

SILHOUETTE

What's New

ABOUT THIS GUIDE

Copyright

No part of this document may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying and recording, for any purpose without the express written consent of Boris FX.

Copyright © Boris FX 2025. All Rights Reserved

February 18, 2025

About Us

Founded in 1995, Boris FX is a leading developer of VFX, compositing, titling, video editing, and workflow tools for broadcast, post-production, and film professionals. Boris FX products have grown to serve over a million artists worldwide. The company's success lies in its ability to tightly integrate and leverage technologies through strong partnerships with Adobe, Apple, Avid, Blackmagic Design, Autodesk, FilmLight, Grass Valley, Magix, SGO, and other leading developers of video editing software. In 2014, Boris FX acquired Imagineer Systems, the Academy Award-winning developer of Mocha planar tracking software. In 2016, Boris FX acquired GenArts, the developer of Sapphire, the gold standard plug-in package for high-end visual effects. In 2019, Boris FX acquired the Academy Award-winning Silhouette for advanced feature film rotoscoping, painting, and effects.

SILHOUETTE 2024.5.6 - 2/18/25

Bug Fixes

Numeric Field Adjustment Issues

Alt-Mouse Wheel Adjustments

Hovering over a numeric field and using **Alt+mouse**, **Alt+Shift** or **Alt+Ctrl/Cmd** did not work properly.

Arrow Key Adjustments

Hovering over a numeric field and using the **Up/Down Arrows**, **Shift+Up/Down Arrows** or **Ctrl/Cmd+Up/Down Arrows** did not work properly.

Plug-in Paint > Alpha > Brush Mask / Painted Alpha Output Was Incorrect

The OFX Paint > Alpha > Brush Mask and Painted Alpha output was incorrect. The input alpha was not getting cleared and there was opaque alpha in unpainted areas.

Scripting - presets.py broken

presets.py had a bug with the dictionary iteration.

Changes

Mask ML / EZ Mask Alpha Overlay Behavior

Previously, Mask ML and EZ Mask automatically turned the alpha overlay on and then turned it off when selecting another node. Now, the alpha overlay does not turn off when going to another node to be consistent with the behavior of other nodes.

Paint - Alpha Only Behavior

Opaque is now disabled by default when painting only in the alpha channel. This is more intuitive when painting luminance values in the alpha.

SILHOUETTE 2024.5.5 - 2/11/25

Bug Fixes

Adaptive Update Mode Zoomed In To Left Corner

When using a roto node with Adaptive update mode, editing spline points caused the image to zoom in to the top left corner and the Magnifier window disappeared.

Alt+Enter In Script Editor Ran Twice

Pressing Alt+Enter in the script editor (to run the script) executed twice.

Obey Matte Parameters Missing

Obey Matte parameters could disappear in some cases.

Paint - Color & Detail Modes Painted Black Alpha

In Paint, when Alpha and Opaque were enabled, Color and Detail modes painted black into the alpha channel instead of white like in Normal mode.

Pixel Color Status Bar Didn't Work With GPU Nodes

The pixel color status bar didn't work with GPU nodes.

Power Matte Render Skipped Some Files

When rendering Power Matte to an alpha only format, some frames were missing from the rendered files.

QT SVG

Silhouette now supports the QtSvg module which provides classes for rendering and displaying Scalable Vector Graphics (SVG) images. To accomplish this, Qt+PySide2 was upgraded to 5.15.15. On Windows and Mac, Python was also updated to 3.10.

Stereo Align Crash (Windows)

On Windows only, clicking on the Stereo Align icon crashed Silhouette.

SILHOUETTE 2024.5.4 - 12/20/24

Features

Matte Assist Propagation Mode

When using a reference frame not at the start, Propagation Mode produces a more accurate result since it propagates both forward and backward and not just from frame 1 as before.

Propagation Mode

Controls at what frame matte propagation starts which can be both forward and backward from a frame.

Auto

Matte propagation starts with the first keyframe.

Custom

Matte propagation starts with the frame defined in Start Frame.

Start Frame

Sets the matte propagation start frame when in Custom mode and defaults to frame 1.

Bug Fixes

EXR - Select Metadata Attributes Removed

Silhouette was stripping certain attributes from the EXR metadata. For instance, "chromaticities" and "timeCode" were removed on a roundtrip through Silhouette.

Mask ML

Did Not Use The GPU On Intel Mac

Mask ML did not use the GPU on an Intel Mac and was very slow.

Mask ML Result Offset

After playing back Matte Assist ML and then selecting Mask ML, the Mask ML result was offset until the cache was cleared.

Matte Assist ML

Crashing When Connecting Mask ML Output To Matte Assist ML Data Port

Sliding Matte Assist ML underneath Mask ML connected the output of Mask ML to the data port of Matte Assist ML which caused a crash.

