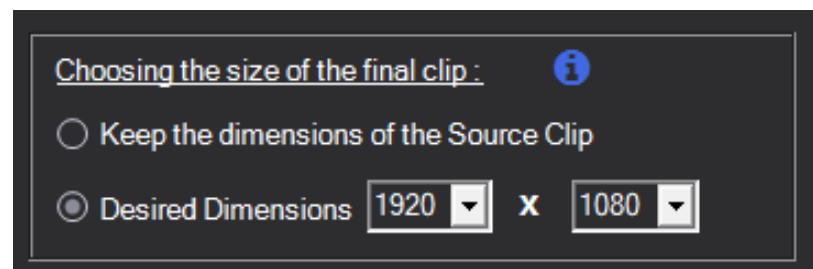
- a directory "**Chutier**" in which the temporary files being processed will be stored. This directory is temporary and is deleted after each treatment.

- "**Project xxx**" directories in which the Clips which have been fully processed will be stored. As previously indicated, this version 3.10 now allows you to store the Clips processed in a specific directory bearing the name of your Project.

If you have several projects running, you can create as many destination directories as projects and then find them again.

An indication is given regarding the available space on the selected Hard Disk.

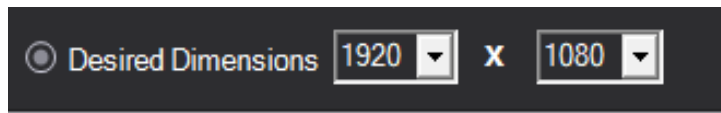
Dimension of Final Clip Image



This function allows :

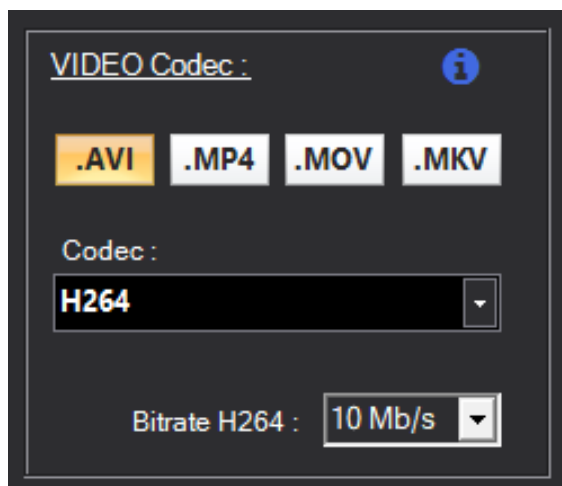
- either to preserve the initial dimensions of the image. In this case, the Height / Width must, however, be adjusted by a few pixels to be accepted by the calculation.
- Resize to another format

In this case, a format is proposed by default, but it is possible to modify this format by entering new dimensions (Width and Height)



These Dimensions (Origin or News) will be applied on the last Processing.

Choice VIDEO Codec for Final Encoding



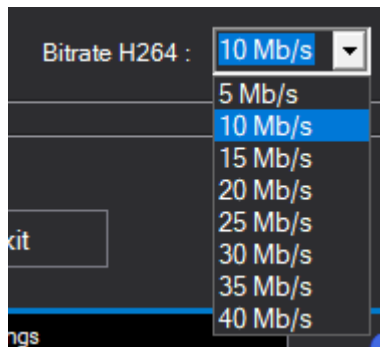
This function allows you to choose a VIDEO Codec to encode the Final Clip.

Several Codecs are available in different Containers.

- **MP4** : In this container, we can choose the following Codecs : H264, AppleProres and Lagarith
- **AVI** : In this container, we can choose the following Codecs : H264, AppleProres, FFV1 Lossless, Lagarith and Uncompressed
- **MOV** : In this container, you can choose the following Codecs : H264 and AppleProres
- **MKV** : In this container, you can choose the following Codecs: H264 and AppleProres

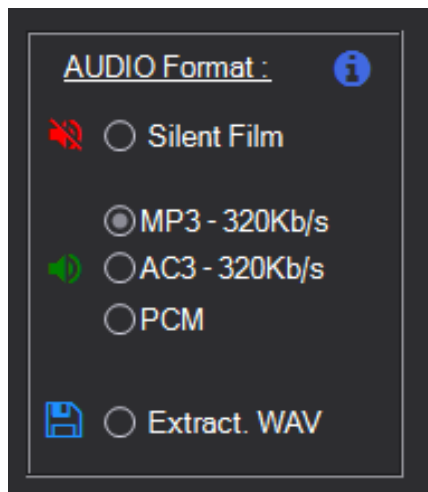
Information about available Codecs :

- **H264** : This codec very commonly used today is proposed in the 4 containers mentioned above.
In addition, different bitrates are also available.



- **AppleProres** : This codec developed by Apple was mainly designed for video editing and not for a final broadcast. It will encode in 4.2.2 with a bitrate of 35 Mbs. It is a rather professional use.
- **FFV1 Lossless** : This codec is what we call an "Intra-Image" codec, unlike "Extra-Image" codecs like the H264. He is therefore non-destructive like the Lagarith. It encodes in RGB in 10 bits.
- **Lagarith** : This codec is also a non-destructive (lossless) codec. It is slightly faster than the FFV1. This version encodes in YUV.
- **Non-Compressé** : As the name suggests, it does not compress the video and is therefore also non-destructive. But compared to its competitors Lagarith and FFV1, it takes a lot more space. It encodes in RGB.

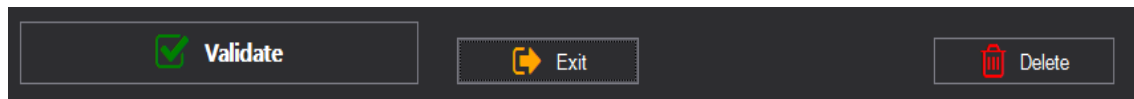
Choice AUDIO Format



This function allows you to choose the type of AUDIO format that will complete or not the VIDEO encoding.

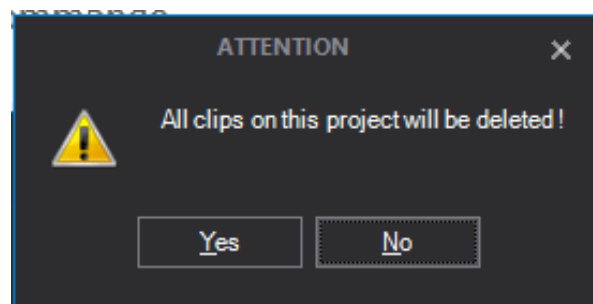
- **Silent Film** : This forces the final encoding WITHOUT Audio.
If the Clip Source is already without audio, FILM9 will detect it and indicate that you need to activate this option.
If you do not want to recover the Audio from the Clip Source, you should enable this option.
- **With Audio** : 3 AUDIO Codecs are proposed for the Final Clip
 - MP3** : The bitrate is 320 Kbps. Which makes it possible to preserve the Audio with a very good compression.
 - AC3** : As for MP3, the bitrate is 320 Kbs.
This "high-end" value for Compressed Audio makes it possible to maintain a very good quality.
 - PCM** : This Codec is Uncompressed and therefore non-destructive. But it is not accepted by all Video Containers, like the MP4.
- **Extract WAV** : This function allows you to extract the Audio part of a Clip Source without attaching it to this Clip. The WAV file will then be available in the "Completed Clips" directory of your Destination directory. It will be identified with the name of the Project and the name of the Clip.

Finally, at the bottom of the Project window, there are 3 buttons:







- **Validate** : This button is used to validate all the parameters you have chosen. These settings will be retained and used for all clips that are part of this project and have not been processed. But you can edit this Project for any Clip that remains to be processed.
- **Exit** : This button allows you to close the Project window simply by keeping the previously chosen options.
- **Delete** : This button will allow you to permanently delete a project.

Attention : this deletion will also eliminate all Clips involved in this Project. A message allows you to cancel this command or not.



CLIPS / ACTIONS

This is where you can load each clip to be processed. Just click on a free line of the grid to choose your clip in your Source directory.

Presets		CLIPS/ACTIONS		Start Render !
		Clip	Process	Preset
		clip1	Standby	Custom settings
		Cap1222_001	To process	Custom settings
		Cap1222_000	To process	Custom settings
		Cap1123_003	To process	Custom settings

When you have chosen, the clip is installed on a line of this grid. Immediately, an image identifies the clip and if you approach the mouse of this image, a window gives you the main information of this clip (INFO CLIP).

INFOS CLIP



G:\SCRIPT VDFilm Test\AVI\Cap1222_001.avi

Duration	00:00:22	Vidéo Std	AVI
Size	384.94 Mo	Width	1280
Vidéo Mode	Progressive	Hight	720
FrameRate	50	Audio Std	PCM
Codec	CUVC	Freq. audio	48.0 kHz

When the Clip is selected, the line is highlighted, and this automatically opens VirtualDub with a dual screen.

