

PFClean 2.1 Tutorial

Workflow



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Introduction

In this tutorial, we'll show you how to use the timeline to manage clips and effects stacks as if you were working on a full film. The timeline centric workflow is a new feature for PFClean 2.1 and is suited to either large restoration style projects, where a film or documentary is re-digitised from a master source, or large DI project where a number of clips fresh of the scanner are assembled either by hand or via an edl. Using the timeline to manage your project can save a huge amount of time in both processing and review.

The tutorial starts by setting up parameters that can be transferred to all the clips, then using the batch processing to process all the clips in the timeline at once with a general effects stack. The tutorial concludes by showing how it is also possible to use the timeline to step through clips individually to QA them and where appropriate, carry out localised fixes.

Benefits of the timeline based workflow;

- Significant reduction in time to set up clips and process clips.
- Tied into batch processing.
- Realtime playback with the right hardware
- copying of effects stacks

Download Footage

This tutorial requires you to download and uncompress the following footage to an easily accessible storage location: http://www.thepixelfarm.co.uk/Footage/New_Filmlight_Footage.tar.gz

Setting up you project

Create a new project. Make sure that the footage is set to 'Externally Reference' and that the frame rate is set to 25 fps.

Load the clip by dragging the folder into the media bins.

Add footage to timeline

First of all, we'll remove the shake using a "Stabilize" effect.

Click "Timeline" button to switch to the timeline panel. Drag the clip from the media bins to the timeline area. The clip thumbnail will display a '+' sign when it is in the correct area. You should now have a screen that looks like the one below.



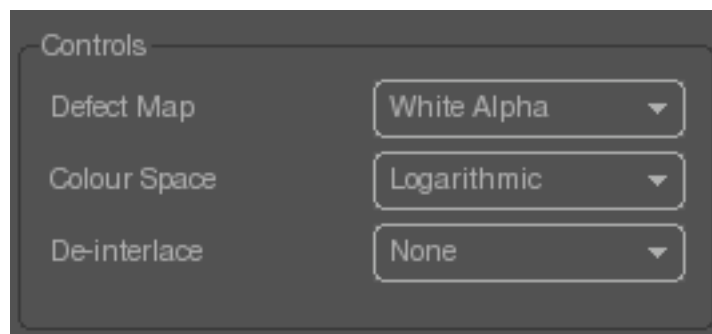
Press the “Cinema” button to view the footage in the Cinema. The clip is a log scan so we will need to use a LUT to display it correctly. Activate the LUTs by clicking the LUT button .

Note: If the image appears to dark, you can open up the LUT preferences by pressing the next to the LUT button. Make sure you have the correct LUT applied. If you are using the Cineon LUT, you may want to adjust the screen gamma to suit.

Press the “<->” button to the right of the timeline to zoom the timeline to clip size. Select the clip using Ctrl + Left Mouse Button (Command + LMB on the Mac). It will turn grey when selected. While the clip is still active, click the “Edit” button, this will enter you into the Edit Panel, but from the timeline rather than using the more conventional “Edit” button to the right of the timeline.

Note: You are now in 'Timeline edit mode'. This is very similar to edit invoked by selecting clips in the media bin, but all clip management is carried out via the timeline in the order that clips appear in the timeline.

Next you need to set the parameters for the clip. In the controls area, switch 'Defect Map' to 'White Alpha' and 'Colour Space' to 'Logarithmic'.



Note: The footage in this tutorial has a defect map embedded in the alpha channel, provided by a scanner that has an infra red scanning facility. We will later use this to fix the dirt.

Click “Done” to return back to the timeline panel.

Cutting up the clip

The clip contains three distinct shots. We will now split the clip into three sub-clips.

With the clip still selected, click the “Cut” button under the timeline (not the one to the side of the timeline). Your screen should now look like below.



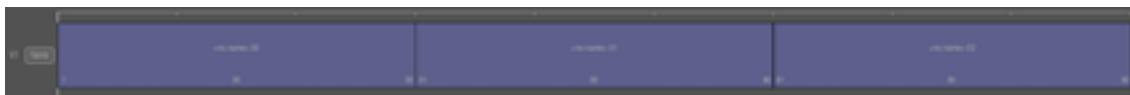
To cut this clip up, you will use the timecode that is embedded in the DPX file header. This is a very quick way to cut the clip up. Make sure that you only have timecode selected as per the below screenshot.