Crash When Connecting Matte Assist ML to Resize

Silhouette crashed when sliding Matte Assist ML to connect to a Resize node.

Render Failure With PNG/JPG Alpha Only

Rendering a PNG/JPG alpha only output image sequence failed after 20-30 frames.

OFX - HazyByFilmConvert Blacklisted

HazyByFilmConvert was added to the Silhouette OFX blacklist as it was causing a crash on start.

Resize Created Padded Result

An image larger than the Session with Resize to scale it down to size created a padded result with black borders.

Roto

Artifacts With Open Shapes Set To Cap Style > Round

There were visible horizontal or vertical artifacts on open shapes when using a round cap style and when the cap got so small there was nothing for it to generate.

Artifacts With Open Shapes That Had Color > Outline Enabled

Open shapes rendered into RGB always went through the same outliner process that closed shapes did, which was not correct and it created horizontal or vertical artifacts. It actually made them render twice as thick because it was outlining the stroke. Now, open shapes rendered into RGB will use the actual open shape thickness instead of the Roto outline thickness.

Stability With A Transform Node Caused A Crash

When there was a Transform node before Stability, clicking Generate caused a crash.

Limitation

Stability v3.5 Models Don't Support Images Larger Than 10mb

If the resulting image produced by Stability is larger than 10mb, an error occurs stating that payloads cannot be larger than 10mb. To avoid the error, reduce the image size, for instance to 1920x1080, prior to generation.

SILHOUETTE 2024.5.3 - 12/3/24

Bug Fixes

Cache Node Did Not Create Disk Cache Folder When Using The Fusion Tab In Resolve

When using the Fusion tab in Resolve, adding a Cache node did not create a disk cache folder and save the files when playing back. However, this worked as expected when applying Silhouette through the Color tab.

Copyright Notice Wrong In Finder Properties (Mac)

The copyright notice in the Mac Finder properties for Silhouette did not display properly.

Crash When Loading JPEG Via QImage (Linux)

When attempting to load a jpeg image when scripting, Silhouette crashed on Linux.

Crash When Typing A Number Into Current Frame Field

Double-clicking a clip in the Sources windows and then typing either a number into the current frame field or clicking the Up or Down arrows caused a crash.

Flame 2025.2 Background Reactor Render (Mac)

In Flame 2025.2 on macOS, setups with Silhouette were not rendering when using the Background Reactor.

Mask ML Did Not Function On Intel Mac

Mask ML did not produce alpha for the object, but instead selected the entire image. However, when on an Intel CPU, it falls back to the general-purpose CPU cores which are not efficient for such tasks and is very slow.

Matte Assist ML Failed On NVIDIA Virtual GPU (Linux)

On Linux, Matte Assist ML matte propagation failed with a CUDA error on a virtual GPU.

Nuke 9+ Shapes Export Error

When the Nuke 9+ Shapes > Convert Opacity To Lifetime preference was enabled and there were opacity keyframes present in the selected shapes, exporting to disk produced an error in the Console.

Session Creation With A 25fps Clip Did Not Automatically Select A 25fps Session

Creating a session with a 25fps clip using Ctrl/Cmd-N selected a 23.976 fps session instead of a 25fps session.

Transform > Motion Blur > Shutter Phase Wasn't Set To -90

The Transform > Motion Blur > Shutter Phase defaulted to 0 instead of -90.

Changes

Mask ML - Wipe Incoming Alpha

Mask ML now automatically wipes the incoming alpha to avoid the issue of sources with opaque alpha displaying a full screen overlay prior to object selection.

SILHOUETTE 2024.5.2 - 11/4/2024

Features

EZ Mask / Mask ML - Automatically Show Mask Overlay

When going into the EZ Mask and Mask ML nodes, the mask overlay now automatically appears when a mask is created. When exiting the EZ Mask and Mask ML nodes, the Viewer returns to RGB mode.

Stability Enhancements

Added Stability v3.5 models and negative prompts.

Switch Node

Switches between inputs. By default, four inputs are provided, but more can be added. Right-click on the Switch node and select Add Input. Right-click on an added input port to remove it. You can add as many inputs as you want, but the inputs will get smaller.

Bug Fixes

Adding A Font To The QT Font Database Caused A Crash

When a new font was added to the QT font database while Silhouette was running, it triggered font selection signals from the QT font drop-down menu. This would cause Silhouette to crash because it assumed there was an active node's note being edited.

Crash When Selecting A Paint Node Created In A Different Session Size Bit Depth

Silhouette crashed if you copied a Paint node with strokes created in one bit depth, copy/pasted it into different bit depth and then selected it.

Magnifier Displayed Black

The Magnifier displayed black in the Roto based nodes.

