

# iVision-Mac Release Notes

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## What's New in iVision-Mac 4.0.15

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### Updated iVision Commands

Improved speed of scripts which repeatedly update text windows within loops.

### Bug Fixes:

Improves truncation of long file names when adding an extension by using actual length of extension rather than maximum possible length.

Displays proper cursor while a pasted image is still “floating” and can be moved.

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## What's New in iVision-Mac 4.0.14

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### Bug Fixes:

Added an icon to Surface and Volume views to show the location of the window resize control.

Exports images on the clipboard in PICT as well as PDF to support pasting into older applications.

When an image is animating, the cursor could display as a watch too often, obscuring the actual cursor. This has been fixed.

Fixed a bug that could cause the frame buttons located at the top of the image view window to repeatedly change frames without stopping.

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## What's New in iVision-Mac 4.0.13

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### Bug Fixes:

Fixed Frames To Sequence to properly reset the start index in Indexed File Sets when limiting the number of frames in a sequence and using a variable for the start index.

Fixed the canceling of running scripts from the script menu when the “Handle Events” option is in use.

Improved the speed of normalization of color sequences for Sequence and Saturated Sequence normalization methods.

Fixed a problem with reading and writing Measurement windows in IPLab format files when some or all of the row names were missing in the original window.

In the Animate command, the option to animate for a fixed number of loops was broken. Also, using a script to Animate an image that was already animating would fail and possibly crash. These have been fixed.

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## What's New in iVision-Mac 4.0.12

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### Updated iVision Commands

Frames to Sequence will now allow a source file to have more than one frame in it, (but it will only use the first frame of the file when creating the new sequence). This restores a feature that was present in the past.

### Bug Fixes:

In 4.0.11, if you saved a new (never-before-saved) image with the Save command (rather than the Save As command) and changed the file type in the navigation dialog, the file could be saved with the wrong extension. If you have such a file, simply rename it to use the right extension.

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## What's New in iVision-Mac 4.0.11

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### Updated iVision Commands

Sequence to Frames will increment the Z-Position and capture time in each frame, if the original sequence had a Z- or T-interval, respectively.

### Bug Fixes:

Fixes a bug that prevented live scrolling with the mouse wheel.

Fixes a bug that could leave the "File Type" field in the Status palette blank in certain circumstances.

Fixes a bug in Frames to Sequence that would hang the program if you tried to create a sequence from open windows, and you used the "Delete Original Frames" option, and the back-most window was not one of the frames in the sequence.

Fixes a bug in scripted Open commands that did not display the "relative to" location name in the Navigation Get Folder dialog (a rarely used feature).

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## What's New in iVision-Mac 4.0.10

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### Bug Fixes:

Fixes a bug that caused the "Create New Image" checkbox in the Change Data Type and Change Color Type commands to be ignored.

Additional fixes for the PICT bug that the 4.0.8 release did not properly fix.

New images are now saved with a file name extension by default; this avoids the possibility of saving a new file over an existing file with the same name in the same folder (the standard check for an existing file assumed an extension when, in fact, there was none, so it failed to warn of the overwrite).

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## What's New in iVision-Mac 4.0.9

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### Updated iVision Commands

The Dispose Image command has an additional option to ignore missing windows when running the command from a script.

The Rename Window command has an additional option to use any one of the fields added by the camera capture. For example, use the filter position name, or the objective magnification.

The acquire information is copied from source images into new images created by the Merge Color Channels, Frames To Sequence, and Sequence To Frames commands.

If the Script Delay command is for greater than 6 seconds, an alert will be put up showing the amount of time remaining before the script will continue.

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## What's New in iVision-Mac 4.0.8

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### Bug Fixes:

Fixes a bug that could cause a crash while reading source frames for the **Export To Movie** command.

Fixes a bug that could cause a crash when reading PICT files or importing PICT images on the clipboard. This bug was most commonly seen with OS 10.4.11 or later.

