Shutter Stream (Enterprise)

User Guide

Version 13.0

by

Imagen Labs

Iconasys.com

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Iconasys has emerged as a leading provider of still and 360 degree product photography automation tools by offering professional yet affordable solutions that enable users of any skill level to create high quality product images fast and efficiently. At the core of Iconasys product photography solutions is intuitive software that was designed specifically for studio and product photography. Fragmented product photography processes (image capture, editing, processing, output) are integrated into a single product photography software suite that provides users a simplified and seamless workflow. Within the software, users also have the ability to automate processes – allowing for the creation of professional quality still and 360 product images at with a single mouse click.

The Shutter Stream software development started in 2013. The initial architecture used a serialized design, where one process ran one at a time. The original design ended with version 11.0. The software was rewritten, using a multi-threaded design, where multiple processes can run in parallel, starting with version 12.0. The new version of the software is sometimes referred to as the Shutter Stream Enterprise version, but for all marketing purposes it is still called Shutter Stream.

This document is the Shutter Stream User Guide. It provides a detailed description of the features and tools available within the Shutter Stream software and how to use these tools to obtain professional quality still and 360 degrees images.

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Chapter 1

Introduction

Figure 1.1: Shutter Stream.

1.1 Downloading the Software

You should have received an email with software download links and instructions, please refer to this to download and install the software. If for any reason this was not received, please email us at support@iconasys.com and request we resend the email.

1.2 Registering the Software

After installing the software and at the time of first launch, users will be prompted with the option to register the Shutter Stream software. Please follow registration instructions at [1] (select correct Software and follow Step 2: Registration Instructions)

1.3 Setting up your Compatible Camera

Prior to working with the software, please view [2] and select your camera manufacturer then the camera model you will be working with. This page will walk through camera set up instructions to ensure your camera will work correctly when tethered shooting through Shutter Stream Software. After you have set your camera settings, power on your camera and connect to your computer:

- Via USB for Canon, Nikon and Sony Wired SDK cameras[1].
- Via wireless network for Mobile Phone cameras [4].

1.4 Help Desk and Support

The Iconasys Confluence page [5] will provide answers to many FAQ's. Please see [6] for info on how to contact the Support Team.

[1] See [3] for a list of USB compatible cameras.

Chapter 2

Image Composition & Capture Tools

Figure 2.1: Shutter Stream overview:(1) Image Composition and Capture Tools, (2) Image Viewing and Thumbnail Gallery, (3) Image Processing and Output Tools, (4) Live View and Image Viewing Window, and (5) Import, Help, and Settings.

2.1 Live View

'Live View' will stream the cameras live view to the monitor screen in real time so users can view the subject they wish to shoot before actually capturing the image. This will be displayed in the center of the screen – which will toggle from Live View Window (when composing and capturing

images) to Image Viewing Window (when viewing captured or imported images). Enabling Live View: Left click on the icon to enable the cameras 'Live View'. This will then be projected in real time onto the 'Live View Window'. While in Live View, all 'Image Capture Tools' will be available. These include: 'Overlay', 'Crop', 'Camera Control', 'Snap' and 'Video'.

2.1.1 Disabling Live View

'Live View' can be disabled by either:

1. Clicking the Live View Icon
2. Clicking a Thumbnail in the Thumbnail Viewing Gallery

Built into the 'Live View' is *Exposure Simulation (*this feature is only supported by cameras that have Live View Exposure simulation). This means the current exposure of the image (if it were to be captured) is projected in real time in the 'Live View Window'.

2.1.2 Live View Options

To enable Live View options, click the 3 dot icon in the Live View Button.