Mask ML > Rectangle Did Not Produce A Mask When Rectangle Was Outside Image

A rectangle outside the image boundary did not create a mask.

Planar/Mocha Trackers Didn't Accurately Track In Nested Layers

The Planar and Mocha trackers didn't accurately track within a nested layer.

Scroll Wheel Adjusted Parameters With Sliders Visible

Disabled scroll-wheel parameter adjustment when sliders are enabled because parameters could mistakenly be adjusted when scrolling filters with a lot of parameters.

Shape Transform Bounding Box Jittered When Stabilized

The shape transform bounding box jittered in a stabilized layer.

SILHOUETTE 2024.5.1 - 10/02/24

Features

ML Nodes With Animated DOD

Denoisier ML, Mask ML, Matte Assist ML and UpRes ML now work with an animated DOD.

Note: On Linux, animation of the DOD's size is not supported.

Particle Illusion 2024.5.4

Particle Illusion has been updated from v2024.5.2 to v2024.5.4. For a complete list of features, fixed bugs and changes, see: [Release Notes](#)

Sapphire 2024.5.3

Sapphire has been updated from v2024.5 to v2024.5.3. For a complete list of features, fixed bugs and changes, see: [Release Notes](#)

Scripting - Import Dialog In Trees Window

Two new environment variables are supported for the Trees > Import Nodes feature:

- **SFX_NODES_IMPORT_EXPORT_PATH** - both import and export
- **SFX_NODES_IMPORT_PATH** - import only

Bug Fixes

Color Estimation Crash

The Color Estimation node caused a crash when certain nodes preceded it.

Color Precision In 8 Bit Sessions

The color precision was increased when working in 8 bit sessions.

GPU Display Always At 0%

The GPU percentage always displayed 0% and would cause Silhouette to hang if the GPU memory was exhausted.

Interlaced Footage Lost Field 2

Field 2 of interlaced footage was replaced with a copy of field 1 when a node was added, for instance, blur.

Licensing

Help > License Did Not Open License Tool (Linux)

On Linux, Help > License does not open the License tool.

macOS 15 Rotate WiFi Address Licensing Issue

When enabled, macOS 15's new Rotate WiFi Address opt-in feature randomly changes your device's MAC address. If you activated a nodelocked license, it would eventually cease to work. The Mac licensing was upgraded to handle this new feature.

Matte Assist ML Crash With Animated DOD

With an animated DOD prior to a Matte Assist ML node, Silhouette crashed.

ML Nodes Did Not Work In macOS15

ML based nodes did not work correctly in macOS 15. For instance, Denoise ML and UpRes ML caused crashes and Optical Flow ML did not produce motion vectors.

Morph

Crash After Copy/Pasting And Then Viewing

A crash occurred after copying and pasting the Morph node and then viewing it.

Wireframe Did Not Playback

The Morph wireframe did not playback and was stuck on frame 1.

Motion Blur Node Artifacts

Slight filtering artifacts were visible on straight lines.

Paint - Stroke Not Visible While Viewing Another Node

When painting a stroke while viewing another node, the painted stroke was not visible.

Pin Warp Keyframing With Parameters

When adjusting the Target X/Y sliders between existing keyframes, the Source X/Y positions were unexpectedly modified.

Regrain > Overlay Cell Pattern Resulted In A White Screen

Enabling Replace > Overlay Cell Pattern in Regrain produced a white screen.

Scripting - Custom Import Dialog Didn't Support SFX_IMPORT_PATH

Silhouette's custom import dialog didn't correctly interpret a default import path, if set. It would always default to the system root.

Trees > Arrange Options Didn't Work

The Trees > Arrange options didn't work.

UpRes ML + Cache + ROI Artifacts

There were image artifacts when using a Cache node after UpRes ML when ROI was enabled.

Viewer Did Not Display Source From Sources Window

The Viewer did not display the source from the Sources window.

SILHOUETTE 2024.5 - 9/12/24

Features

New Nodes

Mask ML

Mask ML is an easy to use point and click matte generator utilizing machine learning object segmentation. A single click selects a defined segment of the image while successive clicks add additional areas. Mattes are created on single frames and are useful as input to the Matte Assist ML node where the matte is propagated over time or to limit strokes in the Paint node.

Motion Blur

Motion Blur uses the Optical Flow ML node to generate realistic motion blur and requires a data input port connection from the Optical Flow ML node.

Roto > Markup Tool

The Roto > Markup tool creates trackable strokes with associated notes to identify shapes that require revision. Click-drag to draw a freehand stroke, **Shift**-drag to create a rectangle and **Ctrl/Cmd**-drag to draw an arrow. The strokes have note, range, color, and complete parameters and are displayed with a callout from the Viewer > Notes sidebar to the object. Markup objects can be repositioned, tracked when placed in a tracked layer, and checked off when completed. When selected in the Viewer > Notes sidebar, the Timebar automatically jumps to the Range start frame.