Fixes a bug that would cause incorrect “filename too long” errors in the Save navigation dialog and improperly dim the “Save” button.

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## What's New in iVision-Mac 4.0.7

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### Updated iVision Commands

The font used for the Calibration bar is now the same font that was last set for the Drawing Text tool.

Close Window, Dispose Window, and Dispose All Windows can now be used on the live camera preview window.

Added Absolute, Floor, and Ceiling ops to Set Variable.

### Bug Fixes:

Changes to the ROI in non-frontmost windows (e.g. when doing Transfer Attributes to all windows) are now shown immediately.

Export View To File now adds the extension to the file, and displays the name in the Save File dialog. The “Ask Each Time” option is now implemented.

File Sets copied from older versions of IPLab for Macintosh are now recognized by iVision.

Messages about file format limitations are suppressed when saving from a script.

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## What's New in iVision-Mac 4.0.5

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### Updated iVision Commands

Added a “HiQ” button to the Surface and Volume view. This allows you to put-off the potentially slower full quality rendering in Volume view until the view is positioned the way you want. You rarely need to turn this off in Surface view.

Added a Show/Hide palette button to the Volume view and the Surface view. Also added a palette “link” button to tie the palette to the current window.

The background color in the Volume view will automatically switch from black to white when changing the projection type from Darkfield-Maximum to Brightfield-Minimum (and *vice versa*).

Buttons for quickly setting the background to black or white added to the Volume view palette.

The separate color table option in Volume view options was removed in favor of using the same color table used by the Image view.

The 3D Projector command now works with non-Byte grayscale and Color 48 image types.

Default to Sequence normalization rather than Frame when commands create new sequences (e.g. Color Merge).

Toolbar icons dim when corresponding menu command is dim.

Added new 3D toolbar.

Added Merge Color Coord and FCV Color Join (if installed) to Main toolbar.

Internal changes to support latest Camera Control.

### Bug Fixes:

Fixed possible crash in Dispose Window when running from a script.

Fixed crash in Edit Color Table when the ramp area is double-clicked at the same position as the currently selected marker.

Corrected some bugs in the Polygon and Line tools for Segments and Drawing Objects.

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## What's New in iVision-Mac 4.0.0

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### New iVision Commands

A new Volume View has been added for visualizing 3D volumes.

The Perspective View has been replaced by a new 3D Surface View.

The Image view adds buttons for changing frames and starting or stopping animation.

Image and Text views add a scroller control for scrolling large images within small windows.

Measurement windows display the number of new measurements, the number of total measurements, and the units of the measurements. Each measurement shows the type of object measured (e.g. ROI or Segment) and, for segments, the color of the segment measured.

Measurement Options now allows multiple segment colors to be measured at once.

The outline option in Measurement Options now applies to the Measure ROI command too.

The maximum size field in Measurement Options is now the number of measurements to allocate at a time (*i.e.* it is no longer an upper bound on the size of the results window, but just an estimate of the maximum size).

While image data has been pasted into an image view, a “Finish Paste” button is placed in the window to make it easier to explicitly complete the paste.

A new toolbar allows quick access to the New Image, Open Image, Save Image, Normalization, and Pseudocolor commands.

When using Open Script, you may select more than one script to open at once. Select All (Cmd-A) will select all of the scripts in the folder. In the Script Command palette, Save All and Close All have been added. These additions allow you to quickly “batch convert” a folder of scripts.

### **Updated iVision Commands**

When changing to a new view type (Image, Graph, Text, Surface, Volume) the initial view options are taken from those last used for this type of view.

The New Image command includes the new Surface and Volume view types as the initial view type.

The Move Window command has been renamed “Place Window”. It now includes options to resize the window and add it to or remove it from the Dock.

The Frames To Sequence command adds an optional limit on the total number of frames to include. This, when used with an Indexed file set, makes it easy to create a sequence from a range of frames.

If the total size of the sequence to be made by Frames To Sequence will exceed available memory, the user is given the choice to open the largest sequence that will fit.