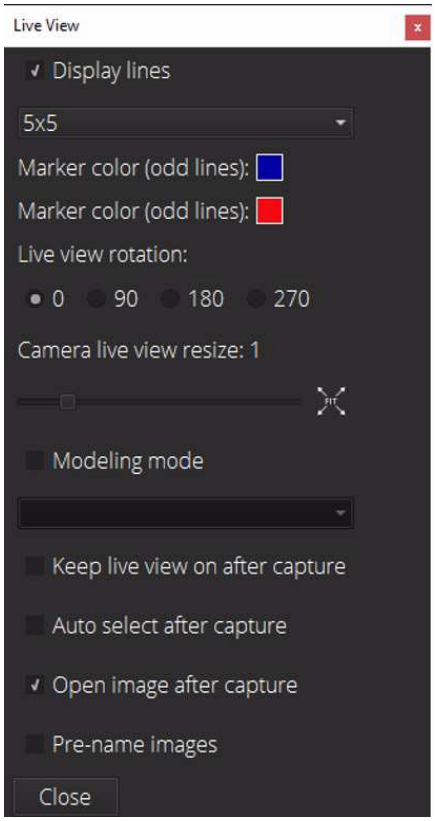

Figure 2.2: Live view settings window.

1. Display Lines: This feature allows users to set cross hair grid markers in the Live View Window. Users can select up to 36x36 lines. This is helpful when placing items and ensuring camera is level when shooting. When enabled, users have the ability to set the number of display lines in the drop down and marker colors for even and odd lines). Suggested Settings: ENABLED / 5 x 5 lines / Marker Color: (odd) Blue, Marker Color (even) Red.

2. Live View Rotation: This option is for users who wish to rotate the Live View window and capture rotated images. Camera Live View Resize: Some cameras display the Live View window in a lower resolution (for ex. the Nikon D5200 camera displays Live View at 640 x 426 pixels) which can display quite small when working on a higher resolution monitor. Users can increase display size by adjusting Slide Bar. Suggested Settings: Increase Live View window size to fill the Live View Window placeholder while finding an acceptable level of clarity in the Live View Note: Stretching the live view can cause pixelation (blurry image)

3. Modeling Mode: Modeling mode is designed for users shooting with strobes who will require different camera settings (exposure settings) for Live View and Image Capture. To enable Modeling Mode, users will first need to create and save a Camera Settings Profile to be used for Live View purposes only (create this in Control Camera window). After doing so, users will Enable Modeling mode and select the desired Camera Settings Profile to be used for the Live View Modeling Mode. Live View exposure will now reflect the exposure from the Modeling Mode Camera Settings Profile selected. Suggested Settings: Enable if using strobes

4. Keep Live View on After Capture: The standard operation of Shutter Stream is to upload the image after capture and display for viewing. Users also have the ability to re-enable the Live View Window after capturing an image. If this option is selected, the software will automatically revert back to Live View mode after an image has been captured and uploaded to the 'Thumbnail Viewing Gallery'. Suggested Settings: Enable if shooting multiple images per product.

5. Auto Select After Capture: This option will auto select the captured image in the Thumbnail Gallery after capture. Selected images will be processed by any of the Image Processing Tools. Suggested Settings: Enable

6. Open Image After Capture : This option will display the image for viewing immediately after capture. Suggested Settings: Enable if you prefer to see the image immediately after capture.

7. Pre-Name Images: Enabling this option will allow users to name images before capture. When enabled, this will prompt a pop-up window at the time the Snap button is clicked, and will allow users to provide a name for the image(s) that are to be captured.

2.2 Image Overlay

The ‘Image Overlay’ feature will allow users to overlay a transparent image over the ‘Live View Window’. This enables users to achieve consistent product placement, camera positioning and shooting angles. Users can create and save multiple image overlays.

