What's new in
10.5

Summary

- **A lot of bug fixes, improvements & performance boosts all around.**
- **Massive playback improvements.**
- **New 10gig speed file import system.**
- **New Performance Profiling tools.**
- **PXTA UIs are now way more 4K friendly.**

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3D Scene

- **Added output and display resolutions to the ident card.**
  Output resolution is taken directly from the Settings window.
- **Soft silhouettes help mitigate light bleed between objects.**
  This functionality replaces the previous "Smooth Silhouette". It is a new algorithm that automatically creates alpha blended 'fins' around the model that result in a smoother, more natural blending.
- **Added calibration priors to let users exclude specific Copernic IDs from cameras.**
- **X-Ray Wireframe - Hidden line removal rendering option.**
  Disaplying Wireframe is very useful for calibration validation. However, complex meshes can be hard to read visually when there are multiple layers of wireframe from a given point of view. This new option hides all but the first layer of wireframe.

Timeline

- **New Keyboard shortcut to move clips up and down inside a sub-sequence.**
  [SHIFT + Up arrow] Move selected clips one layer up until they reach the top of the sub-sequence.
  [SHIFT + Down arrow] Move selected clips one layer down.
  If clips hit the bottom, a new layer is added.

- **Adding frame number to the media properties.**

  The media properties now display the index of the displayed frame. For file sequences, the sequence start number is taken into consideration.

- **New "Create VCI Cache" option.**

  Located in the contextual menu of timeline sequence, the VCI Cache allows smoother transitions when intering or exiting video clips.

- **Drag and drop EDL files to create a new timeline layer.**

  You can drag a previously imported EDL file from the File Manager to the timeline to create a new timeline layer. Media clips are created on the new layer. The in and out points are obtained from the EDL file. Only 'cut' transitions are supported.

Preview Window

- **New Lock Screen view option.**

  A new option available in Preview 2D or Layer View. This combo overrides the Screen layer that is displayed in the Preview Window.

FXs

- **New bilateral filter FX.**

  Smooth out regions while preserving high frequency details. Users can use multiple passes to create stylized results.

- **New Kuwahara filter FX.**

  The Kuwahara filter reduces noise while preserving edges.

- **New Ocean FX.**

  Replaces the venerable Seascape FX.

  This faster implementation gives user control over sky color.

  The point of view can be controlled by using a Camera primitive in the 3D Scene.

- **New Nexus FX.**

  Creates a dynamic mesh by linking tracked 'blobs' which are vertices in the mesh.

- **Integrated Nvidia Background Removal AI.**

  Generate an Alpha mask using Nvidia Video Effect SDK.

  The Nvidia Video Effect SDK must be installed separately and can be downloaded from the Nvidia site **developer.nvidia.com/maxine-getting-started.**

  Unzip it in the root of PHOTON install directory.

- **New time sources options for time code FX.**

  Additional options for time sources in the time code FX allow flexibility in what time is displayed by the effect. The new options are:

  - No source.

  - Clip : use the clip's internal time

  - Freerun : use the freerun counter

  - Timeline : use the timeline time

  - Auto : use whatever is used for the show time (this is the previous behavior of the 'Timeline' mode)

FX Graph

- **New "Re-emit Particles" option in the "Emitter" graph node.**
- **New FX Graph profiling tool.**

  You can now visualize the CPU and GPU performance of every Graph and Node in the FX Graph.
- **Graph Primitive Ref Node - Output slot for the primitive world position.**

  The slot provides the position containing all transformations (parent, pose transform, freeze, etc.) of the referenced Primitive object.
- **New Blob Filter Modulo and Modulo ID.**

  Graph Blobs can be searched based on their ID or if their ID is a multiple of some number.
- **Voxelizer added skip-rendering option.**

  Improves performance when only blob tracking is required.
- **Graph Mapper Node - Improved usability.**

  Value slider to control the mapped value.

  Add the output value slot.

  Min and Max rescale values exposed are now linked to the mapping manager value.

  Mapping manager UI fixes to display and update the dynamic data from the mapper node.
- **FX Graph: Expose/Unexpose all parameters.**

  Introduce two new buttons in the contextual menu of a graph node.

  Expose all: Expose all auto-parameters at the same time. Users may choose to keep connected slots through a pop-up window.
- **Added random jitter for the Texture Locator node and the Primitive**

Locator node based on RGB.

- Removed irrelevant medias/playlists in Sprite Renderer combo drop-down lists.
- Added multi-input blobs for the graph nodes "Point Locator" and "Vortex Force."
- It is now easier to select a slot in the graph.
- New Blobs Average Position Graph Node.
- New "Time Since Last Message" output to the "Network Monitor" graph node.
- Cues are now ordered by ID in the Graph "Cue" module.
- New math graph nodes for remainder and modulo operations.
- Added a "Residual" output to the "Virtual Camera (Ref)" graph module.