When the clip is installed, you can **choose a Preset** in the Preset column or go to the **Settings area** to select the ones you want.

The **"Basic" preset** restores the settings that were selected by default in the previous version of FILM9. After, you have every opportunity to change the settings to have "Custom Settings".

Then, in the **Clip** column, the name of the clip is indicated.

Then, the column **Process** will allow to indicate and to see the situation of the Clip. Just click on the box and a choice is proposed :

- **Standby** : means that the Clip is Waiting for Settings or the "To Process" Order
- **To Process** : means that the clip can be taken into account when processing is started.

You can also declare ALL "To be processed" clips by clicking on the word "Treatment" at the top of the column.

When the Clip has been processed, an indication appears: **"Clip finish"**.

The **Preset** column will indicate or select a particular preset. "Preset" means Established Settings or Programmed Settings.

There are 4 presets :

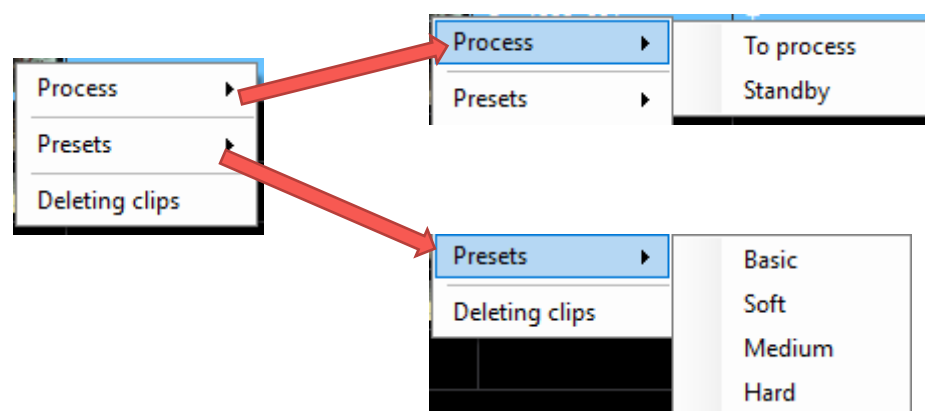
- **Basic** : corresponds to the default settings
- **Soft** : Virtually no Degrain and Sharpness settings
- **Medium** : Some higher Degrain and Sharpness values compared to Basic
- **Hard** : Max Degrain and Max Sharpness

- And, of course, you can create your own **personal settings preset**.

You can also declare ONE Preset for ALL clips in the grid by clicking on the word "Preset" at the top of the column. Then choose a preset from the list.

All details concerning this PRESET option are given in the paragraph of the same name. And we have already seen that the "Preset" button opens this Preset window.

A new possibility of choice is proposed. **Right Click** on the selected Clip or Clips and a window will show you :



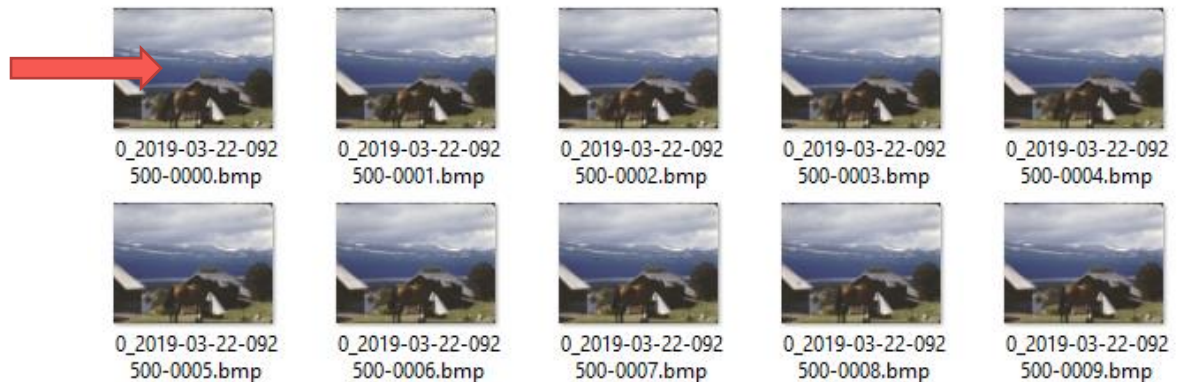
- To choose the **status of the clip** : "To process" or "Standby"
- To choose a **Preset**
- **Delete** the selected clip(s)

Clip in IMAGES

With this version 3.0 of FILM9, it is possible to import captured images image after image. This means that a sequence of still images is in a dedicated directory.

Of course, all these images in succession must have the same name and with a numbering following (from 0 to xx).

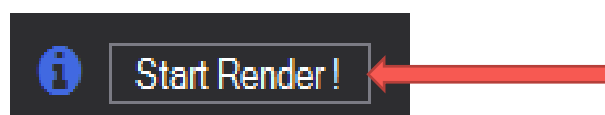
To import a clip that has been captured with this method, just click on the 1st frame or on an image of the beginning. The clip will be immediately recognized in FILM9 as if it were a video stream.



Caution : Avoid deleting images in this image sequence, as the system may turn these missing images into black images. It is best to delete images or sequences, then, during editing of the movie.

Start Processing

Before starting the Processing, check the clip grid to see which clip are "**To process**". Anyway, a message will remind him if no clip is reported "To Process".

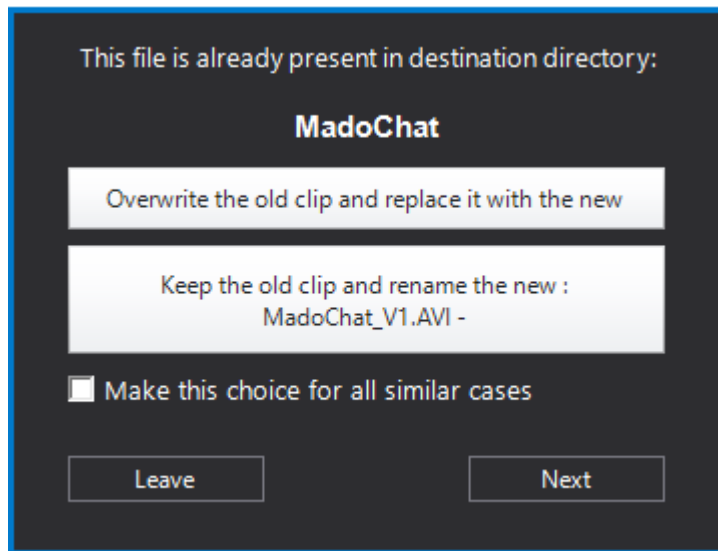


To start the Processing of the Clips, click on "**Start Render**"

If a Clip has already been processed and you want to treat it again, at launch, a message will suggest you either :

- Overwrite the old clip and replace it
- Keep the old Clip and rename it automatically

- But you can also confirm this choice for similar cases



If several clips are indicated **"To Process"**, their treatment will be automatically linked one after the other.

During Process

For information, the processing of a clip will automatically chain several phases :

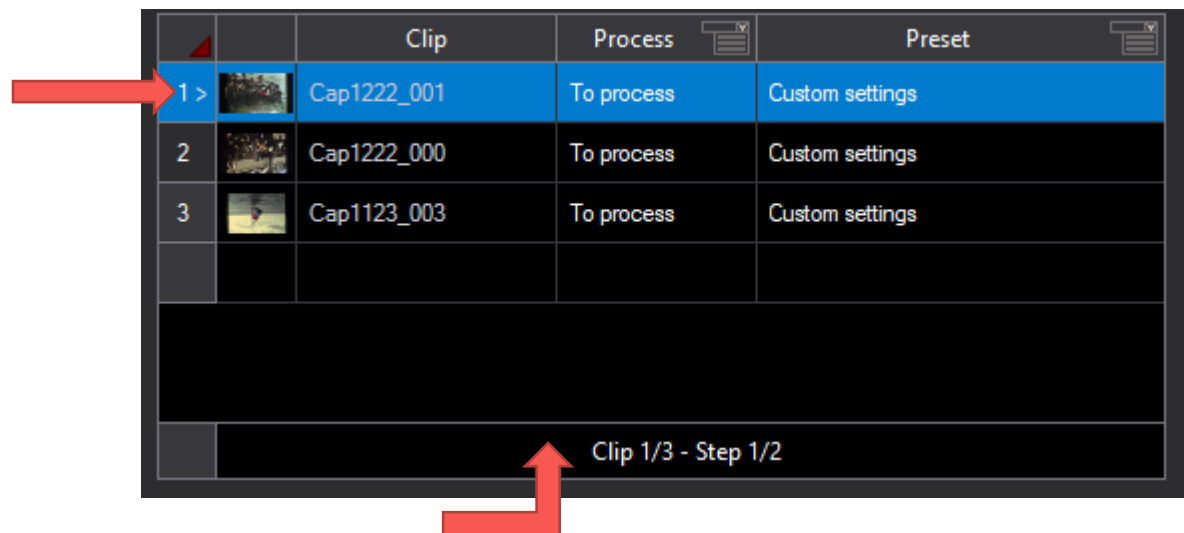
- the backup of the Audio if the Clip is Sound.
- an intermediate phase
- and a final phase

All this is completely automated and no intervention on your part is necessary during these phases. The processing time of these different phases is dependent on the duration of the clip, its format, the settings or options chosen and the performance of your PC. But the whole was particularly optimized to reduce the duration while keeping the quality.