The Pseudocolor command has an option to select a color based on a wavelength (between 400 and 750 nanometers, inclusive).

Set ROI Value and Set ROI Color can now specify the window to change by name.

Copying image data and pasting into another program will use PDF format for the paste, rather than PICT.

The Variables window can now be the destination window for Transfer Attributes (but is skipped when using “All Windows”). This allows row names to be transferred to the Variables window.

The IPLab file format now saves the current magnification level.

Quit is once again scriptable.

### **Bug Fixes:**

Moving the floating image scrap with the arrow keys now works again.

Pasting the segment layer twice commits the original paste first, rather than forgetting it.

Inset of non-rectangular ROIs with the Modify ROI command now works again.

Selecting a tool from the Tools palette no longer commits the last Undo-able command.

The file navigation dialog for Open Script and Run Script should not wander away from the last Open/Run directory like it used to.

If iVision was started by double-clicking one or more files, or by dragging one or more files on to the iVision icon, the files could fail to open if a device dialog appeared during startup. The files will now always open, and they will do so after the Startup Script (if any) runs.

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## **What's New in iVision-Mac 3.9.6**

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### **New Name and Owner:**

Rights to the Macintosh version of IPLab have been purchased by BioVision Technologies, Inc. and the product has been renamed **iVision-Mac**.

### **Bug Fixes:**

White Balance and Image Ratios could crash if used from a script with no image windows present.

### **Change in Behavior**

The printing orientation (portrait/landscape) for images now persists in IPLab format files. Scripts will always print in portrait mode.

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## **What's New in IPLab/Mac 3.9.5 r4**

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### **Bug Fixes:**

Fixed a memory corruption bug that could lead to crashes.

Fixed a problem reading scripts containing commands with large parameter blocks (e.g. FCV Color Join) that could lead to a crash.

### **Change in Behavior**

The printing orientation (portrait/landscape) for images now persists in IPLab format files. Scripts will always print in portrait mode.

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## **What's New in IPLab/Mac 3.9.5 r3**

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### **Bug Fixes:**

Fixed a potential crash that could occur when closing the Normalization dialog.

Fixed the Outline Boundaries option of the Modify Segments command, which was inadvertently broken in 3.9.5r1.

Fixed potential crashes that could occur when opening command dialogs while a camera preview window is front-most.

When running under OS X 10.3.9, duplicating the segment layer of certain images could leave a column of white pixels along the right edge of the segment layer. This has been fixed.

Fixed scripted Save As to show the right path after using the "Go" button in the Navigation dialog.

The column-ordered results window did not have a title for the last column.

The Crop command used the wrong display format (2D instead of 1D) if the cropped image had only one row or column.

The Interleave command failed to update the ROI if the image had only one row or column.

Corrected the printing of multiple page scripts, and used the proper page setup for scripts.

The Move Window command could give an incorrect error message if the final position was within 1 pixel of the bottom of the menu bar.

The Frames to Sequence command would leave an empty window behind if it failed, due to memory limits, to allocate the final sequence.

Rename Window was only renaming the front window, instead of the given window.

Classify Segments could set the "Rename Configuration" text field to nonsense characters.

Auto-segmentation could set the channel menu to a color channel for monochrome images, if the previous image was color.

Writing TIFF files could leak a small amount of memory if the image had no acquire attributes.

A brand-new Variables window would contain random values instead of zeros.

Fixed the Status Window to clear the File Type field when there is no active image.

Removed some spurious message that would appear in the console.log file.

### **Minor Enhancements**

Added additional error messages to the Export To Movie command.

Changed the Bug Reporter problem description to encourage users to include their e-mail address.

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## **What's New in IPLab/Mac 3.9.5 r2**

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### **Bug Fixes:**

Under OS X version 10.4 (Tiger), using a Power HazeBuster or MicroTome command would subsequently cause IPLab to incorrectly report that it could not find its hardware key. This has been fixed.

