

WHAT'S NEW IN VICON SHOGUN 1.5?

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About Vicon Shogun 1.5

About Vicon Shogun 1.5

Shogun 1.5 is the fifth point release of Vicon's entertainment market software.

It includes new features such as compatibility with the Vicon Vantage+ firmware update and improvements to existing functionality, such as tracking of props at high speeds.

For a more detailed description, see [New features in Vicon Shogun 1.5 on page 4](#) or watch the Vicon Shogun videos:

 On YouTube: [What's new in 1.5 - Shogun Live¹](#) and [What's new in 1.5 - Shogun Post²](#)

This release also benefits from ongoing maintenance, with a number of issues having been addressed (see [Addressed issues in Vicon Shogun 1.5 on page 24](#)).

For information on requirements for installing and running Shogun, see PC requirements in *Installing and licensing Vicon Shogun*.

For detailed information on PC requirements, visit the [Vicon website FAQs³](#) and select **Operating systems and PC** or contact [Vicon Support⁴](#).

1 https://youtu.be/o7LgCsQjJ_M

2 https://youtu.be/RSRA9F_Rbps

3 <https://www.vicon.com/support/faqs/>

4 <mailto:support@vicon.com>

About Vicon Shogun 1.5

About this guide

This guide describes the new features in Vicon Shogun 1.5.

The following documentation is available for Shogun, both as online documentation and as PDFs that you can download from docs.vicon.com⁵:

Document	Description
<i>What's New in Vicon Shogun</i>	Describes new features in the latest release.
<i>Installing and licensing Vicon Shogun</i>	Installation and licensing instructions.
<i>Getting started with Vicon Shogun</i>	Provides an end-to-end workflow overview, including system preparation, initial capture steps, data cleanup and solving, retargeting and export.
<i>Getting more from Vicon Shogun</i>	More advanced information to help you to take your use of Shogun further, for example, to add your own customizations, or to automate capture.
<i>HSL scripting with Vicon Shogun</i>	HSL scripting guidelines and commands.
<i>Python scripting with Vicon Shogun</i>	Basic information on using Python with Shogun.
<i>Getting started with Vicon Retarget</i>	Basic information on using Vicon's retargeting application.

For more documentation related to Shogun and other Vicon products, visit docs.vicon.com⁶.

⁵ <https://docs.vicon.com>

⁶ <https://docs.vicon.com>

New features in Vicon Shogun 1.5

New features in Vicon Shogun 1.5

For descriptions of the new features in this release of Shogun, see:

- [Shogun Live 1.5 new features on page 5](#)
- [Shogun Post 1.5 new features on page 12](#)

New features in Vicon Shogun 1.5

Shogun Live 1.5 new features

These are the main new features in this release of Shogun Live:

- [Vantage+ compatibility on page 6](#)
- [Realtime video compression on page 7](#)
- [Improvements to tracking fast-moving props on page 8](#)
- [4 * 4K video playback on page 8](#)
- [Improvements to the System and Processing panels on page 9](#)
- [Occlusion fixing improvements to match Post on page 9](#)
- [Scrub timeline with middle mouse button on page 10](#)
- [Load subjects via .mcp file on page 11](#)

New features in Vicon Shogun 1.5

Vantage+ compatibility

Shogun 1.5 supports the use of the Vantage+ firmware upgrade (Firmware 725 and later), enabling you to use **High Speed** mode with your Vantage cameras without having to change the field of view (FOV) or lens. When you capture optical data, subsampling (selectively reducing the pixel count) enables you to run at high camera frame rates without reducing the FOV (frame size).

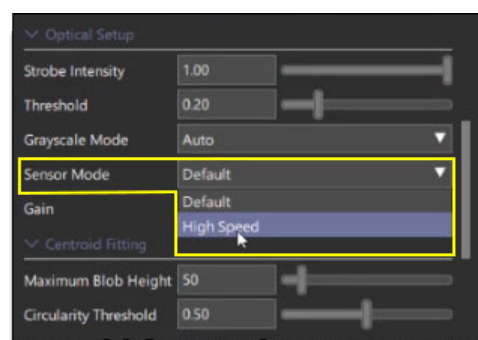
Previously, to run Vantage cameras at higher frame rates while maintaining their maximum resolution, windowing was used, which reduces the size of the FOV.