User Interface Enhancements

Node Highlighting

Tree render status is provided by highlighting each node as it processes using a blue outline.

Progress Bars

Progress bars are displayed for EZ Mask, Flow->ST, Matte Assist ML, and Power Matte above the status bar as well as within these nodes in the tree.

Responsive UI

Implemented rendering in a thread so the UI remains responsive during playback and when dragging through render intensive nodes/trees.

Cache View > Purge Frame

Added a Purge Frame option in the Cache window which purges the current frame.

Sliders

Enable full size sliders with the User Interface > Show Sliders In Parameter Views preference.



Actions

Layer > Remap Reference Frame

The frame where tracking starts is considered the reference frame. In an example of tracking from the first to last frame, painting a clean plate on the last frame, and then applying the layer transform to the painted frame, the resulting layer transform would not produce the desired result. In this case, remapping the layer reference frame to the last frame solves the problem.

Notes

The Notes > Export and Import actions allow notes to be exported and imported.

Export

Exports notes from the current node to a file.

Import

Import notes from a file and applies it to objects in the current node. The objects must be the same objects as when exported.

Mocha Pro 2024.5

Mocha Pro has been updated to v2024.5.1. For a complete list of features, fixed bugs and changes, see: [Release Notes](#)

Particle Illusion 2024.5

Particle Illusion has been updated from v2024 to v2024.5.2. For a complete list of features, fixed bugs and changes, see: [Release Notes](#)

Module Upgrades

EXR - Upgrade To v3.1

EXR was upgraded to v3.1.

OpenColorIO - Upgrade to v2.2

OpenColorIO was upgraded to v2.2.

Node > Options Enable Cache

Enable Cache determines whether a node is cached. Disabling the cache causes the node to compute every time it's asked to.

Optical Flow ML

Added a Model pop-up menu with Better and Faster options. Better is used when accuracy is important, for instance, Tracking. Faster is used where accuracy is less important, for instance, Motion Blur.

Scripting > Command-Line **-project <name>**

It was a requirement that the project name be either the first or last command, but the new **-project <name> flag** allows the project name to be positioned anywhere in the command chain instead of only at the beginning or end.

Changes

Auto Paint Default Frame Range

The Auto Paint frame range now defaults to Work instead of All Frames.

Default Interpolation / Interpolation Engine Preferences

The Default Interpolation and Interpolation Engine preferences don't know about each other and it is possible to get them out of sync. Info text was added to these preferences to outline the appropriate settings for each option.

External Monitor - OCIO Color Transform Now Applied

The OCIO viewer color transform is now applied when using a Blackmagic I/O device.

Trees Preference Group

The User Interface > Trees preferences were moved into their own Trees group.

Bug Fixes

Dot Node Placed After A Tracker

When clicking a Dot node placed after a Tracker, a "Bad dynamic_cast!" error appeared and Silhouette crashed.

Grunge Node Crash

The Grunge node caused a crash when adjusting the Gate Weave > Amount.

Matte Assist ML With DOD/ROI

When using Matte Assist ML with a DOD node or ROI, the matte would not be generated in some cases.

Mocha Pro > Shape Data Copy/Paste Crash

When Silhouette shapes were exported from Mocha Pro with the Copy to Clipboard option and then pasted data directly into the Silhouette Trees window, a crash occurred. Normally, the workflow would be to paste the data into a Roto or Tracker node, but the Trees window paste should not have caused a crash.

Optical Flow ML

Vector Density

The Vector Density was too dense when zoomed out.

Vectors Were Misaligned When Using Proxies

Optical Flow vectors were misaligned when the Viewer was set to a proxy.

Particle Illusion - Corrupted Output (Mac)

Particle Illusion produced corrupted output.

Pin Warp X/Y Source Parameters Disabled Warping

Adjusting the Pin Warp > X/Y source parameters caused the pin to stop warping the image.

Plug-in

User Interface Took Too Long To Load On The First Run (Mac)

On Mac, the first time opening the Silhouette plug-in interface after installation took a long time.

Premiere Pro

Misreporting The Resolution

Silhouette requires a full size image but Premiere Pro often misreported the correct resolution even though it was set to Full and then threw an error. Silhouette now always brings in a full size resolution image from Premiere regardless of how the playback resolution is set.

Loaded Entire Clip Instead Of Trimmed Footage

If a clip was trimmed in Premiere Pro, the entire clip was loaded into the Silhouette plug-in instead of the trimmed clip.

Resolve > Loaded Entire Clip Instead Of Trimmed Footage

In Resolve, the entire clip was brought into Silhouette instead of the trimmed version.

Roto

Flow Tracking With ST-Maps Did Not Work

Flow tracking with ST-Maps did not work.