Under OS X version 10.4 (Tiger) the arrow that indicates a menu has a sub-menu was not being drawn. This has been fixed.

The ability to move the paste clipboard with the arrow keys has been restored.

A new “Place Calibration Bar” command has been added to the Analyze menu. This is identical to the option in the “Set XY Units” command, but uses only the current XY units, rather than requiring you to set new units.

### **Utilities:**

For quickly correcting the permissions on a hierarchy of folders we have found the utility “BatChmod” to be simple and reliable. It is available at <http://macchampion.com/arbysoft/>

For changing Mac File Type and Creator codes we suggest “Quick Change”, available from <http://www.everydaysoftware.net/quickchange/index.html>

These and other utilities can also be found on Version Tracker <http://www.versiontracker.com/>.

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## **What’s New in IPLab/Mac 3.9.5 r1**

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### **New Requirements:**

IPLab/Mac 3.9.5 requires OS X 10.3 or later.

### **New IPLab Commands**

Edit Acquire Info lets you see and change the information stored with an image during capture.

### **Updated IPLab Commands**

3D Mosaic: Added support for Color48.

3D ROI Sum Plot: Renamed "3D Sequence Plot", it now runs faster, and works with color images. A new dialog allows the source image to be specified when scripting.

Define XY Units: New dialog lets you select units from a pre-built menu.

The Extract sub-menu has been revised:

"Extract Linear ROI to 1D" has been renamed "Extract ROI Values".

- works with any type of ROI
- works with color data
- defaults to graph view, not image view
- is undoable
- when scripted you can specify the source window by name
- moved to the top of the sub-menu to make it easier to quickly get an ROI intensity profile.

"Extract ROI Boundary" has the following enhancements:

- still defaults to text view, but graph view is set up to just show the value columns
- will refill an existing results window, if a match is found, rather than always create a new one
- when scripted you can specify the source window by name

"Extract Rect ROI to 1D" has been renamed "Extract ROI Contents".

- works with any non-linear ROI
- will refill an existing results window, if a match is found, rather than always create a new one
- when scripted you can specify the source window by name

With these changes the commands are more similar in behavior and work with a wider range of ROIs and data types. The "Values" and "Boundary" differ only in that "Boundary" adds the XY coordinates to the results window, and defaults to text view.

Histogram: New dialog allows the source image to be specified.

Image Ratios command now accepts color data for the Flat Field option. Also, a "Do All Frames" option has been added. If used, the other images must have either 1 frame or the same number of frames as the image being operated on. The command is now undoable.

Pseudocolor: New dialog automatically applies new choice, puts all choices in a single menu, allows scripts to specify the destination window.

Page Setup: The IPLab printing options dialog (available in the "Settings" menu of the Page Setup dialog) has been updated.

The Set Variable command has been updated to provide a few more options:

- Truncate and Round options to change floating point numbers to integers.
- A Random function to generate a random number between two bounds.
- You can set a variable based in the existence of a named window.
- You can set a variable to the value of an acquire information field (e.g. exposure, binning, etc.).

Set XY Units: New dialog lets you select units from pre-built menu, allows scripts to specify the destination window.

Window Rename: New dialog allows scripts to specify the window to be renamed.

The Status palette now displays acquire information in two panels: one for camera-related information, and one for microscope-related settings. Also, a file's type and extension is displayed.

## **Device Control Improvements**

Device Settings are shared among all users on a single machine.

Additional information is stored with each image at the time of capture

There is a new Device palette for more convenient control of devices.

There is a new Device Select dialog to make device selection easier.

Device Setup dialogs allow you to set additional information for some devices (e.g. NA for objectives).

A serial control device was added to allow control of devices which connect via a serial port.

## Changed Behaviour

If an image is entirely filled with the same, non-zero, value (e.g. camera overexposure has set every pixel to 4095) it will now be displayed as white, rather than as black. An all-zero image will be displayed as black. If the image type is signed and the pixels are all the same negative value the display will be all black.

