

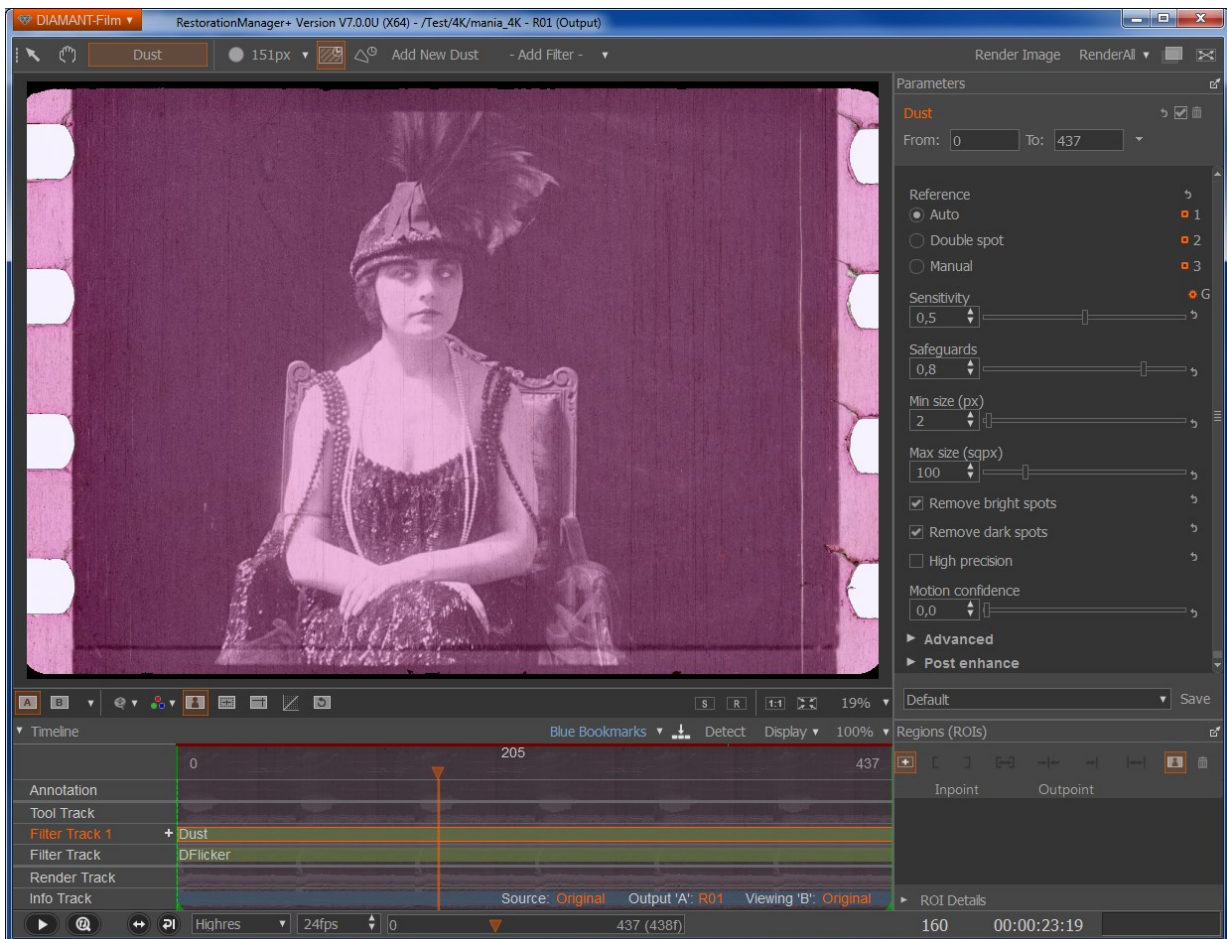
What is new in DIAMANT-FILM Restoration V7?