Reminder : As indicated in the "Projects" Chapter, the Final Clip will be saved in a directory bearing the name of the Project.

During the processing of the previously selected Clips, the grid of the Clips will be modified to reveal only the Clips concerned by this Processing.

The Clip being processed is highlighted.



		Clip	Process	Preset
1 >		Cap1222_001	To process	Custom settings
2		Cap1222_000	To process	Custom settings
3		Cap1123_003	To process	Custom settings
Clip 1/3 - Step 1/2				

At the bottom, an information line indicates the progress of the current treatment.

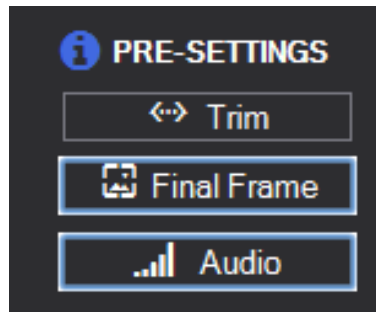
And the current Processing can be stopped with this command. This is the "Start Render" button that has the name "Stop" during Processing:



When the processing is finished, a **"Clip Finish"** indication appears in the Clips grid and it is then proposed to go to view the clips in the **"Treated Clips"** menu.

PRE-SETTINGS

This area contains buttons that will allow access to preliminary settings. They are not mandatory, but strongly recommended before starting the other Settings. Each of these buttons will open a window in which you will find other explanations.



Nevertheless, we advise, in the order :

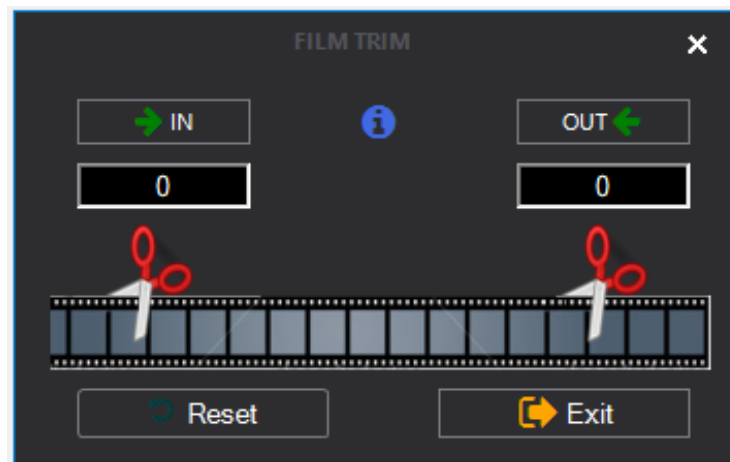
- **TRIM** : Keep only the sequence that interests you. This makes it possible to work only on this portion of selected clip.
- **FINAL FRAME** : Version 3.0. This new window includes the ability to clean the edges of the image, to have a Final Framing Preview and add artifices such as Round Corners or Blurred Background.
- **AUDIO** : for all that is sound, make the appropriate Settings.

Attention : For these presets, you must close each window before using the next one.

TRIM

This function cuts the beginning and end of the movie. To remove, for example, white primers or start / end of capture with freeze frames.

Do not hesitate to do it from the beginning of the settings. This will save time on treatment.



To cut the start, just position yourself on the VirtualDub **TimeLine** at the location you chose. The image number is written on the screen. Then, click on the **"IN"** button to memorize this number and this position.

For the end **"OUT"**, same procedure.

With some compressions (like MPEG or MTS), the number may sometimes be slightly different between the screen and the IN / OUT points. This is due to the GOP setting. But, this is imperceptible, then.

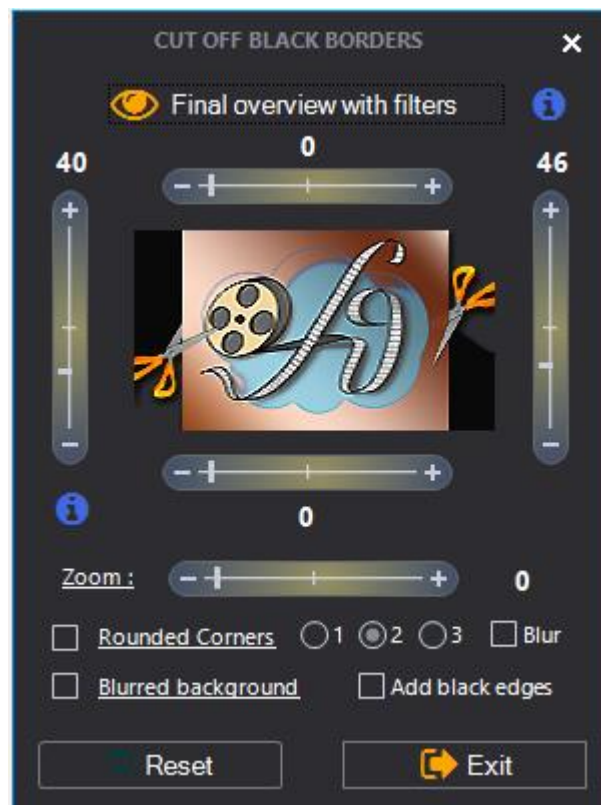
The **"Reset"** button allows you to reset everything.

The button **"Exit"** will close this window with the taking into account information IN and OUT.

And in the new VirtualDub screen that opens, you can see that the movie has a number of images corresponding to the cuts that have just been made.

FINAL FRAME

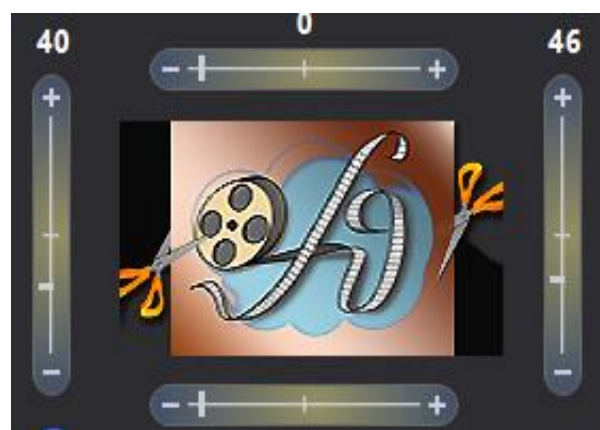
This function has been modified in Version 3.0 to regroup the cleaning of the edges of the image with the final framing.



Cleaning the Edges of the image

Movie captures often show image edges that are not very sharp. In particular on captures made with sensors in 16/9.

This function is, therefore, intended to clean the edges of the Image.



If desired in the Project, these black edges will be restored clean at the end of processing to maintain a consistent image size.

But it is also possible to artificially create black edges on real 4/3 captures. This allows for final videos in 16/9. The standard of our TV today.

Before examining the procedure to be followed, recall some standards.

With a few details, film-films are standard 4/3. It's the same for conventional video cassettes.

On the other hand, Standard Video has 2 standards: 4/3 and 16/9.

In your clip, when cleaning the edges of the image is needed, there is a good chance that the Width/Height ratio will be slightly different from the 4/3 standards.

Then, depending on your choice in Project (4/3 or 16/9), it will be necessary, therefore, **to make sure to recover the entire image clean.**

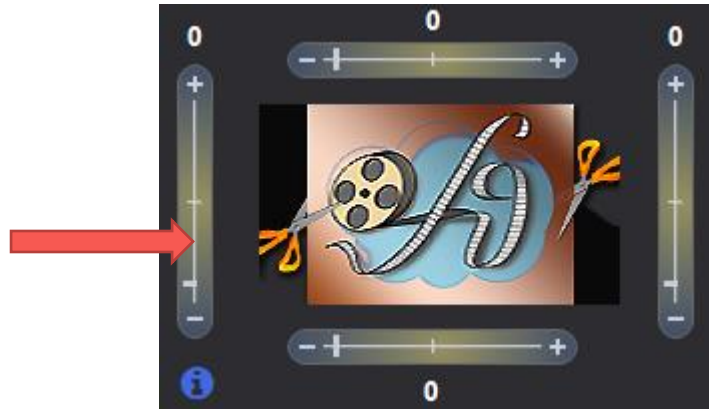
For the final 16/9, the entire image will be centralized without any top and bottom edges.