The "IPLab 3.9 User Folder", located in the user's Home folder, may now be an alias file pointing to the real folder in another location. The alias must retain the exact same name (without "alias" appended to it). You can create this alias by holding down the Option *and* Command keys and then dragging the folder from its new location into the Home folder; an alias will be created rather than a copy of the folder.

The units for XY Calibration are now set from a pre-defined list of units, rather than by the free-form entry of a unit name. If the name stored in an older definition or image file can not be recognized, the units will revert to "pixels", though the conversion factor will remain. The names recognized are:

in	inch	inches
ft	foot	feet
yd	yard	yards
mi	mile	miles
pm	picometer	picometers
A	Angstrom	Angstroms
nm	nanometer	nanometers
um	micrometer	micrometers
mm	millimeter	millimeters
cm	centimeter	centimeters
dm	decimeter	decimeters
m	meter	meters
km	kilometer	kilometers

In addition the use of " $\mu$ ", "micron", or "microns" will match micrometers.

The acquire information stored with an image by the camera control extension is saved with both IPLab and TIFF files (though the information will most likely be lost if you open the TIFF in another application and then re-save it).

The separate 3D extension has been removed; its commands have been moved into IPLab.

## Bug Fixes

Fixed a bug that changed the current segment color to transparent after opening an image file.

If the Script Delay command was give a delay of 0, the actual delay period became random; this has been fixed.

Fixed bugs that could lead to a crash if the destination of a File Set had been deleted since it was last used.

Saving changes to an existing file from a script could cause a new file to be written with an added file extension. Now the original extension (including none) is preserved.

When using the Drawing object selection tool (arrow cursor), a single click could cause multiple objects to be selected, this has been fixed.

Dragging drawing objects with a display magnification of less than 1 did not always move the objects to the new location; this has been fixed.

If you used Dispose Window on an image, and the next window below it was a script with Recording turned On, then the Undo for the Dispose Window command was lost when you turned Recording Off. Now it is preserved.

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## What's New in IPLab/Mac 3.9.4 r5

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### Bug Fixes

Under OS X version 10.4 (Tiger), using a Power HazeBuster or MicroTome command would subsequently cause IPLab to incorrectly report that it could not find its hardware key. This has been fixed.

Under OS X version 10.4 (Tiger) the arrow that indicates a menu has a sub-menu was not being drawn. This has been fixed.

Fixes the TIFF file reader for “true” 12-bit TIFF files created on Intel machines.

Fixes a possible crash if the Segmentation is used in a script with a “+” and there is no active image window.

A bug that could cause a crash after opening a script with “large” commands (e.g. FCV Color Join) was fixed.

An infrequently occurring random crash condition was fixed.

Fixes a bug in Script Delay that could cause a random or unending delay if the delay time were set to zero.

Improves the portability of FKey definitions between machines.

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## What's New in IPLab/Mac 3.9.4 r4

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### Bug Fixes

Fixed a bug in the scripted Save As command that could cause a crash when re-opening the command from the script.

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## What's New in IPLab/Mac 3.9.4 r3

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### Bug Fixes

Fixed an error in segment particle tracing that could occur with the “ignore segments touching ROI bounds” option on and segments that were within 1 pixel of each other.

Fixed a potential bug in Modify Segments (Erode, Dilate, Open, Close, Hit or Miss, Thin, and Thicken options) that could cause a crash if the ROI extended to the left or right edges of the image.

Fixed a crash that could occur in Auto Segmentation when switching between the Darkfield and Brightfield options.

Fixed a crash that could occur in the Classify Segments command when “Ignore segments touching ROI” was set in the Measurement Options command.

Improved conversion of Save As command from older scripts.

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## What's New in IPLab/Mac 3.9.4 r2

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### Bug Fixes

Using smoothing on Color 48 data in Extended Focus could cause a crash, this has been fixed.