Click the ‘Detect’ button and the scrub bar will show two blue lollipop markers, showing where the cuts are, and the information about the cuts will be listed in the 'Cuts' list.



Click “Commit” to go back to the timeline panel. In the timeline panel you will see that the original clip has been cut up into 3 individual clips automatically based on the scene changes defined by the timecode.



Note: The cut tool can use either the timecode or keycode that is embedded in the DPX header file to determine where cuts are. If the original files are not DPX or do not have any valid information embedded in the header file it is possible to use the 'Image Content' option. This employs a sophisticated search algorithm to detect changes in the image data and automatically generate the cut points.

Generating a general effects stack

Note: In order to use batch processing in PFClean, you need The Pixel Farm's batch processing infrastructure with PFFarmer and PFFarmhand set up. You will also need a PFCleanNode license.

PFClean allows two types of batch processing;

- 1 Batch processing a number of clips with a general effects stack.
- 2 Batch processing a number of clips were their own unique effects stack.

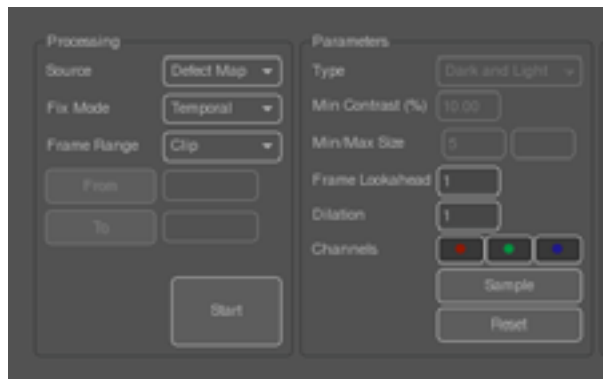
Scenario 1 is usually carried out when clips are first brought into PFClean to process common effects that are likely to be present in all the clips. After batch processing all clips, they can be reviewed and further fixed on per clip basis. Scenario 2 is likely to happen with footage that varies in quality throughout the duration of the film. Once the film has been cut into clips(using the cut tool), effects stacks can be generated and transferred to clips of a similar quality, in much the same way as a conventional effects system. We will use scenario 1 to clean the entire footage in the timeline automatically.

Select the middle clip <no name>01, and press the “Edit” button below the timeline. This will enter you into edit mode via the timeline.

Now we create the effects stack for the footage. Click the “Create” button and select a Dirt node first, then a Degrain node. After you've done that click “Done”. This will switch you into the effect editor, defaulting to 'Degrain', which is the effect at the top of the stack. Step down to the dirt node by pressing the cursor down key.

Note: It usual to analyse the grain and produce a preset when doing grain reduction, but for the purposes of this tutorial it will not be necessary. See the grain tutorial for more details.

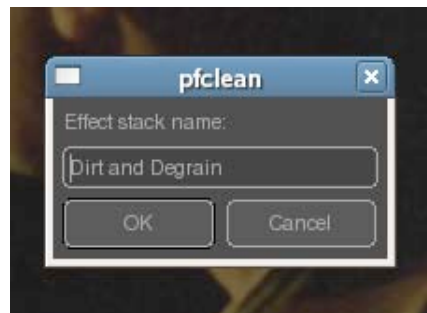
In the processing section make sure that 'Source' is set to 'Defect Map' and 'Fix Mode' is set to 'Temporal'. There is also a slight offset in the defect map, so set 'Dilate' to 1 to compensate. The parameters should look like below.



Saving the effects stack for Batch processing

After the parameters are set, return to the clip manager window by either pressing the down arrow on your keyboard (the clip manager resides at the bottom of the effects stack) or simply pressing the “Clip” button to the left of the effects edit panel.