Selection Issues With Extreme Layer Transforms

With stabilization enabled and an extreme layer rotation, shapes within the layer could not be selected.

Snapping X-Spline Point Caused A Crash

Pressing **Alt-S** to snap an X-Spline point crashed Silhouette.

Scripting

Command-Line

Missing Node: Lens Correction

When attempting to command-line render a project with a Lens Correction node, the following error was produced: Missing Node: Lens Correction.

Multiple Output Nodes Issues

When there were multiple output nodes in the session, using -node "Output 1" -node "Output 2" -node "Output 3" in the command-line only rendered the Output 3 node.

Setting session.startFrame - UI Refresh

When setting session.startFrame from Python, the UI didn't notice the change.

Transform > Edge Mode And Generated Alpha

When using Transform > Edge Modes like Reflect, the generated alpha was restricted to the original image area and not the entire frame.

User Interface

Additional Viewers Didn't Display Alpha

Additional viewers didn't display alpha.

Duplicate Stability Nodes

There were duplicate Stability nodes.

SILHOUETTE 2024.0.1 - 7/15/24

Changes

Local Cache Disabled When Using Command Line

The local cache is now disabled when command-line rendering.

Bug Fixes

Crash Loading A Nodes File

Silhouette crashed when loading certain node files.

Custom Importer UI Couldn't Navigate To Network Drive

It was not possible to navigate to a network drive on Mac using the custom UI importer.

DeckLink HD Playback Slow In Silhouette

1920x1080 HD playback was slow when using a DeckLink output device.

Exporting Silhouette Shapes From A Mocha Tracked Layer

Silhouette shapes exported from a Roto node created with the Mocha Pro > Create Roto Node action did not import.

Flame Hung When Opening Silhouette In Rocky 9 (Linux)

Flame hung when opening the Silhouette interface in Rocky 9. However, Flame should be launched from the Terminal in Rocky 9 to avoid other known issues.

GStreamer

Anamorphic Render Not Tagged Properly

Rendering an anamorphic file using GStreamer did not get tagged as anamorphic.

Render Hang

Rendering to a GStreamer movie file hung Silhouette at ~90%. This was caused by a GStreamer bug where if another application which also uses GStreamer used it first, other applications would hang.

Mocha Tracker Crashed With Images Not Divisible By 4

The integrated Mocha tracker crashed when using images not divisible by 4.

Retime ML Didn't Pass An Image When Disabled

The Retime ML node didn't pass the input image through when it was disabled.

Scripting > session.workRange Produced Incorrect Values

The session.workRange queried the frame range improperly and produced incorrect values like 0.0, -1.000002552296.

Transform Node

Blurry With Extreme Corner-Pins

At certain extreme Corner-Pin settings, a portion of the image was blurry.

Overlay Didn't Match Image When Rotating

Rotating in the Transform node caused the bounding box to become disassociated from the edges of the image.

User Interface

Floating Viewer Crash

If a node viewed in a floating viewer was deleted, Silhouette crashed.

Image Generators - Custom DOD Controls Were Missing

In the image generator nodes, the DOD controls were missing when Format was set to Custom.

Motion Blur Controller Parameters Couldn't Be Enabled

The Motion Blur Controller parameters were grayed out and couldn't be enabled.

Stereo Viewer Controls Disappeared With Slap Comp

In a stereo project, the Stereo viewer controls disappeared when Slap Comp was selected.

SILHOUETTE 2024 - 6/6/24

Features

New Nodes

Matte Assist ML

Automatically generates a matte over time based on single or multiple keyframed roto shapes or input mattes using machine learning object segmentation and propagation.

Optical Flow ML

Generates machine learning powered optical flow data for use in one of the Roto based node's Flow Tracker: Roto, Roto Blend, Tracker, Power Mask, Morph and Depth. Optical flow estimates per-pixel motion between frames and can be used to track shapes and objects.

Retime ML

A machine learning motion estimation and retiming model that produces smooth motion. Expands or contracts the timing of a selected range of frames.

EZ Mask

EZ Mask is an easy to use interactive image matting tool capable of isolating almost any object in an image--even when dealing with fine hair detail, smoke, or reflections. Mattes are created on single frames and are useful as input to the Matte Assist ML node where the matte is propagated over time or to limit strokes in the Paint node.

ST->Flow

The ST->Flow node converts ST-Maps to optical flow. This is useful when using a Nuke Smart Vector generated ST-Map, for instance, as input to the Flow tracker located in the Roto nodes.

Flow->ST

The Flow->ST node converts optical flow to ST-Maps. This is useful if you want to use the optical flow data in another program.

Cache

Caches the result of all upstream nodes to disk, alleviates the need to reprocess that section of the Tree and loads as fast as a source file.