Now, in new **High Speed** mode, you can run your Vantage cameras at higher frames rates while maintaining the FOV. You can change frame rates during capture and you don't need to set up your cameras again when you increase the frame rate, as the FOV is unchanged.


Note that because the higher speeds are achieved through subsampling (removing some pixels from the frames), some reduction in resolution is incurred. For details, see High-speed mode in the *Vicon Vantage Reference Guide*.

To select high-speed mode:

1. In Vicon Shogun Live, in the **System** panel, click in the **Frame Rate** list and set the system frame rate to the speed you want to use in **High Speed** mode. A warning may temporarily be displayed, alerting you to the discrepancy between the requested frame rate and the actual system frame rate, until you select high speed mode for all the relevant cameras, as explained next.
2. In the **System** panel, select one or more cameras.
3. In the camera properties below, ensure the **Advanced** properties are displayed and in the **Optical Setup** section, click the **Sensor Mode** menu and select **High Speed**.

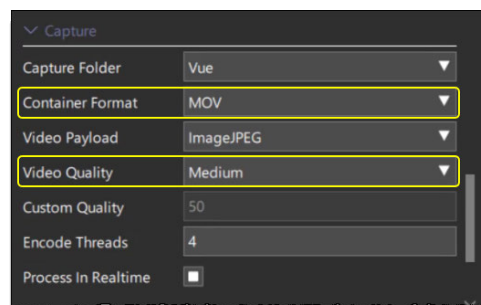


New features in Vicon Shogun 1.5

In the **Cameras** view pane, notice that the High Speed mode icon is displayed in the top left corner of the view, next to the other camera details .

Realtime video compression

You can now capture direct to .mov file format, using one of five preset quality settings, enabling you to balance the file size against the required quality.



To select .mov format for capture:

1. In the **System** panel, ensure the relevant video camera is selected (both Vue and SDI are supported) and in the **Capture** section, click in the **Container Format** list and select MOV.
2. To change the default quality setting, click in the **Video Format** list and select one of:
 - **Lowest** (lowest quality very small file)
 - **Low** (low quality, small file)
 - **Medium** (medium quality, medium size file)
 - **High** (high quality, large file)
 - **Best** (best quality, very large file)

File sizes can be much smaller, depending on the chosen quality setting.

New features in Vicon Shogun 1.5

Improvements to tracking fast-moving props

- Props are tracked without discontinuities, even fast-moving ones.

✓ For best results, choose a reasonably high frame rate (100–120 Hz) and ensure the rate of dropped frames is minimal.

4 * 4K video playback

You can now use up to four SDI video cameras (including sound).

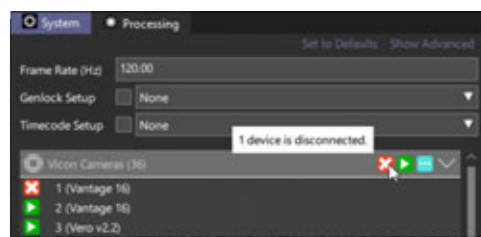


New features in Vicon Shogun 1.5

Improvements to the System and Processing panels

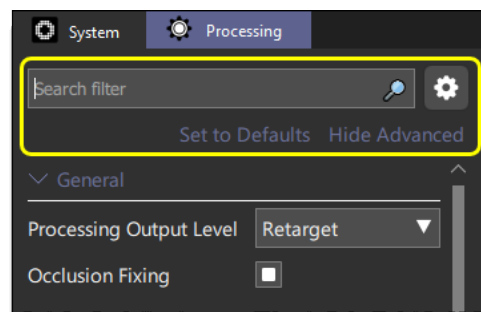
The **System** panel has been improved for 1.5, making it more responsive and providing more helpful feedback, especially for large systems.

For more information about the status of your system components, hover the mouse pointer over the relevant icon.



The **Processing** panel now offers a search facility and other controls that determine the visibility of the component properties.

To use the search, display the Advanced properties and enter the first few letters of the property you want to find.



Occlusion fixing improvements to match Post

Real-time occlusion fixing in Live and occlusion fixing with Post now give the same results.