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## What's New in IPLab/Mac 3.9.4 r1

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### New Features

Autosegment simplifies the segmentation of adjacent objects.

Classify Segments categorizes segments based on a measurement (e.g. Area or Mean) and a series of user-specified ranges.

3D Extended Focus creates a single frame of optimal focus from a Z-series stack of images.

A new Status Palette includes camera settings used to acquire the image (requires Camera Control 3.9.3 r5 or later for some features).

A new Tool Palette separates Segment and Drawing tools. The text cursor remains in effect after placing text so that you can add multiple text items.

The Use File Set command has a new option to let the user edit the file set when the script is run, rather than by using the “+” on the command.

Extract Image Sizes accepts a source window (rather than only working on the front window).

Measurement Options allows the result window to be named with the source image's name.

The Copy button in the Script Palette is now available while Record is OFF.

### Bug Fixes

Fixed Change Window to not check for existence of a named window during scripting.

The Invert command did not mark the image as changed when the only option used was “Invert CLUT”. This has been fixed.

The Register and Equalize Contrast commands, when used with the “Create New Window” option, would display the original image until you hid and re-displayed the image. This has been fixed.

The progress bar correctly animates in the Progress window.

Fixed the alert message for TIFF files compressed with PackBits.

Fixed the Merge Color Coord dialog layout for Panther.

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### **What's New in IPLab/Mac 3.9.3 r5**

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#### **Bug Fixes**

Under OS X version 10.4 (Tiger), using a Power HazeBuster or MicroTome command would subsequently cause IPLab to incorrectly report that it could not find its hardware key. This has been fixed.

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### **What's New in IPLab/Mac 3.9.3 r4**

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#### **Bug Fixes**

Fixed conversion of scripts which use the "Use Window Name" option in the Save As command. This option is preserved and honored by the command, but can not be changed in the dialog. This option will return in the 3.9.4 release.

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### **What's New in IPLab/Mac 3.9.3 r3**

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#### **Bug Fixes**

Newly opened images are not marked as changed.

The "No segments found that match the criteria" alert no longer comes up while a script is running.

In text views, the window now scrolls as you drag the thumb in the scroll bar (as it always should have).

A fix for saving to Folder Sets.

A problem with Revert To Saved for files with names between 27 and 31 characters is fixed.

When Save As is scripted and uses the "+" sign, the dialog will show the scripted settings, not those of the front window.

When a new file is saved the extension will not be added to the window title after the save (consistent with the rule that the extension is stripped when a file is first opened).

An explanation of the Result Variable was added to the Define File Set dialog.

Export To Movie: The list of compressors now includes only those that can support 8 and/or 24 bit image depths. The Image Depth menu was removed to simplify the dialog and avoid conflicts with compressors that don't support the chosen depth. Depth choice is now automatic: for grayscale it is 8 if the compressor supports 8, otherwise 24. For color, 24 if supported, otherwise 8.

Fixed a possible crash when displaying drawing objects that are numbers only (as produced by the Measurement Option "Number objects passing criteria").

Text drawing objects were not retaining the original text, which prevents them from printing (random text would print instead). This release fixes the bug and provides a workaround for existing files. The text in existing files will now print as the outline, which will be blocky, but no worse than stamping before printing, which is the current workaround.

The title line in printouts should now print at (approximately) the same size for "Fit to Page" printouts as for regular (72 dpi) printouts. Before, the title line would shrink by the same amount as the image was reduced to fit on the page, making the text too small to read.

When editing a script, any keystroke (except arrows) used to be treated like the Return/Enter keys (which opens the dialog for the currently selected command, then opens the comment dialog for the same command). Now only Return and Enter trigger this behavior.

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## What's New in IPLab/Mac 3.9.3

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### New Features

Added the "Background Correction" command.

The Frames to Sequence command now includes an option to select indexed files directly from disk.

Export View to File now works with image views to quickly save a "presentation" version of the front image to disk as a TIFF or PICT file.