Trimap

Converts a matte into a trimap by adding unknown area to the edge of white matte areas. Trimaps are pre-segmented images consisting of three regions of foreground, background and unknown. When plugged into the Power Matte node, partial opacity values are then computed only for pixels inside the unknown region.

Mocha Pro 2024

Mocha Pro has been updated from v2023.5 to v2024. New features include camera solve with SynthEyes, enhanced tracking/roto tools and performance improvements.

For a complete list of features, fixed bugs and changes, see: [Release Notes](#)

Sapphire 2024.5

Sapphire has been updated from v2023.5 to v2024.5. New features include Dust, PixelMosh and DissolvePixelMosh, more lens flares as well as expanded support for macOS metal.

For a complete list of features, fixed bugs and changes, see: [2024 Release Notes](#) and [2024.5 Release Notes](#)

Particle Illusion 2024

Particle Illusion has been updated from v2023.5 to v2024. New features include new 2024 Emitter Library, generative AI sprite creation via Stability AI, particle lines can be true 3D objects, more native parameters, performance enhancements, and numerous user interface improvements.

For a complete list of features, fixed bugs and changes, see: [Release Notes](#)

Node Improvements

Denoiser

New v3 models process frame by frame and much quicker than the previous v2 models which processed in 6 frame chunks.

DOD

The DOD > Format menu (... icon) has three new entries: Session Size, Session ROI, and Input DOD.

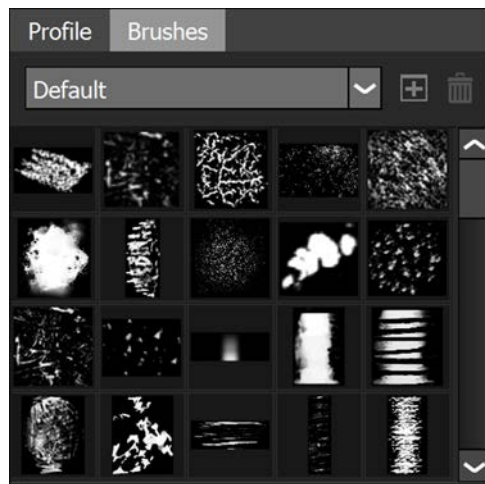
Paint

Brush Spacing

The range for the Spacing control was changed from 5-100 to 3-900.

Custom Brushes

Select from a set of custom brushes in the Brushes tab. Photoshop brush files with an ABR extension can also be imported.



Detail Separation

The Detail separation algorithm is new and improved. Paint strokes are smoother with larger brushes and auto painting color and detail strokes is now twice as fast. Paint nodes added in Silhouette 2023.5 and earlier will still use the previous algorithm, while newly added Paint nodes use the new method.

Grain Brush > Gang

Added a red, green and blue Gang control for the Grain and Blemish brush's Size, Amount and Softness parameters.

Power Matte > Trimap Input

Power Matte can now process with an optional trimap input. Trimaps are cumbersome to create manually, but a good workflow is to use the Matte Assist ML node to create an initial matte followed by a Trimap node connected to the Power Matte > Aux Trimap input.

Roto

Auto Keyframe (K)

The **K** shortcut key automatically calculates and sets a keyframe on the current frame if there is a source connected to the Data input, for instance, the Optical Flow ML node.

Flow Tracker

The Flow tracker uses optical flow to track a shape's points. When either the Optical Flow ML, PowerMesh Warp or a ST->Flow node is connected to one of the Roto based node's Data input ports, the Flow tracker becomes enabled and you can track a shape's points.

The Flow tracker can be used in conjunction with a Point, Planar or Mocha tracked layer. The layer tracks the general camera motion while the Flow tracker tracks the remaining motion of a deforming object.

Core Check

Displays the last hard pixel in the alpha channel when using soft shapes. When Core Check is enabled in the Viewer > RGBA context menu, a small dot in the alpha pot appears.

Create Layer From Shapes

Creates a tracked layer based on the shape keyframes as well as the layer transform, if present. When multiple shapes are selected, the control points from all of the shapes are considered and then generates a new layer. To use this feature, select a shape within the Tracker, right-click and select Create

Layer from Shapes. This is useful in the Flow Tracker, for instance, where the motion is applied to controls points instead of a layer. The newly created layer can then be used to transform other nodes.

Memory Usage Reduced

All roto control points were 3D even though the z coordinate was never used. By replacing the Point3D used everywhere in Roto with a Point2D, it cuts memory for shape data by 33% and avoids redundant calculations in the matrix transforms.

MultiFrame Enhancements

New editing modes along with fade in and out shortcut keys allow you to achieve something that was once considered impossible: easily editing shapes or objects with keyframes on every or many frames.

Mode

The Mode pop-up menu includes Custom, Center and Auto options.