New features in Vicon Shogun 1.5

Scrub timeline with middle mouse button

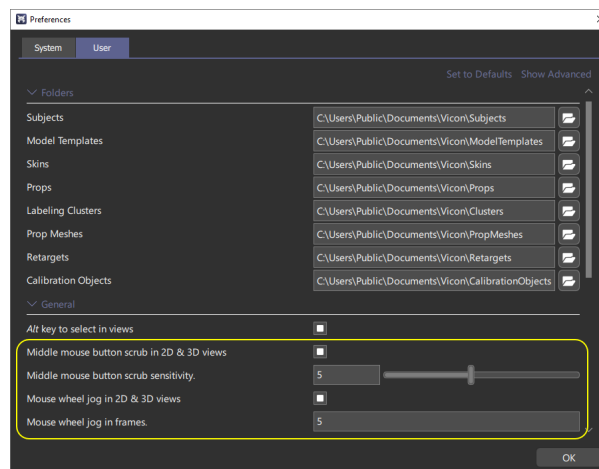
You can now scrub the timeline by holding down the middle mouse button in the same way that you can do this in Post. You can use this shortcut in both the **3D Scene** view and the **Cameras** view.

You can adjust the behavior of the middle mouse button with options in the **Preferences** dialog box.

To change the settings for the middle mouse button or wheel:

1. Open the **Preferences** dialog box (Shift-P).
2. On the **User** tab, go to the **General** section and select/clear the required settings.

Note that the effect of changing the **Middle mouse button scrub sensitivity** (or the **Mouse wheel jog in frames**) option is exponential and is the same as the equivalent setting in Post.




New features in Vicon Shogun 1.5

Load subjects via .mcp file

For an easy way to quickly load subjects and props from an existing scene, you can now load an .mcp file directly into Shogun Live.

To quickly load subjects and props from an .mcp:

1. At the top of the **Tracking** panel, click the **Load tracking configuration** button .
2. From the Load Tracking Configuration dialog box, select or browse to the required .mcp file.
The subjects and props are displayed in the Tracking panel as normal.

New features in Vicon Shogun 1.5

Shogun Post 1.5 new features


These are the main new features in this release of Shogun Post:

- [Animated retargeting on page 13](#)
- [Interactive solving and retargeting on page 14](#)
- [Mirror weights on page 15](#)
- [Mirror constraints on page 16](#)
- [Mirror joint manipulation on page 17](#)
- [MOV to MOV batch-processing on page 17](#)
- [Maya video workflow improvements on page 18](#)
- [Scrub timeline with middle mouse button on page 20](#)
- [New HSL scripting commands on page 20](#)

New features in Vicon Shogun 1.5

Animated retargeting

To key constraint weights over time:

1. In the **Subject Setup** panel, click the **Retargeting** tab.
2. To enable you to immediately see the changes you're making, in the toolbar at the top, ensure the **Enable interactive retargeting** button  is selected (green).
3. If you want to automatically copy your changes to weights from one side of the skeleton to the other, ensure the **Mirror Weight Changes** [on page 15](#) option is also selected.
4. In the **Constraints** section, edit the weights as required.
5. To add keys, select the relevant line(s), right-click and select **Set Key**.


To fine-tune keyframes, you can use the controls in the Graph view. For example, you can now use the right-click (context) menu in the Graph view to cut or insert sparse keys. You can also change the time of a key by clicking and dragging on the Graph view.


New features in Vicon Shogun 1.5

Interactive solving and retargeting

You can now see changes that you make to the solver in real time.

To use the new interactive solving feature:

1. Load a scene with a solved character in it.
2. Make sure interactive solving is turned on. To do this:
 - In the **Subject Setup** panel, click the **Solving** tab and on the toolbar at the top, ensure the **Enable interactive solving** button  is selected (green).
3. Adjust the solve, for example by rotating a joint.
4. Notice that when you release the rotation widget, the solve updates and the rest of the limb updates.

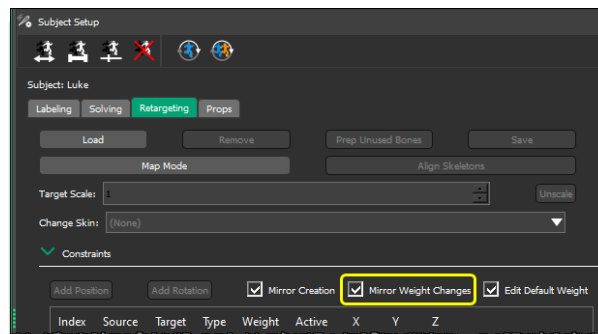
Note that you can use interactive solving for both solving and retargeting skeletons. To use interactive solving for a retargeting skeleton, use the same procedure as above, but click the **Retargeting** tab and on the toolbar at the top, ensure the **Enable interactive retargeting** button  is selected (green).