For 4/3, the image will be centralized to keep the full width, but it may happen that black edges up and down are added to keep the proportions of the original image.

Let's look at **the procedure now:**

First of all, in Projects, you have to define the final clip format you want:

- Keep Source File Dimensions
- Take Standard Size 4/3 or 16/9
- Choose dimensions Width and Height of your choice



If the edges of your Clip need to be cleaned, just click on one of the sliders. At this point, a new screen appears with gray edges.



These gray edges are intended to approach closer to the Left and Right edges of the image without being hindered by the black background.

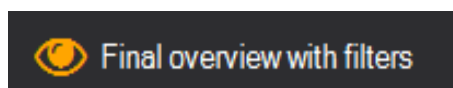
Without any change on a slider, the image is restored after 3 seconds. But you can continue to adjust before or after these 3 seconds.

As previously explained, to keep the entire image in a final 4/3 choice, it may happen that high and low edges appear to maintain a proper Width/Height ratio, while keeping the full width of the image. Like this example :



Reminder: if you want to keep the original dimensions in Projects and you need to clean the edges, these original dimensions will be modified in the end by the number of pixels removed at the edges.

Final Overview with filters



This button allows you to have a final overview of your framing **WITH the restoration filters** that you have, possibly, selected.

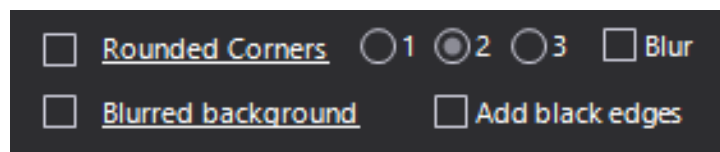
Zoom Function



This function simply enlarges the image.

Custom Framing

Two options are available to have a Custom Framing. It's either one or the other. It is not cumulative.



- **Rounded Corners** : this option produces rounded corners of the central image. This can arrange some captures with defects on the corners or recall an old texture. Three rays are available and, also, the possibility of having a blur outline of the image.



- **Blurred Background** : for clips in 16/9, this option makes it possible to replace the Black Edges by fuzzy edges coming from the central image. This presentation is very "trendy" currently on our television screens. There is the possibility to put a black boundary between the central image and the fuzzy edges.



A "**Reset**" button is used to reset all sliders to 0, as well as custom framing options.

AUDIO SETTINGS

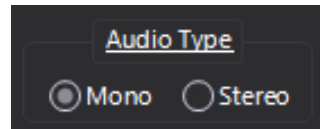
This function is used to adjust the audio track(s) in case of sound movie declared in the project.

This function opens a special window in VirtualDub to allow you to confirm the choice of Audio Channels and adjust the sound level. By triggering the reading of the VirtualDub TimeLine, you can listen and see the sound channels.



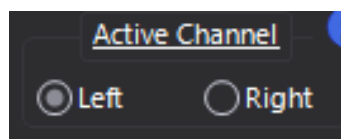
In the Settings window, there are several indications to indicate :

- if the audio is original **"Mono"** or **"Stereo"** by clicking on the corresponding button.

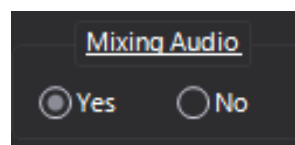


If the Audio is Stereo, there is nothing more to do. Each channel will be preserved as the original.

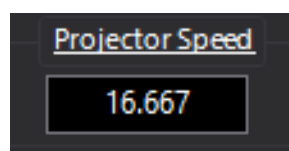
- if it is in **"Mono"**, you must indicate if it is the left or right channel that carries the Audio. Just look at the VirtualDub screen.



- Then, and always in case of **"Mono"**, if you want to produce 2 channels (Left and Right) identical, you must indicate YES for a mix of the Mono Channel on the neighboring channel.

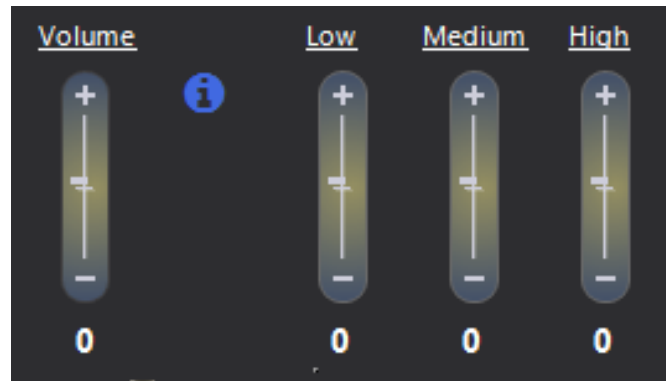


A window indicates the speed of the projector during a **Capture WITHOUT Synchro**. It is to better perceive the audition and the good speed of the audio in this phase of adjustments. But then, when reconstructing audio and video, this is done automatically (without this info). This value is only valid for this phase of adjustments and hearing.



Volume and Tone Settings

4 settings are available :



- **Volume** : you can decrease or increase the volume between -30 and + 30 dB. To do this, look at the 2 vertical bars on the screen and adjust to set an average volume to -12 dB. Audio peaks should not exceed 0 dB.

- **Low** : this slider will make it possible to decrease or increase the Bass Tones between 0 and about 300 Hz.

This slider will be particularly useful if a background noise caused by electrical disturbances has been captured during capture.

- **Medium** : this slider will allow to decrease or increase the Medium Tons between about 300 and about 2500 Hz.

- **High** : this slider will make it possible to reduce or increase the High Tones between about 2500 and about 20000 Hz.

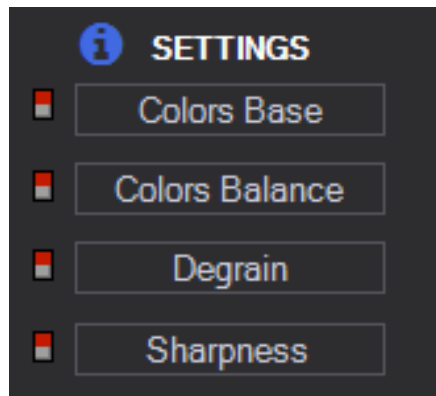
You can check the influence of these settings on the 2 horizontal sound tracks at the bottom of the screen.

And so, you can check the hearing of all these settings by starting playback on the VirtualDub TimeLine.

A "**Reset**" button restores all default positions (Channels, Volume and Tones).


SETTINGS

This Zone provides buttons that will open Image Settings windows. And view the influence of each setting on the VirtualDub screen. You can use these settings in the order you want. Each setting is kept in memory until a Reset is done.



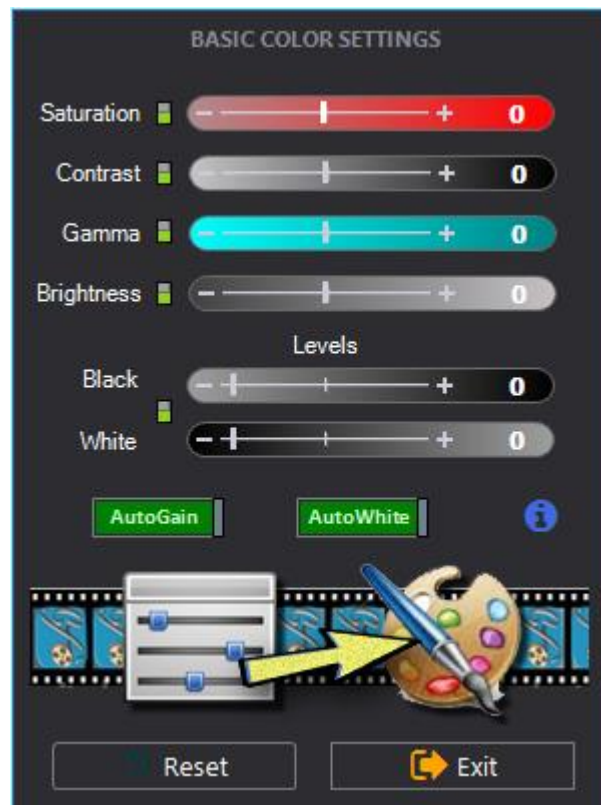
- **COLORS BASE** : These are the basic settings (Saturation, Contrast, Brightness, etc ...)
- **COLORS BALANCE** : It is in this window that you can adjust the colors.
- **DEGRAIN** : This window allows you to remove or add Grain
- **SHARPNESS** : This window allows to play on the sharpness and finesse of the Image.

All these Settings windows can be opened at the same time. You can position them wherever you want on the screen. Their position is remembered for the next opening.