- **Custom**

Simultaneously adjusts shape keyframes over a specified range. The Start and End as well as the Fade In and Fade Out values appear in the Timebar when MultiFrame is selected. **Alt-clicking** in the Timeline > MultiFrame bar sets either the Fade In or Fade Out points, depending on which side of the current frame you click on, with the fade range going to the current frame.

Note: Custom is the same mode used in 2023.5 and below.

- **Center**

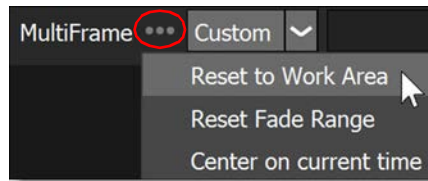
The adjustment is centered around the current frame for a duration specified in the Radius field and the adjustment eases in an out from the center.

- **Auto**

Some nodes like the Point and Flow tracker produce keyframes on every frame in a combination of hard and soft keyframes. Hard keyframes are manually set and help guide the tracker's generated soft keyframes. When making an edit, Auto mode smoothly interpolates the soft keyframes located between hard keyframes.

Options

The Options menu provides a few MultiFrame range options.



- **Reset to Work Area**

Resets the Start, Fade In, Fade Out and End fields to the work range.

- **Reset Fade Range**

Resets the Fade In and Fade Out fields.

- **Center On Current Time**

Centers the Start, Fade In, Fade Out and End fields on the current time.

GPU Processing Enhancements

Performance

Images flow through the system and now remain on the GPU unless they need to be in memory for some reason. This results in much faster processing when multiple GPU nodes are used.

Preferences

% Total Physical GPU Memory

At a value of 0, GPU images are not cached. This means the GPU images will flow through from the first GPU image to the last without going through RAM, but it means every GPU node in the chain will render in sequence any time something changes. Increasing the value allows GPU images to be stored in the cache like RAM images, making editing faster.

Cache GPU Images

Controls whether GPU results go in the cache.

Pipeline GPU Images

Controls whether GPU results are passed on to the next node or downloaded to RAM.

Use GPU Node Option

Nodes now have a new GPU group in their Options tab with a Use GPU checkbox. Enabled by default, it can be turned off on a node-by-node basis to force the node to render on the GPU.

Cache Improvements

Source Caching To Disk

Media from a slow network drive is automatically copied to a fast local drive once you specify the source and storage locations in the Cache > Local Cache preferences. Then, when you load a sequence from the slow network drive, the source node will see that it's in the source path and copy it to the fast storage path. The next time the media is requested from the network drive, it will read it from the local cache instead.

Cache Utilization Is Smarter And More Efficient

Previously, Silhouette aggressively cached everything and this could be very wasteful depending on the context. Now, a much higher number of frames can be cached. The new cache behavior is:

- **When playing or scrubbing, only the viewed node is cached in RAM.**
- **When parked or editing, the up-stream node as well as the viewed node is cached and it'll prefer caching on the GPU if it can.**

Note: Sources are still always cached in RAM.

Cache Window

When enabled (Window > Cache), the Cache window displays useful information about what is cached and both the RAM and GPU caches can be purged.

Preferences

Cache > Mode

Sets the caching mode.

Adaptive

When playing or scrubbing, it will only cache the currently active node. When parked or editing, it'll cache the immediate upstream node and the active node. In all cases, Silhouette will cache nodes that have multiple downstream branches.

Aggressive

Every node that can will cache. This is the behavior in 2023.5 and below.

User Interface > Trees > Show Cache State

When enabled, colored dot indicators are displayed on the output of nodes that cache. Blue dots are cached in RAM while green dots are cached on the GPU.

Improved Player Performance

The Player's performance has been improved.

Scripting

External Package Path Preference

To aid in installing external Python packages (such as numpy, torch, scipy, cv, PIL, etc.), the External Package Path preference was added. It defaults to \$(SFX_PYTHON_PACKAGES) which can also be set with an environment variable. When using the tools.installer script, it will first check for this preference and attempts to install packages there instead of in the built-in Python library which only works if there is write access.

project.is_modified Flag

To determine if the project has changed, a project.is_modified flag was added.

Script Editor > Find

Press **Ctrl-F** while the Script Editor has focus to pop up a Find field. Press **Esc** to exit find mode. Typing will search and set the selection to the next thing it finds that matches. Press **Enter** to go to the next instance.

User Interface

Node > Options > Marker

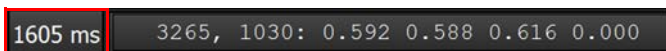
In the Node > Options tab, you can now add, delete or jump to markers. Previously, adding or deleting markers could only be done in the Timeline. Markers are used to identify frames for use in the Matte Assist ML node as well as to write notes.

Power Mesh Warp Node Gets Data Output

A Data output was added to the Power Mesh Warp node as a way to drive the Flow tracker in the Roto nodes.