For information on the relevant HSL commands, see [New HSL scripting commands on page 20](#).

New features in Vicon Shogun 1.5

Mirror weights

You can now use a new mirroring option, **Mirror Weight Changes**, when you're adding or editing weights.



To mirror weight constraints:

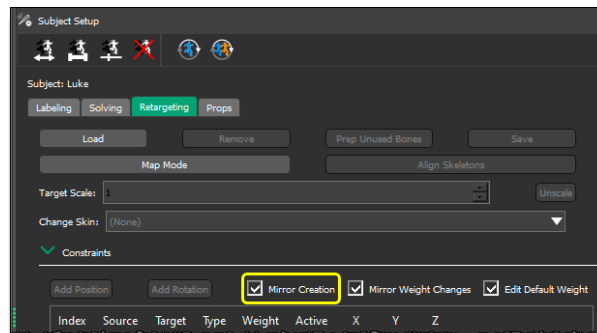
1. In the **Subject Setup** panel, click the **Retargeting** tab.
2. At the top of the **Constraints** section, ensure the **Mirror Weight Changes** check box is selected (the default setting).
When you adjust the weight values between the source and target skeletons on one side, they are automatically mirrored on the opposite side, so that weight values adjusted between, for example, the left lower arm on the source and target skeletons, are mirrored on the right lower arm of the source and target skeletons.

New features in Vicon Shogun 1.5

Mirror constraints

To make the creation of retargeting constraints faster and less error prone, you can now choose to mirror the changes you make to one side of the source and target skeletons onto the other side.

The same option enables you to mirror edits to retargeting constraints.



To mirror retargeting constraints:

1. In the **Subject Setup** panel, click the **Retargeting** tab.
2. When you create or edit retargeting constraints, at the top of the **Constraints** section, ensure the **Mirror Creation** check box is selected (the default setting).


The constraints created between the source and target skeletons on one side are automatically mirrored on the opposite side.

New features in Vicon Shogun 1.5

Mirror joint manipulation

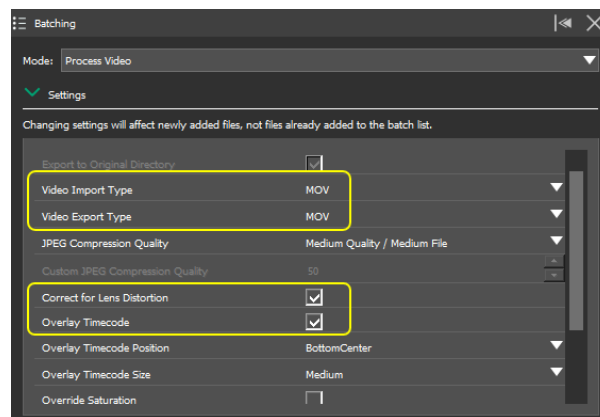
When posing a target or source skeleton during retarget setup, you often need to make the same adjustment to each side. To speed up pose adjustments, you can now automatically mirror the change you've made to one side to the other side. You can use the same mirroring option when setting up a solve to mirror changes to the pose or bone length. A new button in the manipulator toolbar enables you to do this.

To mirror changes to the pose or bone length of a skeleton:

- In the Manipulator toolbar on the left of the view pane, ensure the Mirror manipulation button  is selected (green). When you create make changes to one side of the subject, they are automatically copied to the other side.

MOV to MOV batch-processing

You can now batch-process auto compressed MOVs in Post to un-distort the video and add the timecode as an overlay.



For information on batch-processing video files, see Transcode video files in *Getting started with Vicon Shogun*.