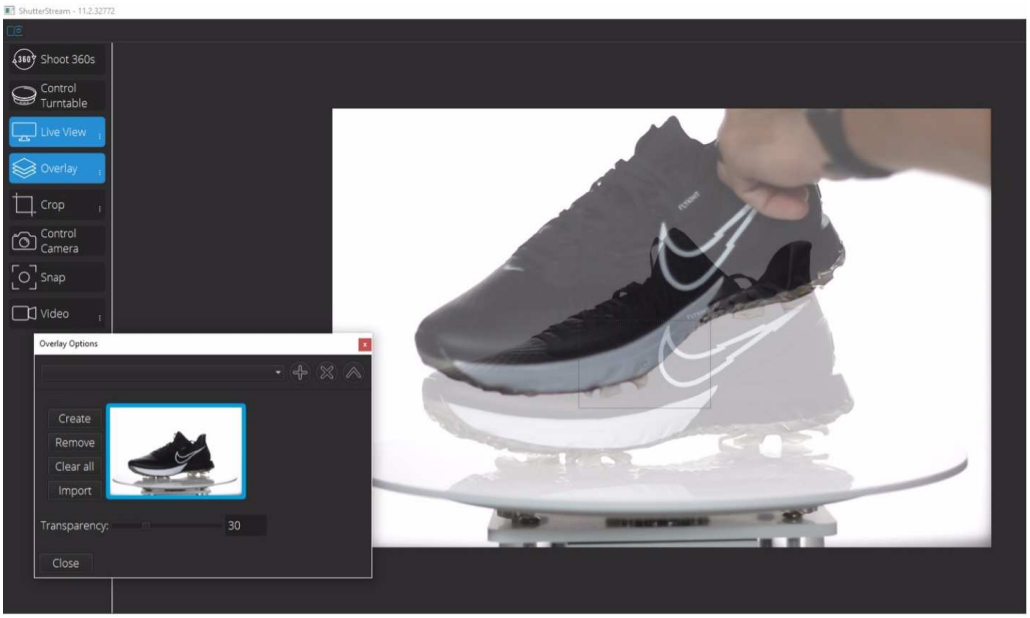

Figure 2.3: Overlay options overview.

2.2.1 Creating an Image Overlay

Users will first want to achieve their desired product position/angle by manually positioning the product while in Live View mode. After doing so, users will want to create their image overlay. To create an image overlay, users will first left click the ‘Overlay’ icon so that its highlighted blue then click the Overlay options (3 dot icon in the bottom right corner of the button). This will pop up a new window where users have the option to ‘Create’, ‘Remove’ or ‘Clear All’. When clicking ‘Create’ it will create an overlay from the Live View window. This will also be saved (a thumbnail of the overlay will be displayed in the Overlay options area). Users can create multiple image overlays by repeating this process.

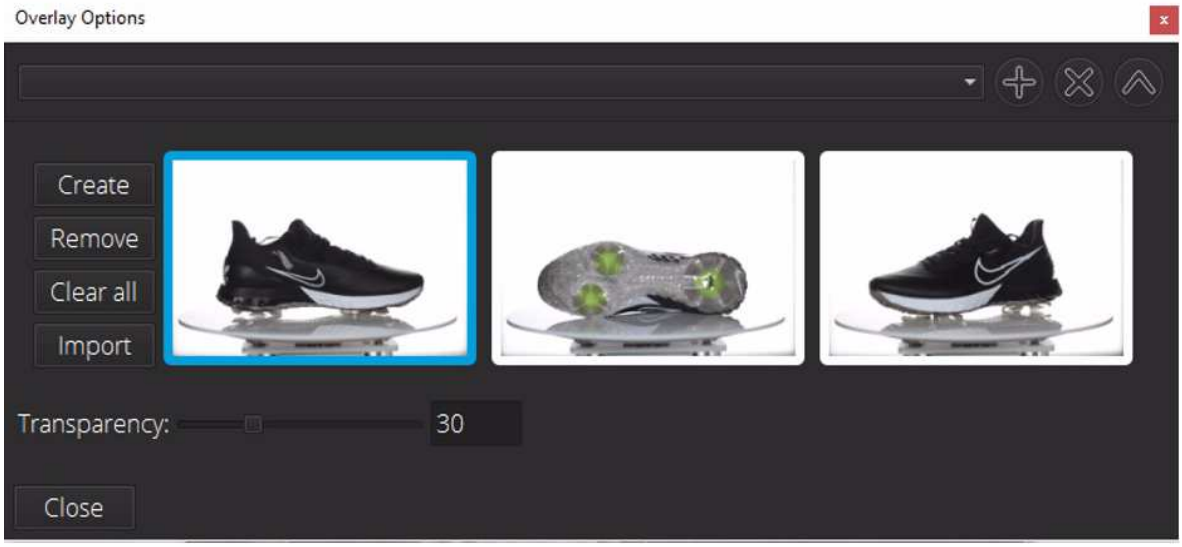

Figure 2.4: Overlay options window.