A **switch**  located to the left of each button allows you to disable or activate the function.

COLORS BASE

In this window, all basic settings are combined. Each setting can be enabled or disabled.



Saturation : Quantity of Color from gray to intense colors (highest saturation)

Contrast : Change between the bright and dark parts of the image.

Gamma : Color intensity adjustment.

Brightness : Position of the Color between Black and White

Black and White Levels can also be adjusted separately to complement previous settings.

Finally, there are 2 switches to enable or disable **AutoGain** and **AutoWhite**.

AutoGain will automatically expand the spectrum of each color. This is especially valid for low light captures.

AutoWhite will allow automatic color balancing.

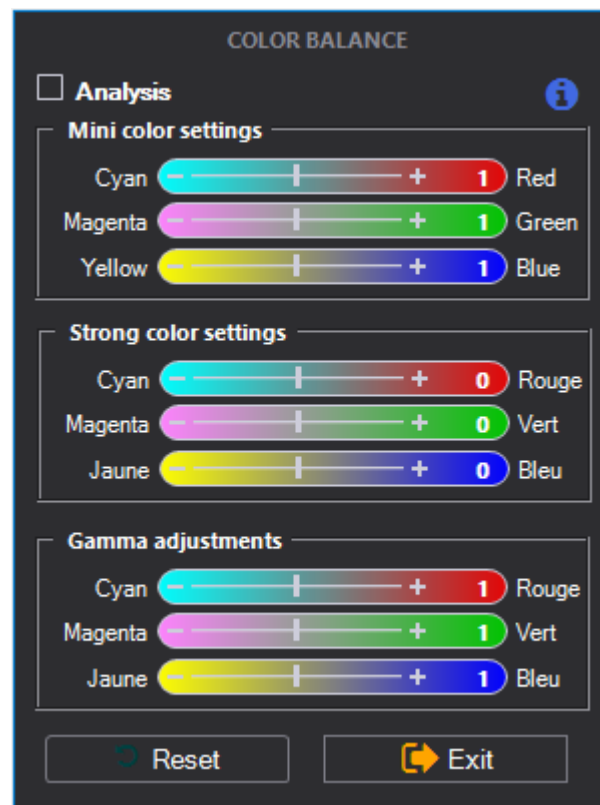
In this version 2.1, this function has been improved to obtain a more efficient balancing.

A **RESET** button allows you to find all the default settings.

=====

COLORS BALANCE

In this window, there is the possibility of improving the 3 RGB basic colors. It is in addition possible of AutoWhite or to replace it.

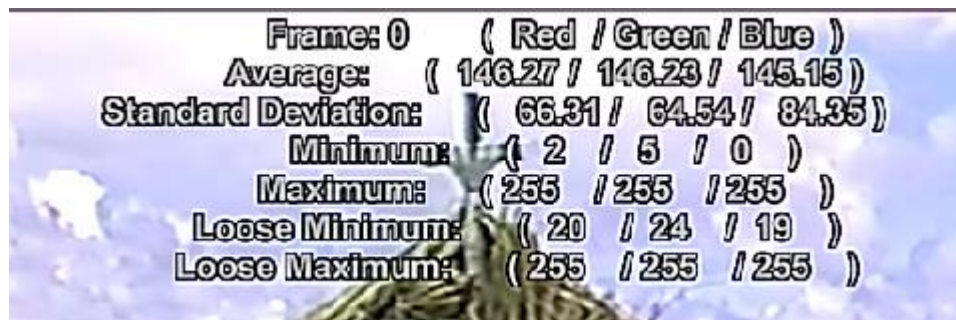


The setting can be done with 3 additional possibilities :

- a **Minimal Setting**

- a **Strong Setting**. This setting completes the Minimal Setting.
- **Gamma adjustment** to adjust the brightness of each color.

There is also a possibility of Color **Analysis**. This option tells you the values of each color to evaluate if the settings are correct.



A **RESET** button allows you to find all the default settings.

=====

DEGRAIN

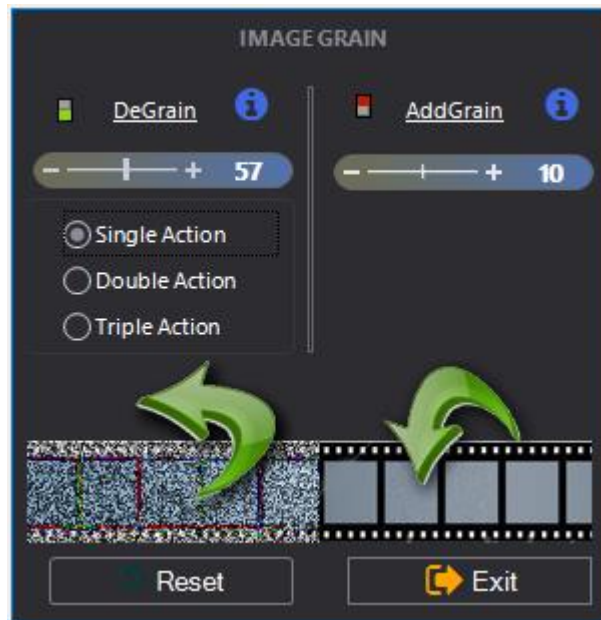
In this window called "Degrain", there are actually two functions: Degrain and AddGain.

Degrain Function

This function makes it possible to reduce the Grain of the image. The grain can be brought by the type of film, but also and sometimes reinforced by the means of capture of the film.

This grain can alter the sharpness. But it can also be very subjective, because this grain gives a certain truth to the film. An image that is too smooth will remove the authentic side of the film.

It is therefore up to everyone to choose among the settings according to their feelings.



The **Simple Action** filter will reduce the Grain in a light way.

The **Double Action** and **Triple Action** filters will repeat the calculations 2 or 3 times for better efficiency. But, it will increase the calculation times a little more.

A **slider** will allow to adjust the **force of the setting**. And this slider is usable with each Filter. The setting value is indicated.

AddGrain Function

The original grain can be completely variable on the surface of an image. And, therefore, the function "Decrease Grain" will reduce the effects.

But, we saw that the Grain could bring a certain authenticity.

Moreover, on some videos, such as those coming from the Tapes, the smoothing removes from the sharpness to the image and can thus alter the sharpness. Even if it may seem paradoxical !

The addition of Grain, and this time in a uniform way, will give sharp to the image.

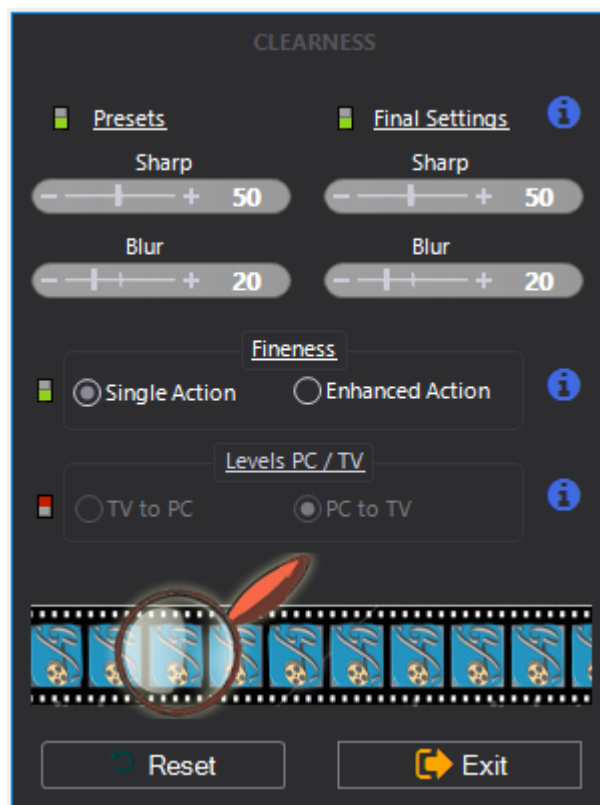
A **button** is used to select this function which is **not operated** by default. And a slider adjusts the strength of this grain.

Reset button restores default positions.

=====

BRIGHTNESS

This function has different sliders. Sharpness sliders and blur sliders. And why in duplicate ?



In fact, the 2 Net/Blur sliders **"Presets"** intervene **BEFORE** the Degrain function. And the 2 sliders **"Final Settings"** intervene **AFTER** the function Degrain.

These 2 complementary actions were divided by obtaining a better efficiency. It will therefore be understood that the series N° 1 has, in particular, an influence on the Degrain.

This being the case, it is necessary to play at your convenience on the activation or not of each series of sliders and on their adjustment range..

A button allows to select or not all the function SHARP/BLUR.

FINENESS Function

This function will, again, **improve the sharpness** of the image, increasing in a more precise way all the details.