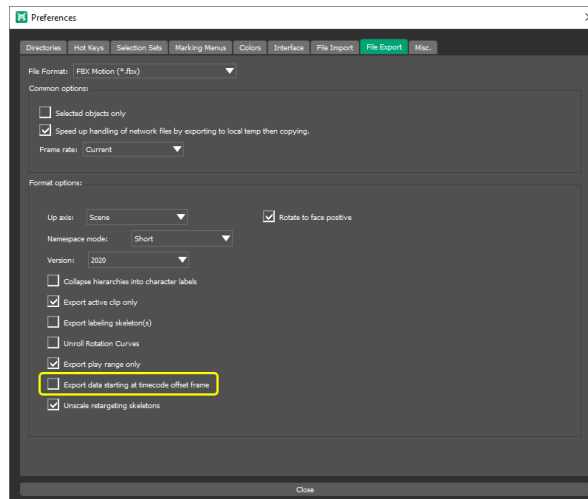
New features in Vicon Shogun 1.5

Maya video workflow improvements

Shogun 1.5 introduces several improvements to the workflow for exporting an FBX file for use in Maya® software.

If a timecode is used in Post, the FBX export now writes out a JSON file to the same location as the exported FBX file.

In the **Preferences** dialog box, the **Export data starting at timecode offset frame** option for FBX export also enables you to choose whether the exported data starts at the timecode start or from frame 1.



When the option is selected, the exported data starts at the timecode start. When the option is cleared (the default), the exported data starts at frame 1. By running a supplied Python script, you can then use the exported JSON file to set the timecode in Maya, provided a timecode was used in Post.

To use the FBX in Maya:

1. In Maya open (don't import) the FBX file.
2. With the file open, run the *CleanupFBXImport.py* script, by default found in:
`C:\Program Files\Vicon\ShogunPost1.5\Scripts\Maya\`
 The script sets the scene in a number of ways (see the following list) including setting the correct timecode and linking the MOV file to the correct camera.

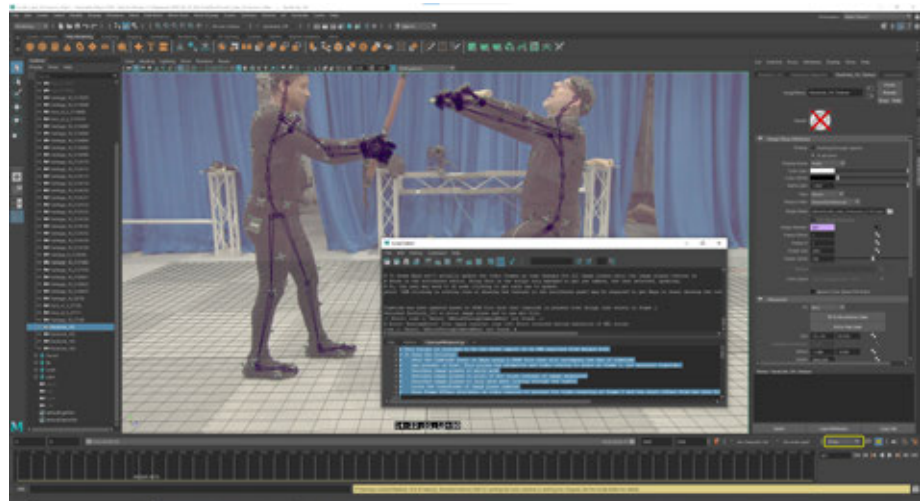
New features in Vicon Shogun 1.5



Tip

To get Maya to show the video as time changes, you may need to click in Overlay view or select the camera in the Outliner and in the Attributes panel, select the texture tab (see following image).

3. Set the playback speed to the same speed as the video capture rate (eg, 30 fps, as shown in the following image).



In total, the script does the following:

- Sets the timecode start in Maya using the JSON file that is saved with the FBX if timecode was present in Post.
This allows the animation and video overlay to start at frame 1, yet maintains the timecode.
- Switches image planes to movie mode.
- Switches image planes to point to MOV files instead of image sequences.
- Switches image planes to only show when looking through the camera.
- Locks the transforms of image plane cameras.
- Sets the Frame Offset attribute on video texture to account for video starting at frame 0 and the start offset from the JSON file.

New features in Vicon Shogun 1.5

Scrub timeline with middle mouse button

In the **Cameras** view, you can now scrub the timeline by holding down the middle mouse button.

New HSL scripting commands

- `getInteractiveRetargetCmd`
- `getInteractiveSolveLabeling`
- `getInteractiveSolveSolving`
- `setInteractiveRetargeting`
- `setInteractiveSolveLabeling`
- `setInteractiveSolveSolving`

For details, see the PDF, *HSL scripting with Vicon Shogun*.