IPLab/Mac now reads IPLab/Windows image files (image data only). 4D files are split into multiple 3D windows.

The 3D Filter command has added support for Color 48 images.

The Select Frame command has added First, Middle, and Last options

The button that links the script palette to a script now applies per-script.

Added a preference for which line endings to use when saving text files.

Improved support for recognizing file name extensions.

### Bug Fixes

The 3D Filter no longer changes the ROI of the processed image.

Fixed the user of variables for the following commands: Pixel Arithmetic (a, b, c), Set Pattern (a, b, c), Animate (frames per second), Export To Move (seconds per frame).

Fixed a bug that would cause IPLab to quit if the Home, Documents, or Pictures folders had been deleted.

Fixed a bug that could generate bad preview icons for files.

Fixed a bug that didn't append "Copy n" correctly when opening files that are already open.

Fixed a bug in the FKey window that only occurred in 10.3 and caused any click to act like a click in the first button.

## **Camera Control**

The Multi-Filter command has been replaced with the Multi-D command.

The number of frames in the Full Acquire dialog is now always set in the Timelapse option.

Improved the speed of capturing triggered sequences caused by extra-slow redrawing of frame numbers in the window title.

Fixed auto-exposure for RGB Acquire to use the minimum of the 3 calculated times.

## **Device Modules**

### Hamamatsu Orca:

Should no longer list 8-bit depth for cameras that don't support it.

Ships with Panther-compatible drivers for Firewire and Phoenix boards.

### PVCam:

Changed method of determining the default Offset value for cameras that support it.

Ships with Panther-compatible drivers.

### QImaging:

Improved speed of capture.

Now requires (and ships with) version 1.68.4 drivers.

### Spot:

Added menu to select from multiple cameras (but only if none is currently connected).

Ships with drivers that add support for Firewire-based cameras.

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## **What's New in IPLab/Mac 3.9.2**

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## **New Features**

Added the command "Turn Help Tags On/Off" to the Help menu. This controls the appearance of the small yellow help tags that are displayed above items in palettes and dialogs.

## **Bug Fixes**

File Sets were fixed to iterate over all member files correctly.

Fixed the "End Loop" dialog box to not dim the OK button

Transfer Attributes will ignore non-matching windows when the destination is "All".

The Segment Paintbrush and Eraser will now work with a single click, without requiring the mouse to move.

## **Motion Control**

Ludl Device Modules: added pictures of the dip switch settings for OS 9 and OS X.

Olympus BX and IS: improved the turret escape code to wait for each step to complete.

## **Camera Control**

Color48 captures are now supported.

Camera setup is now performed in the Device Setup command (Control menu). All cameras are connected when IPLab starts. Any connection errors are displayed in the Device Setup dialog.

Camera Select now simply allows you to select among the connected cameras; it does not have any options in it (see Camera Settings command). When you select a different camera all of the parameters for the commands in the Camera menu will switch to those last used for this camera (this does not affect scripted commands).

The "Focus" command has been renamed "Preview".

A new command, "Camera Settings", contains the configuration settings for the currently selected camera (e.g. color or grayscale, depth, trigger options, etc.). This replaces the "More" dialogs in each command.

There is a new command "RGB Color Acquire" that performs a three-pass RGB color grab from a monochrome camera with an external filter. Unlike the Multi-Filter Acquire, you use Color Balance to adjust the colors, rather than changing exposure times.

The Preview control panel now includes a "Snapshot" button. It now allows you to change the binning during Preview. You can now use the mouse to draw an ROI in the Preview window and then change the Preview to use that ROI.

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## **What's New in IPLab/Mac 3.9.1**

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### **Bug Fixes**

The Frames To Sequence dialog was updated.

The Variables window is properly handled by Dispose and Dispose All.

Text Views resize and show scroll bars correctly so that they don't appear to be empty.

Fixed possible crash when clicking in image window while the Segmentation dialog was in use.