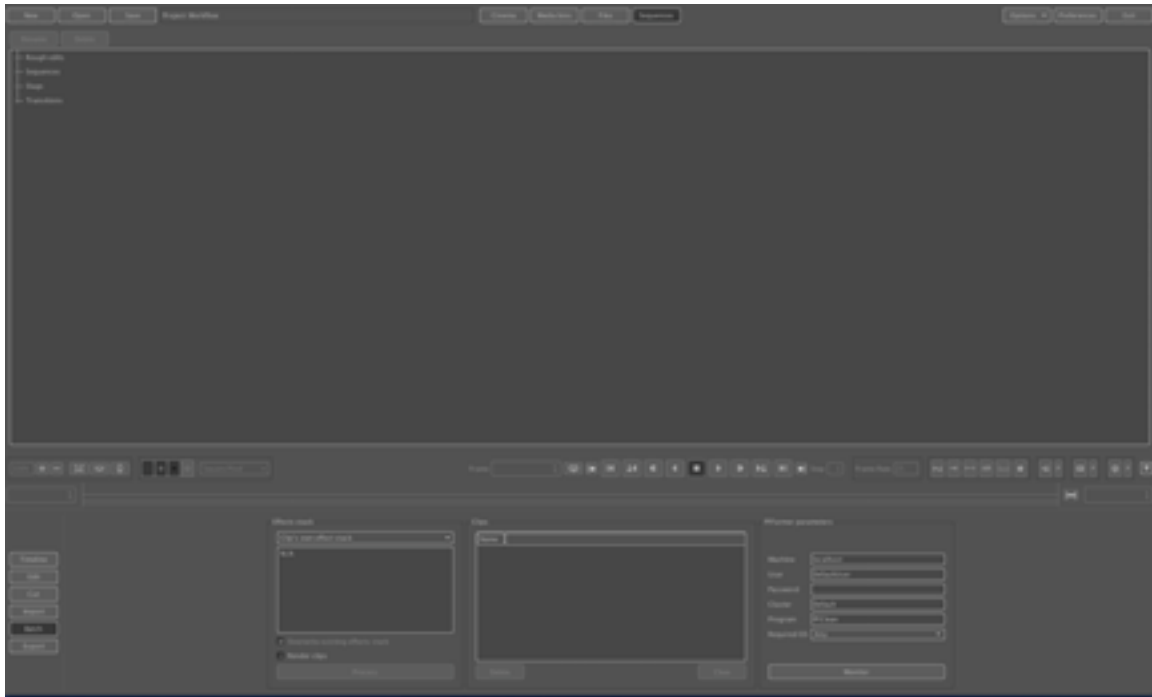
When back in the clip manager, press the ‘Save’ button at the bottom of the effects stack. This will bring up a pop-up window, prompting for a name. Call it 'Dirt and Degrain' as below, then click “OK”.



To finish editing, click “Done” in the processing panel. This should return to the Timeline.

Batch processing the timeline

To process all the clips in the timeline with the same effects stack, it is necessary to use the batch manager. Switch to the batch manager panel by clicking on the “Batch” button, at the same time, open the sequence browser by selecting clicking on the “Sequences” button. PFClean should now look like below.



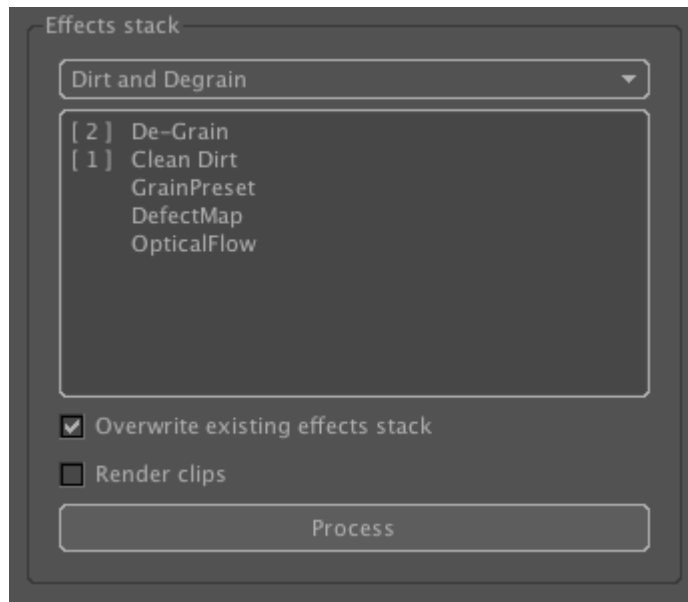
Open the sequence hierarchy to expose all currently available sequences in the current PFClean project. We are interested in the thumbnail that reflects the sequence that currently resides in the timeline. It should be called 'Sequence 1' and will be identifiable by the thumbnail. Do not worry if it has another name, as long as it is the correct thumbnail.