This chapter describes the major innovations of this release and is targeted to experienced users of the previous DIAMANT-FILM Restoration Suite

General

DIAMANT-FILM has been optimized for the latest Windows operating systems Windows 8 64 bit. You need to have a 64 bit operating system in order to run the DIAMANT-FILM system. Internally everything has been brought forward to the latest compiler technologies and library versions.

The use of GPU graphic-card features (NVIDIA CUDA) for a quality and performance improved automatic object detection and tracking has been significantly expanded.



RestorationManager+

The RestorationManager+ has been improved in many ways. The parameters, ROI and brush widget have become independent dock widgets to allow a more flexible user interface. The playback engine has been

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speeded up to address faster playback in ultra-high resolutions. The 3D LUT support has been expanded. Renderings via JobManager has been improved. This allows to balance the workload between main workstation and additional render client. Reworking the shortcut editor allows for better individual customisation of shortcuts. It is now possible to load several additional sequences for comparison or as clone source with individual offset settings. Many functions have been improved in speed and usability.

Post Enhance

The post enhance feature is now available on top of almost all tools and filters. It allows to add a blur, re-grain or sharpen on top of every operation. All these functions can be applied on individual channels and regions or difference masks.

Enhance

The new Enhance Tool/Filter replaces the old Blur and Sharpen but adds also re-grain to it. All these functions can be applied on individual channels and are similar to the post enhance function.

Port from Render Track to Filter Track

We are in the middle of the work for porting every filter from the render track to the filter track. The following filters are now deprecated on the render track since the filters have been ported or replaced by new filters. We still keep the old version of those filters in the “Out-Dated” section for backward capability, but it is highly recommended to use the new pendants.

Render Track	Filter Track
DFlicker	DFlicker
Dust	Dust
Zoom	Zoom
StabAuto	Stabilze
DShake	Stabilize
StabPoint	StabROI
DWarp	DWarp
InterpolateSequence	Interpolate Sequence
VerticalLine	Scratch
Linescratch	Scratch

Please note that by porting we also could achieve some significant speed ups.

Dust Filter

Several improvements have been made concerning the dust filter. First of all we could improve the non high precision mode. This means option “High precision” off. It now gives the same good results but with a speed

enhancement of factor two. This is now the new default. Also the parameter Protection has been improved and is now called Safeguards. The option “Contrast stretching” is no default on, which allows better detection for flat images.

Scratch

The Scratch filter is a new filter addressing vertical line removal. This filter is replacing the old Linescratch and VerticalLine. The filter is fast and also for automatic and interactive use. So it is available as filter and tool.

DFlickerFlow

DFlicker flow is now finally released. This is a new GPU based highly local operating luminance de-flicker. It just needs one reference frame per shot which can be set manually or can be selected automatically by the filter itself. With the new multi reference frame option it is now also possible to work better on a large variety of content.

OmniClean

OmniClean is now finally released. This is a new GPU based de-noising/de-flickering/repair filter working on a large temporal volume. Please note that this filter requires minimum 2GB RAM on your graphics card.

Minor Tools/Filter improvements

History Filter

Works now on whole image if no ROI is present. Added auto align feature like in clone.

Clone

Absolute frame number as reference image

Post Enhance

Now available in most filters and tools.

Batch renderer

There are different ways to use the new batch renderer.

1. Pre-process a sequence to generate shot information and proxies
2. Re-Render project(s) over multiple generations
3. Prepare projects to be rendered and start renderings of several projects at once (including pre-processing)

This allows to automatically render several projects over several generations in a batch mode allowing to prepare several jobs and render them automatically for example over night or over the week-end in the background. The batch renderer makes full use of the render farm if available.

Annotation

A new annotation functionality has been added to the RestorationManager+. With this Annotator the user can annotate freely a film prior to restoration. This also helps in the restoration planning. Reports can be generated for Excel, OpenOffice, HTML and XML.

Multi GPU support

The multi GPU support improves the render speed significantly

And many more

In total we have incorporated uncountable new features and improvements.