Two filters, optionally, are possible :

- **Single Action** : this filter already has a very good efficiency on the Sharpness and is sufficient in many cases.
- **Enhanced Action** : this time, Sharpness is further accentuated. But, this necessarily has an influence on the duration of the calculation.

We can activate or not this function.

Levels PC/TV Function

This function will simply automatically adjust the Black / White levels of the image **according to the broadcast mode**.

The indication **"TV to PC"** on the button indicates that the levels will have a **high** adjustment (an image with a stronger light).

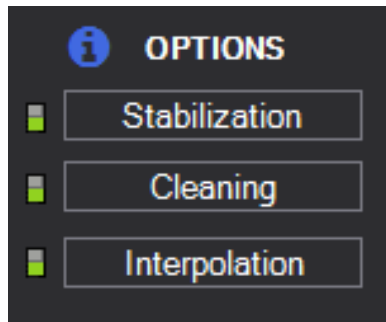
The **"PC to TV"** indication on the button indicates that the levels will have a **lower** setting (an image with less light).

But, be careful, this is not necessarily to apply automatically. We must test and choose according to the results obtained.

And a **Reset** button restores the default positions.


OPTIONS

These 3 buttons named Options will also affect the quality of the image. But their interaction on a direct vision of the image is not necessary, because this action will be done in Time Mode, that is to say by using several images to perform a calculation.



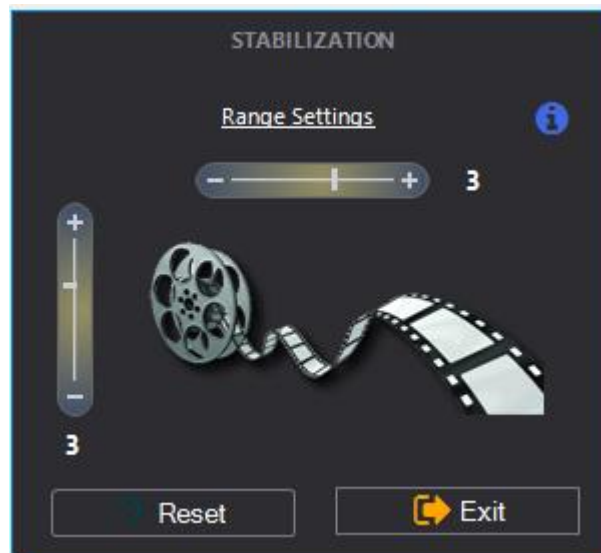
- **STABILIZATION** : Option to stabilize camera movements.
- **CLEANING** : Option for cleaning tasks and scratches.
- **INTERPOLATION** : Option to interpolate images with each other for smoother video.

All these Settings windows can be opened at the same time. You can position them wherever you want on the screen. Their position is remembered for the next opening.

A switch  to the left of each button allows you to disable or enable the function.

STABILIZATION

This function allows to correct some of the problems of instability of the image during filming.



Two sliders allow you to play on the stabilization intensity.

You can play in the **Vertical** and / or **Horizontal** direction.

The setting ranges from 1 to 4 with jumps of 1. 3 being the default setting.

The minimum value of 1 may affect the stability setting.

The maximum value 4 will, on the contrary, play a more important role.

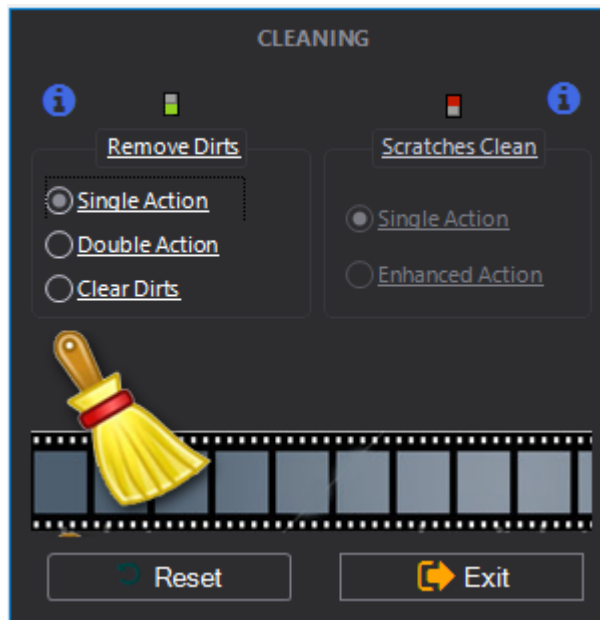
A **Reset** button is used to find the default value (3 for each cursor)

=====

CLEANING

This window offers 2 possibilities :

- Remove Dirt
- Scratches Cleaning



Remove Dirts

This function allows you to delete tasks **on a single image**. This filter works so **frame by frame** throughout the Clip.

There are 3 possibilities of choice :

- **Simple Action Filter** : this filter will remove all the tasks of your rather dark tone. In the majority of "not too dirty" movies, this filter is enough.
- **Double Action Filter** : it is identical to the Simple Action filter, but with a repetition of calculations. This filter is intended for movies with more tasks. But beware, the calculation time is a little longer than with the Simple Action Filter.
- **Clear Dirts Filter** : this filter also works in Double Action but is more specialized on tasks with a clearer tone.

A button activates or deactivates this function. It is enabled by default.

The Simple Action filter is programmed by default. And the Reset button allows you to find this position.

Scratches Clean

This function erases part of the **vertical stripes** of the film.

The **Single Action** will remove scratches on a film that does not have too much traces.

The **Enhanced Action** is more powerful, but it can alter the image on vertical lines. So use with caution.

A button activates or deactivates this function. It is disabled by default.

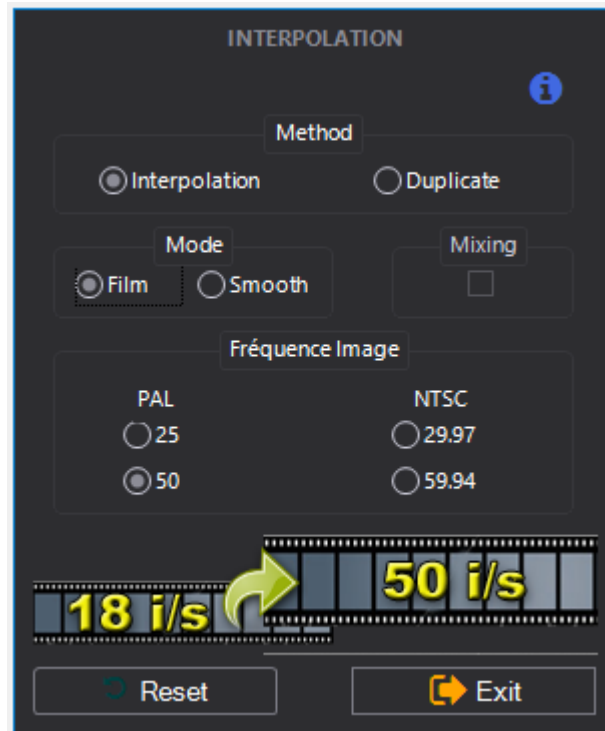
A **RESET** button is used to find the default positions.

=====

INTERPOLATION

This function makes it possible to multiply the images by interpolating between each image. The interpolation will change the speed of the original movie (for example 18 frames/second) to a speed compatible with today's broadcasters (for example 50 frames/second). In addition to the compatibility, this will make the images more fluid and therefore less jerky.

But beware, the interpolation also has some flaws, like some artifacts visible on fast movements. And so, there may be a choice to make on risky sequences.



This is the reason that justified the addition of a "Duplicate" function.

There are therefore 2 possibilities, at choice :

- **Interpolation**
- **Duplicate**

Interpolation

The interpolator has 2 calculation modes : "**Film**" and "**Smooth**". "**Film**" is more general and faster in computation time.

"**Smooth**" can make softer tweens, but it will require a little longer computing time.

Duplicate

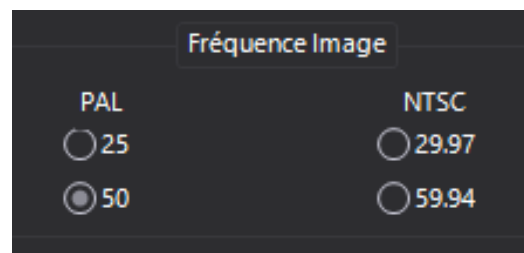
This function will simply copy the adjacent image without interpolation. It is, without a doubt, a little less fluid but without artifacts.

A complementary function associated with "Duplicate" has also been added : this is the "**Mixing**" function.

This function will calculate a complementary image compared to the previous one to improve fluidity. It's a compromise between a simple duplication and total interpolation.

The calculation of the "Duplicate" mode is slower than the "Interpolation" mode.

We can interpolate or duplicate in **PAL** and **NTSC** standards, with standard frequencies.