Settings

- NVIDIA driver profile and triple buffering are now automatically set when starting the application.

Color Management

- Support for Adobe RGB, P3 and Rec 2020 color spaces.
- Automatically switch to 16 bits floating point precision based on choice of rendering context.

File Manager

- **New Sorting options for Playlists.**

  Sort your playlist alphabetically or chronologically, in an ascending or a descending order. You will Still be able to keep an arbitrary order by disabling toggles, or by reordering playlists manually.

- **Massive speed improvement for local and network import.**

  Local single file import is 3-4 times faster. Transfer times for file sequences are much improved (about twice as fast), for import on a single server (no network transfer) is about 4 times faster.

- **Native image sequence playback in File Manager preview.**

  It is now possible to preview File Sequences natively in the File Manager Preview window (just like any other supported media format).

- **Support for disjoint file sequences.**

  It is now possible to import sequences that have discontinuities. The missing frames will be displayed as Full Frame Color Bars.

- **Display frame ranges and extension of underlying files of file sequences.**

  In the File Manager window, file sequences will now display the frame range as well as the extension of the files that make up the file sequence.

- **New Frame Rate override on conversion option.**

  In Auto mode File sequences will have their frame rate set to project frame rate or to the value of 'override' that can be set in the conversion options.

- **Imported single images now correctly report duration of 1 frame.**

- **Added progress percentage to the "Delete" operation in File**

Manager.

- **Support of EDL with truncated file names through versioning.**
- **Media Versioning has now customizable pattern string.**
  Added customizable string pattern for the media versioning system (default pattern is "_v").
- **LED Processors now supports Splitting on Conversion.**
- **New option to discard Alpha on Conversion.**
- **ProRes conversion optimization.**
- **Add support for importing '.edl' files.**
  Edit Decision Lists can be imported. The files are accessible in the File Manager.

UI

- **Search in drop-down Menus.**
  Start typing in the search bar to reduce the number of combo items when drop-down is activated.
- **Changed keyboard shortcuts for "Hide window in focus" and "Hide all windows".**
  "Hide all windows" is now ALT+SHIFT+WALT+W to hide the current module in focus.
- **Added ability to quit without saving project using Ctrl+Alt+Shift+Q.**
- **Added a separate button for Albion Monitoring.**
- **Improved readability of some system error messages.**

- **Introducing new font rendering system, allowing for clean anti-aliased font at any scale.**

Licenses

- **Better feedback on why software won't start when a license is inadequate or expired.**

Shadows

- **Add the option to offset the start and end point (similar to video in out).**
- **Shadow recording Updates:**
  - DMX now saves the initial universe data state at the beginning of the recording.
  - New option to disable the project save at recording when mouse and keyboard recording option is disabled.
  - At session playback in the shadow module, the saved project will be loaded only if the mouse and keyboard playback option is enabled.

I/O

DMX

- **New parameter "Time to Live" (TTL) for multicast packet in sACN.**
- **DMX Control - Add virtual projector selection control.**
- **Added support for multiple unicast destination in sACN.**
- **Start auto-fade of a moving light from the current Dimmer value fade in to 100% and fade out from current value.**
- **External DMX Media Control and DMX Patch UI Refactor.**
  All shared clip properties and media specific properties can be controlled through a DMX fixture with specific control types (similar to Albion DMX Control).
  The IO-DMX-Patch with all the fixtures has been redesigned with a better readability and improved performance. There are new features such as search with keywords and multiple selection.
- **DMX Control Fx parameter extend from 2 to 16 controls.**
- **DMX Control - Add FX Graph numeric source type.**
  New DMX Control in media family, FX Graph numeric source in graph clip can now be controlled with Fx parameter 01 to FX parameter 16.

Lidars

- **PHOTON now supports Livox SDK 2.3.0.**

- **Depth Sensor Update:**

  Manipulation tools for depth sensor primitives.

  Visibility primitives of depth sensor in the calibration tool window can be used as 'Blockers'. Visible primitives will include points inside the bounding box and blocker primitives will exclude points from the bounding box.

  PSN.

- **New TTL option in the PSN config to specify a Time To Live parameter for the multicast packets.**

Projector Control

- **Add authentication support to PJLink protocol.**

  Talking PJLink with a projector that has a non-empty user password.

  The 'Add projector' panel has been modified to allow setting password.

  It has no effect if the projector has authentication disabled.