Render Time Of Last Image

To the left of the Color Sample field, the last frame's render time is displayed in milliseconds.



Note: Once the tree has been cached, the field will display a value of 0.

RGBA Context Menu

Added a context menu to the Viewer > RGBA button with Invert Alpha and Core Check options.

Roto Nodes Get Data Input

Nodes that contain roto tools: Roto, Roto Blend, Tracker, Power Matte, Morph and Depth all get a Data input port. Either the Optical Flow ML, PowerMesh Warp or ST->Flow node can be plugged into this Data input.

Timebar > Current Frame Rate

A Current Frame Rate field was added to the Timebar to give an accurate reading of the exact frame rate during playback.

Changes

GPU Renders In The Session Depth

GPU effects were always rendered in half float, even in 8 bit or 32 bit float sessions. The rendering precision is now tied to the session depth.

Bug Fixes

Colorize Gradient > Grad > Corner-Pin Issues

Some newer presets were added that incorrectly set the Grad > Corner-Pin. Now, the Grad > Corner-Pin controls are explicitly set to the corners of the image for all presets.

Crop

On-Screen Controls Were Missing

The on-screen controls were missing.

Random Point Control

The Crop node had a random point control at the top left corner.

Degrain in Nuke Froze For First 5 Frames

The Degrain node caused the image in Nuke to freeze for the first 5 frames.

DOD On Screen Controls Jumped

The DOD node on-screen controls jumped to the session size when a slider was adjusted.

Mocha Was Not Licensed In Host When Using The Silhouette Plug-in License

Mocha was not licensed in the host application when using the Silhouette plug-in license.

ML Node Didn't Update When Upstream Node Changed

Making a change upstream of a ML node did not update the Viewer until the Timebar was advanced 6 frames.

Output Multi-Part Additional Input Connections Not Saved

If you added additional Output Multi-Part inputs, saved the project and then reopened it, the additional output connections would be connected to the same port or disconnected upon reload.

Paint

Crash Adding Paint Only to Composite FG With No BG Input

Connecting the Paint Only output into a Composite > Foreground input caused a crash when there was no background input.

Stroke Beyond Image Boundary Disappeared

When painting outside the image boundary with a larger ROI, the painted stroke was missing when returning to that frame.

Tiling Artifacts In Color/Detail Modes At Large Resolutions

Tiling artifacts occurred when painting at large resolutions in the Color and Detail modes.

Roto

Alpha Corruption With Incoming Alpha & Motion Blur

The Roto node displayed corruption in the Viewer when an input clip had an existing alpha channel and the shapes had motion blur enabled.

Nuke 9+ Exporter Exported Incorrect Motion Sample Value

The mapping of the Silhouette > Samples to Nuke > Motion Blur was not correct in the Nuke 9+ shape exporter. Nuke used a fractional value for its motion blur while the Nuke 9+ shapes exporter was using whole numbers. This resulted in Silhouette shapes imported into Nuke being really slow.

Obey Alpha Did Not Work Without Source Input

Roto > Obey Alpha did not work unless there was a source input connected.

Timeline Markers Not Created If A Note Was Not Entered

Timeline Markers were not created if a note was not entered.

Known Issues / Limitations

GStreamer

ProRes

All ProRes movies are imported as 16-bpc. This is a limitation of the GStreamer ProRes decoder.

Rendering Interlaced Footage

Rendering interlaced footage is not supported at this time.

OpenColorIO - Particle Illusion and Flare Editor

OpenColorIO is not implemented in Particle Illusion or the Lens Flare > Flare Editor which results in the image in those interfaces not exactly matching the Silhouette viewer.

PowerMesh Warp

The PowerMesh Warp node renders a slightly different result than Mocha Pro.

Silhouette Plug-in

Flame

Upstream Node Changes Don't Update Until Silhouette Is Opened

Upstream node changes in Flame don't update when viewing the Silhouette plug-in unless Purge Cache is selected, the Render menu is toggled or Silhouette is opened.

Sequence Numbering

Flame is not obeying the OFX parameter that determines the start frame, so a Flame sequence starting at 1 instead starts at 0 in Silhouette.

Multiple Instances of Silhouette Plug-in

You can't connect two Silhouette plug-ins in a row. There can be multiple Silhouette plug-ins, just not chained together.

Premiere Pro > Alpha Channels With Soft Edges

By default, Premiere Pro is linearizing the alpha channels exported from the Silhouette plug-in even though they are already linear. This causes the alpha to appear smaller when using soft edges. To avoid this issue, disable Composite in Linear Color in the Premiere sequence settings.

Resolve > Multiple Inputs

Resolve does not allow more than one input for plug-ins that use custom user interfaces. However, additional sources can be added directly within Silhouette.