Attention : Interpolation or Duplication is **MANDATORY** for **Sound Movies**. This allows you to readjust Audio and Video times for better synchronization.

Advice : Use Interpolation for all scenes (especially in sound movie). Then, you can restart the processing of the clip or portion (with the Trim), using "Duplicate with or without Mixing" for the animated sequences.

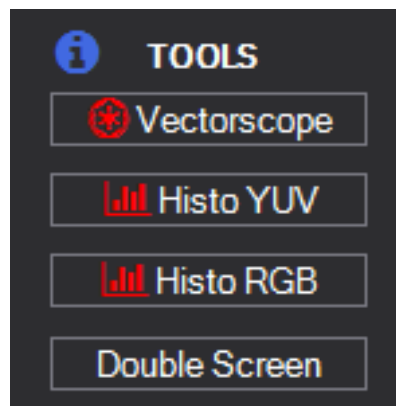
Then, you can overlay the 2 files in your editing software (NLE) and choose the sequence that is best.

Important reminder : FILM9 will produce **Progressive Movies**, regardless of the choices made on the number of frames per second.

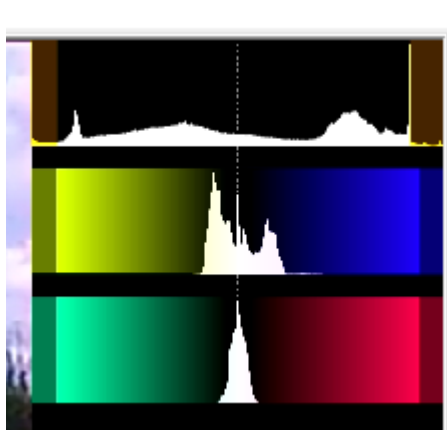
Reset button restores default positions.

TOOLS

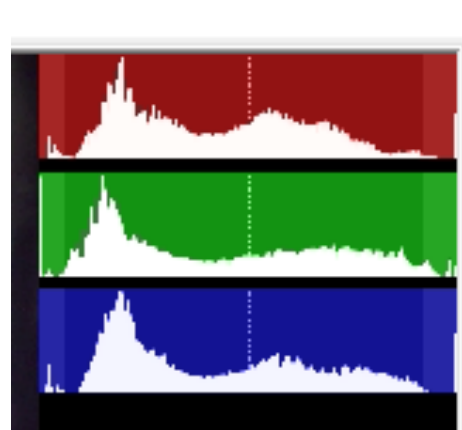
These buttons will open histograms near screens to check color settings.



Histogram YUV



Histogram RGB

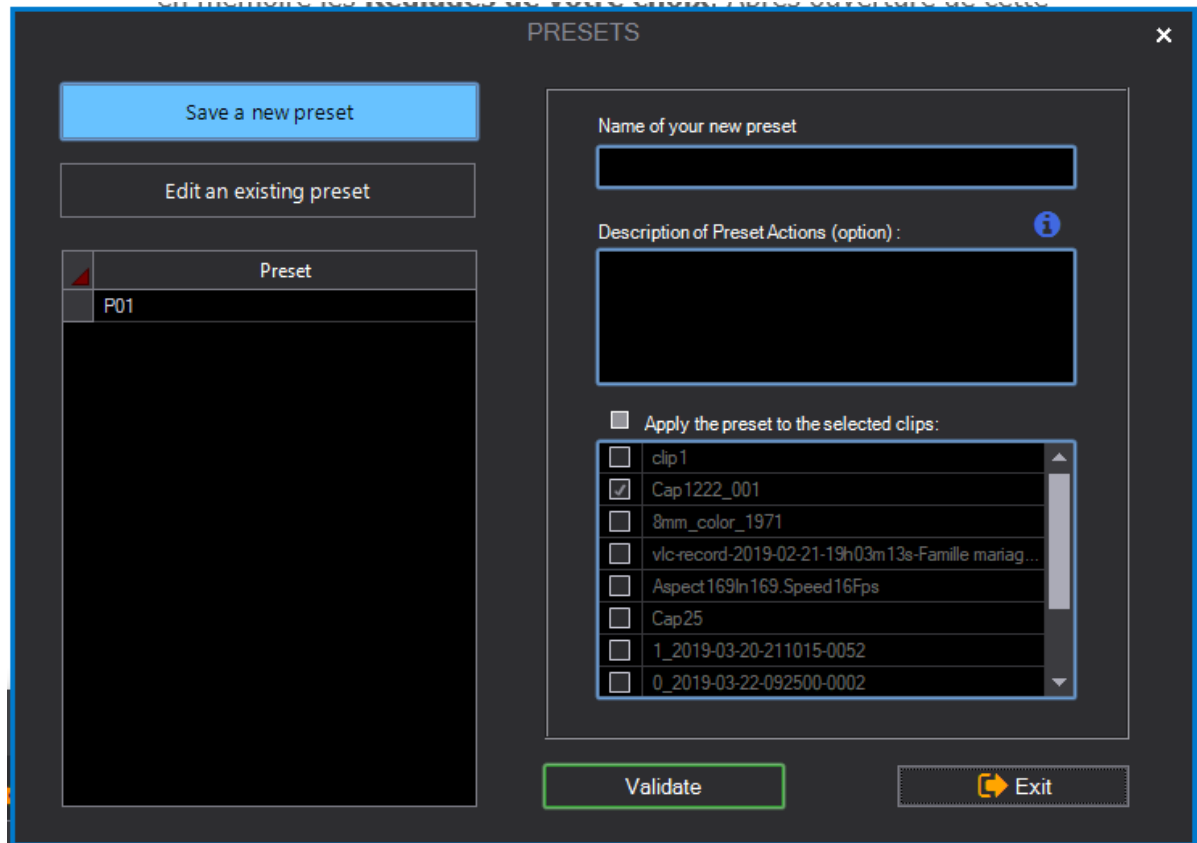


These histograms will allow you to better adjust the Bases and Color Settings.

In addition, a **button** allows you to switch from **Double Screen** to **Single Screen**. For the Dual Screen, you have the vision of the **Original Clip** and the **Settings Clip**. For the Single Screen, there is only the Settings Clip.

PRESETS

In this window, you can program and then **store the settings of your choice**. After opening this window, you can create, edit, or delete a preset.

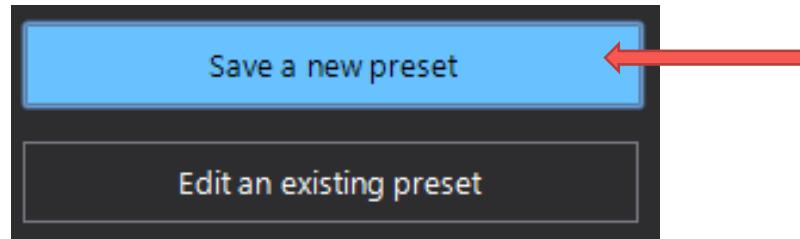


Process :

- To Create, Modify or Delete a **Preset**, click on the button above the Clips / Actions grid.



- **Create a new PRESET.**



The settings that will be stored are those of the active clip.

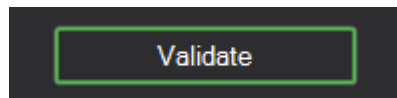
Enter a **Preset Name** :

A screenshot of a dark-themed interface showing a text input field. Above the field is the label 'Name of your new preset'. The field itself is empty and has a light blue border.

Enter your **comments** in the Description box.

A screenshot of a dark-themed interface showing a text area. Above the text area is the label 'Description of Preset Actions (option) :'. To the right of the label is a small blue information icon. The text area is empty and has a light blue border.

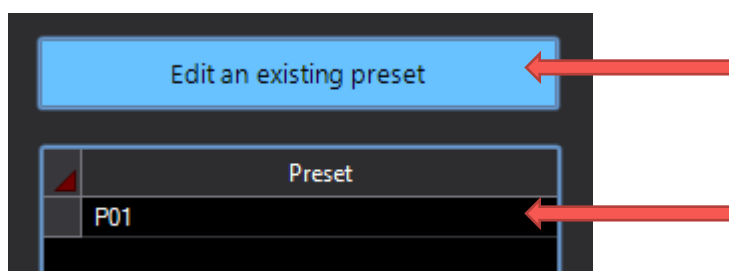
And, **Validate** :



His name fits in the grid Preset and in the grid of Clips. Then you can associate this Preset with other Clips in the Clips grid.

- **PRESET Modification**

To modify an existing preset, click on "Edit an existing preset" and then on the name of the preset.



You can then modify its description. This applies to all clips that have the same preset.