Known issues in Vicon Shogun

Known issues in Vicon Shogun

The following issues are known to exist in Vicon Shogun 1.5:

Description	Workaround
<p>When working with a Blackmagic Decklink card, timecode discontinuities cause multiple sync sessions to be started, which can be seen in the log.</p> <p>This is because Blackmagic Desktop Video 11.6 and 11.7 don't work with Shogun 1.5, 1.5.1 or previous releases.</p>	<p>Downgrade the video drivers to 11.5.1.</p>
<p>When you set a mesh for a prop, the default base opacity is set to 1, making the prop very dark and difficult to see.</p>	<p>Select the prop and in the Attributes panel, set the relevant Base_Opacity to 0.</p>
<p>The Recover camera position process for Vue cameras stops responding after you click Set in the Camera Calibration panel.</p>	<p>Ensure Activate Video Calibration is selected before clicking Start in the Recover camera position section.</p>
<p>Bump detection doesn't work after a calibration file is reloaded.</p>	<p>To re-activate bump detection, restart Shogun Live.</p>

Known issues in Vicon Shogun

Description	Workaround
Cluster markers are not considered in overall marker count.	None at present. To be addressed.
No feedback during subject recalibration.	None at present. To be addressed.
In Live, the viewport can hang, for example, if a video camera is unplugged.	Change the processing level and the viewport will reboot.
Eclipse data is missing after capture.	Please contact support@vicon.com ⁷ if you experience this issue and can reproduce it.
In Live, in systems with large numbers of cameras, a high number of dropped frames occurs.	<p>Do one of the following:</p> <ul style="list-style-type: none"> • Use Shogun's multi-machine feature (see Run Shogun processing on multiple machines in <i>Getting more from Vicon Shogun</i>). • Use the Process in Realtime option in Shogun Live (on the System tab, select the required camera(s) and in the Capture properties below, clear the Process in Realtime option). You can use this option to exclude cameras from reconstruction, while keeping them in the captured X2D and 2D workspace. <p>Important: Remember that if you use this feature to exclude cameras, their data will not be present in the resulting MCP file. To include the data from excluded cameras, you must instead reprocess from the X2D file.</p>
In Shogun Post, position weights override rotation weights when set to default values.	Set rotation weights to 200.

⁷ <mailto:support@vicon.com>

Known issues in Vicon Shogun

Description	Workaround
In Post, there's limited rotation on hand joints when using 5 or 10 finger-markers in the model.	Add left- and right-hand marker constraints to the solving skeleton. Set weight value to 15.
In Post, pre-rotation values are set to 0,0,0 as part of Prep Unused Bones operation.	Make a note of the pre-rotation values before clicking the button and then manually set them again after clicking the button.
In Post, the solver doesn't converge or fit well at the start.	Make sure you have set the map pose which copies rotation values to pre-rotations so that the target and source skeleton axes align as closely as possible. Otherwise pad the start of your takes by a couple of seconds.
In Post, occlusion fixing across a range is disabled.	Occlusion fixing must only be run once on the whole take. If occlusion fixing was turned on during capture in Shogun Live (the default setting) and there are issues with your data, Vicon recommends that you restore the data to its non occlusion-fixed state using the Restore feature in the Marker Editing panel. Then fix any marker issues like swaps or mislabels before re-running occlusion fixing on the whole take by selecting the required option in the Processing panel. For information on fixing marker issues, see the Vicon videos: 5 - Shogun Post – Labeling Data ⁸ and 6 - Shogun Post - Marker Editing ⁹ .
In Live and Post, Graphics compatibility mode shortcuts are missing from the Windows Start menu.	You can still run Shogun in graphics compatibility mode by using the appropriate command line flag: <code>--force-gles</code> (You may want to use graphics compatibility mode if the machine on which you need to run Shogun does not have a dedicated GPU.)

⁸ <https://vimeo.com/218945101>

⁹ <https://vimeo.com/218945104>

Addressed issues in Vicon Shogun 1.5

Addressed issues in Vicon Shogun 1.5

Vicon Shogun 1.5 resolves a number of issues, including the selection listed here.