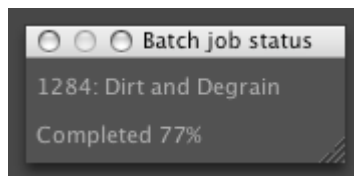
Drag Sequence 1 directly from the bin to the 'Clips' list in the batch panel. The thumbnail will be identified as suitable by the '+' sign. Drop the clip and the sequence will be added to the clip batch list and the 'Process' button in the Effects Stack section will become active (DO NOT PRESS IT YET). PFClean should now look like below.



Click on the drop down list in the Effects Stack to expose the effects stack that was saved earlier called 'Dirt and Degrain' and select it. The effects stack overview will update to show information about the effects stack. It should look like this.



If everything looks fine, you can now press the “Process” button. A pop up window will confirm, that the job has been submitted correctly, click ‘OK’ and it will be replaced by a status window like below.



When the batch processing has finished, switch back to the Timeline and the Cinema. PFClean should look like below.



Reviewing your work

It is now possible to review the fixes that have been made. You can do this by scrubbing through the entire timeline, or selecting individual clips to review them individually. You can use all the review tools in the Cinema including the 'A/B split', 'Focus on Interest' and 'Histogram' tools.

Editing individual clips from via the timeline

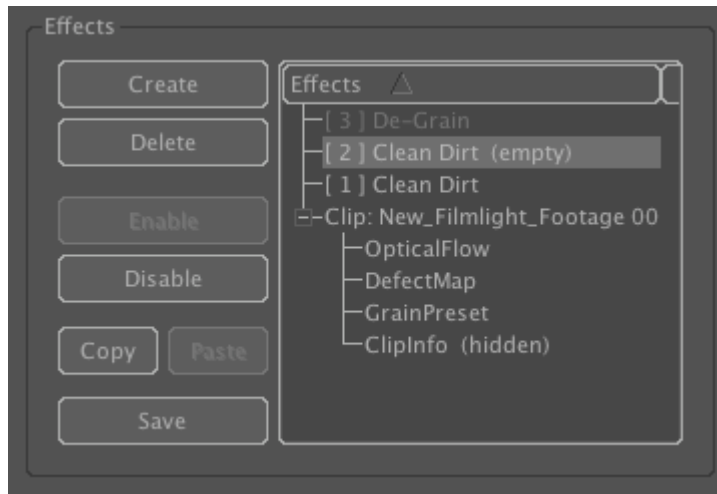
Assume that the full timeline has been reviewed, and that further defects in the clips, which have not been fixed by the IR pass, have been identified. They will need to be fixed now.

Select the first clip in the timeline using Ctrl+Left Mouse Button, then enter the edit panel using the 'Edit' button under the timeline.

You will notice that the effects stack is still present, but if you enter the dirt effects, a list of all defects that have been fixed are present in the meta data list. You do not need to worry about this at the moment, but it illustrates how many fixes have been applied to each frame. If you scrub the play head through a few frames, you will see this list change.





From the dirt node, switch into the Clip manager by pressing "Clip". Now insert a new dirt node above the original one (Create>Dirt>Done). The effects stack should look like below.



With the new Dirt effect still active in the effect manager (highlighted gray as above), switch back into the Effect edit panel using the “Effect” button.

Switch the Source to 'Image Data' and the Fix Mode to 'Temporal'. Next click the “Mark Dirt” button. You can now go and remove the remaining dirt defects for this clip manually. Move to a frame that still has dirt in it and draw a box around by dragging the Mouse with the Left Mouse Button pressed. After you release the mouse button, the marked dirt will be removed. See the Dirt Tutorial for more information on manual dirt removal.

Note: Fixes will be very fast as optical flow has already been calculated.

When you are satisfied that you have removed all dirt from the clip, you are ready to move into the next clip in the timeline. You can use the  and  arrows in the process area to switch to the next or previous clip in the timeline. Repeat the same process as necessary to fix defects. Then move to the third clip.