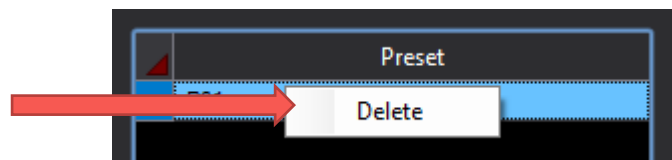
And clic on **Validate** to record the modifications.

- **To Delete a PRESET**

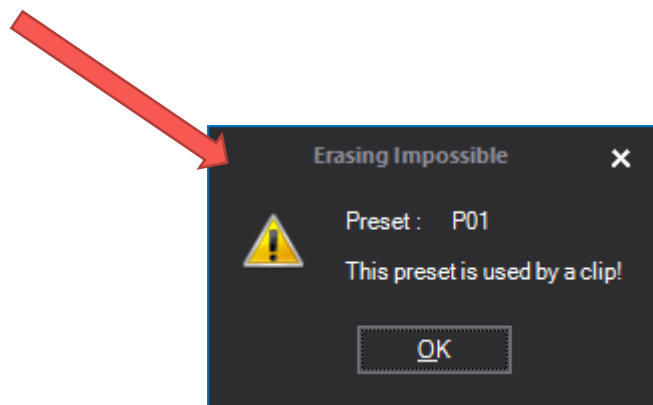
Important : To delete a preset, it must not be used by a Clip.

If you want to delete a Preset that is already used by a clip, you must make a new setting or reset in a setting window.

This will cause the information "Custom Settings" and eliminate the preset associated with this clip. Then you can delete it. Then you can delete it by **right-clicking**. A window offers the deletion.



But if this preset is used by a clip, you will not be able to delete it. A message appears. To do this, repeat the procedure indicated above.



QUESTIONS ABOUT POSSIBLE PROBLEMS

Can I install the Film99 directory anywhere on my computer?

- No, it is strongly discouraged to install it on your desktop.
- On the other hand you can install it either in "program files", or on a fast hard disk other than the system disk "C:"

Can I move the Film9 directory after installation?

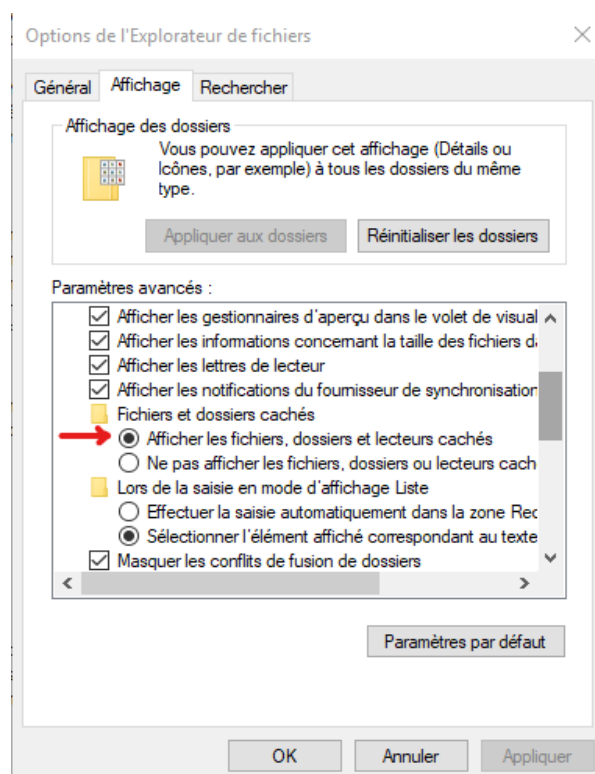
- Yes, by a simple drag and drop. It will have no effect on its operation.

I see that my final clips are created in a directory that I define in the Project window. Where should I decide to put this directory ?

- For a better responsiveness of the application, it is better to deposit your original clips on a hard drive, and your "Clips Film9" directory on another disc. If these hard drives are SSD (Solid-State-Drive), it's perfect.

When I click on Film9.exe, nothing opens.

- In the Windows search bar type: "Hidden folders"
- Click on "Show hidden folders"
- You should get this window :



- Check option marked with a red arrow
- Then open the explorer on your own username and open "AppData":



- Delete the "Film9V2" folder located in the "Local" directory
- Open Film9

The "Validate" button disappeared in the "Preset" window :

- Right click on the Windows desktop and change the display settings
- Text size of applications and other items must be 100% (see below)

Mise à l'échelle et disposition

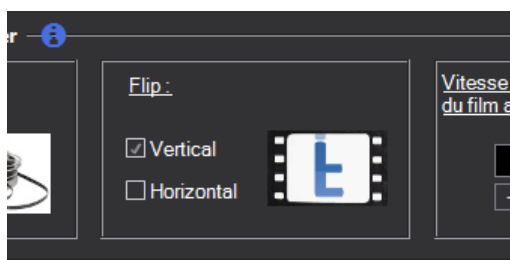
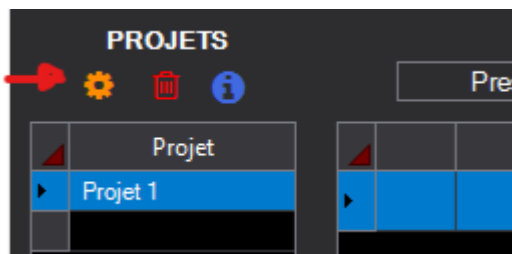
Modifier la taille du texte, des applications et d'autres éléments

100% (recommandé) ▼

[Paramètres avancés de mise à l'échelle](#)

My video is displayed upside down on the VirtualDub window:

- You must set up a project before starting to work with your videos
- This project will allow you to inform Film9 about the characteristics of your videos.
- These features must be known by Film9 so that it can work properly.
- Open the Project window by clicking here. Then Invert the Image in FLIP :



After Film9 processing of my video, I get a clip or the action is accelerated. How to slow down my movie ?

- This is a misconfiguration done in the "Project" window
- We recommend that you read the "Project" chapter of this manual carefully.

The result I get in the end on my videos is disappointing, why ?

- This application requires to know the action of each filter. Sometimes the overabundance of the corrections gives a non-natural aspect to the videos.

Each correction must be metered sparingly.

It is desirable to perform several tests by playing filters and their intensity to obtain the best possible result.

By refining your knowledge of the fine settings of each filter, you will be surprised at the possible improvements.

CHANGE HISTORY

VERSION 2.1

- Using VirtualDub2
- Update and Replacement of various DLLs
- Remove the mandatory installation of QuickTime, Xvid packages
- Update K-Lite Pack
- Deleting default settings when opening the clip
- Added Extensions for Decoding (.MXF, .VOB, .TS)
- Modification of the Decoding System
- Remove Xvid Encoding (replaced by H264)
- Choice of the output container (mp4, mov, avi, mkv)
- Choice of Output Codec (H264, ProRes, FFV1 Lossless, Lagarith, No Compression)
- Choice of an output bitrate for the MP4
- Added various Encodings for Audio (PCM, AC3, MP3)
- Improved process for AutoWhite (White Balance)
- Attenuation of the AutoGain
- Simplification of the procedure to display the completed clips
- Replacing video tutorials with downloadable .pdf Documentation in two languages
- Improved Audio Track Detection
- Added a 16/9 Framing Function (blurred edges)
- Changing Color Balance Settings
- Minor changes to the Presentation
- Bug fixes and code optimization

VERSION 2.11 - 5/11/18

- Better support for some Audio Codecs
- Minor modification window Projects

VERSION 2.12 - 11/11/18

- Detection and possible installation of RunTime MSVC++ 2012/2013/2017
- Support for Non-Standard dimensions as Desired Dimensions in the Project.

VERSION 2.13 - 05/12/18

- Update VirtualDub2
- Taking into account SD formats for a Final Dimension in HD.
- Improvement of Degrain
- Improved TRIM for the Cassette option
- Fixed a bug when opening the Passe2

VERSION 2.14 - 23/12/18

- Implementation of a new module "Presets"
- Modification to prevent processing of multiple video files with the same name.
- Modification of the efficiency of the Degrain setting.

- Implementation of a modification to allow future updates without erasing the settings (Presets) of the user (effective from the next version)
- Improved H264 Encoding
- Operation of the list of clips simpler and more fluid.
- Fixed a bug displaying: "No active clip ..." when accessing a setting or changing a clip.
- Fixed a bug on wrong values in the form "Color Balance"
- Fixed the bug triggering the message "" UpdReg | Delete: ClassSQLReglages ClassReg 39 "and blocking the application.
- Fixed a bug modifying the Gamma value after calling a preset.
- Fixed a bug preventing the display of blurred background.

VERSION 2.15 - 31/12/18

- Improved compatibility with Windows10
- Fixed a bug on the detection of an existing directory

VERSION 2.16 - 20/02/19

- New settings on the AutoGain and AutoWhite functions.
- Update VirtualDub2
- Fixed a bug closing the application at the start of processing a clip.