- [Issues addressed in Shogun Live on page 25](#)
- [Issues addressed in Shogun Post on page 26](#)

Addressed issues in Vicon Shogun 1.5

Issues addressed in Shogun Live

Issues addressed in Shogun Live 1.5.1

- Selecting an option for the **Sub-Sampling Divisor** of a Vue camera no longer causes Shogun Live to stop responding.
- **Bump Sensitivity** settings (in **Accelerometer**) persist after restarting Shogun Live for all cameras.
- When setting up Vue cameras, **Red Gain**, **Green Gain** and **Blue Gain** settings (in **Video Setup**) now persist after restarting Shogun Live.
- **Camera Gain** now persists when Shogun Live is restarted.
- When you select a camera in the **System** panel, the Advanced properties now include the camera temperature.

Issues addressed in Shogun Live 1.5

- You can now adjust a camera's Threshold in Control without issues.
- When capturing MOV files, if you set Audio Payload to None, no audio track or metadata are saved, resulting in a correctly converted MOV file.
- When the timecode source is removed, the timecode counter for the video input in the Data Capture panel no longer changes.
- Right-click subject in Tracking panel now takes you to the folder specified in user preferences.
- You can now change the color of a cluster after it's been attached to a subject.
- Shogun Live now remembers the capture folder after Eclipse is closed.

Addressed issues in Vicon Shogun 1.5

Issues addressed in Shogun Post

Issues addressed in Shogun Post 1.5.1

- You can now easily add constraints to a VSS.
- When you select **Auto-select markers for fill** in the **Fill Rigid** dialog box, the selected markers are now filled during gaps.
- Rigid Fill now fills gaps correctly at the start and end of the data.
- Rigid Fill now produces a smooth in and out transition.

Issues addressed in Shogun Post 1.5

- An issue with the way props were created in `.mcp` files from Shogun Live 1.4 has been resolved, so that you can now edit (eg, unlabel and fill) them as normal.
- Props created in Shogun Post now label as expected in Live.
- Running `GetSelectedObjects()` from `scene.py` now works correctly and no longer results in an inaccurate error.

Further resources for Vicon Shogun

Further resources for Vicon Shogun

You can access further help on using Vicon Shogun from the following resources.

- [Vicon Shogun videos on page 28](#)
- [Contact Vicon on page 29](#)

Further resources for Vicon Shogun

Vicon Shogun videos

New videos for Shogun 1.5

Watch videos on the new features and functionality of Shogun 1.5.

- On YouTube: [What's new in 1.5 - Shogun Live](#)¹⁰ and [What's new in 1.5 - Shogun Post](#)¹¹

Videos from previous versions of Shogun

Note

As the videos were recorded using earlier versions of Shogun, although much of the content is still relevant, you may notice minor differences in the user interface.

Watch videos that walk you through all aspects of using Shogun:

- [Vicon Shogun 1.3 Live Tutorials](#)¹² on YouTube (playlist)
- [Vicon Shogun 1.3 Post Tutorials](#)¹³ on YouTube (playlist)
- [Vicon Shogun playlist on YouTube](#)¹⁴ (all Shogun videos)
- [Vicon Shogun Live tutorials playlist on YouTube](#)¹⁵ (Shogun Live tutorial videos only)
- [Vicon Shogun Post tutorials playlist on YouTube](#)¹⁶ (Shogun Post tutorial videos only)
- [Vicon Shogun channel on Vimeo](#)¹⁷, beginning with [1 - Shogun Live - Introduction](#)¹⁸

¹⁰ https://youtu.be/o7LgCsQjJ_M

¹¹ https://youtu.be/RSRA9F_Rbps

¹² <https://www.youtube.com/playlist?list=PLxtdgDam3USU1O76ZYN-wJ7iKPrTbeNFM>

¹³ <https://www.youtube.com/playlist?list=PLxtdgDam3USXX3qGWqbxONpjj91SUHhI>

¹⁴ <https://www.youtube.com/playlist?list=PLxtdgDam3USVknig2N6QU1ARXR22LXJfJ>

¹⁵ <https://www.youtube.com/playlist?list=PLxtdgDam3USXIGzl52wuo84syXxBFNtuZ>

¹⁶ <https://www.youtube.com/playlist?list=PLxtdgDam3USX4-COtDQqRXzSy8xVtj5-I>

¹⁷ <https://vimeo.com/channels/1249217>

¹⁸ <https://vimeo.com/218944959>

Further resources for Vicon Shogun

Contact Vicon

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²⁰ <mailto:support@vicon.com>

²¹ <mailto:support@vicon.com>

²² <https://www.vicon.com/vicon/copyright-information>