2.2.2 Set Default Image Overlay

After user has created an image overlay(s), simply click on the image in the Overlay options area – it will display with a blue border around the image to denote it is selected as the default.

2.2.3 Enabling Image Overlay

While in Live View, click the Overlay button (when its enabled, the Overlay button turns blue). This will then display the default image overlay the user had previously selected in the Overlay options area.

2.2.4 Deleting Image Overlay

In the Overlay options area, select the thumbnail you wish to delete by left clicking (it will have a blue border when selected) then click the 'Remove' button. Alternatively, users can batch remove all image overlay's by clicking the 'Clear All' button.

2.2.5 Transparency

Users can define the opacity of the image overlay by adjusting the slide bar left/right or by manually entering a transparency value. The higher the number, the less transparent the overlay will display (ex. 100 no transparency).

2.2.6 Saving an Image Overlay Profile

Users are able to create and save Image Overlay profiles. These are a series of image overlays that can be accessed at any time by clicking the drop down in the top of the Overlay Options window.

To create an Overlay Profile, create a single or series of Overlays, then click the + icon to the right of the profile drop down list. Users can delete profiles by clicking the X icon and update profiles by clicking the icon.

2.3 Crop

The 'Crop' tool gives users the ability to Pre-Crop their subject prior to capture. Typically crop is an action that is standard to post-production however, in Shutter Stream, crop can instantly be applied to images as they are captured (Crop cannot be applied to RAW image format). In addition, users can define the Crop shape in a specific ratio (Square or Custom Ratio) if required. For example, if images are required at 800 x 500 pixels, users would want to select Pre-Crop in an 8 x 5 ratio.

2.3.1 Using the Crop Tool

While in Live View mode, users can enable the 'Crop' by left clicking on the 'Crop' button then simply click and drag the mouse cursor over the subject in the 'Live View Window'.

2.3.2 Adjusting the Crop

To resize the crop, click and drag from any of the corner (click black circle in corner). To move the 'Crop' (in its current size and shape), left click and hold while inside crop and move accordingly to desired position. To get rid of a 'Crop', simply single click on the 'Live View' window outside of the crop.

Figure 2.5: Defined crop area region.

2.3.3 Crop Options

Crop options allow users to define Crop shape (free form, square or custom ratio) size and enable grid lines/center point. To display Crop Options, click the 3 dot icon in the Crop button.

To select the preferred crop method, select the option using the radio button to the right. If using Custom Ratio, users will want to define the ratio (width by height) using the lowest common denominator. For example, if a user requires an image at 800 x 500 pixels, they will define a ratio of 8 x 5). Users can also define Crop in a custom size (X / Y axis of width/height).

Figure 2.6: Crop options window.

Last, users can define to show Live View Cross Guide Lines with a center marking. This makes it easy for consistent and centered cropping of objects. Suggested Settings: Set and use a consistent crop ratio based on your required image size. Enable live view cross grid lines.

2.4 Control Camera

Control Camera will provide users the ability to adjust camera settings through mouse clicks to adjust exposure, focal point and more. This feature is an integral part of the workflow and will help to ensure for maximum image quality. Users have the ability to create and save multiple Camera Setting Profiles within this window that can be easily accessed at a later time[1] To enable the Camera Control window, left click the 'Control Camera' icon and a new window will open up. Camera Settings will be dynamically populated by the make/model of your camera and the functionality it supports. Camera settings will be retained from shot to shot unless otherwise adjusted.

2.4.1 Creating a Camera Setting Profile

At the top of the window there is a + icon – this will allow users to create a camera settings profile that can be saved and retained in the software for future use. Users can create and save multiple camera setting profiles. For example, maybe camera settings slightly change when shooting a white vs. a black product. Having a 'White Product' profile and 'Black Product' profile will help with consistent image quality and workflow efficiencies. If using strobe lighting and the modeling mode feature, it is required to make 2 camera setting profiles. If using Dual Shot Background Removal, it is suggested to create 2 camera setting profiles to automate the image capture process.

[1] A specific setting for dark colored products and another camera settings for light colored products.

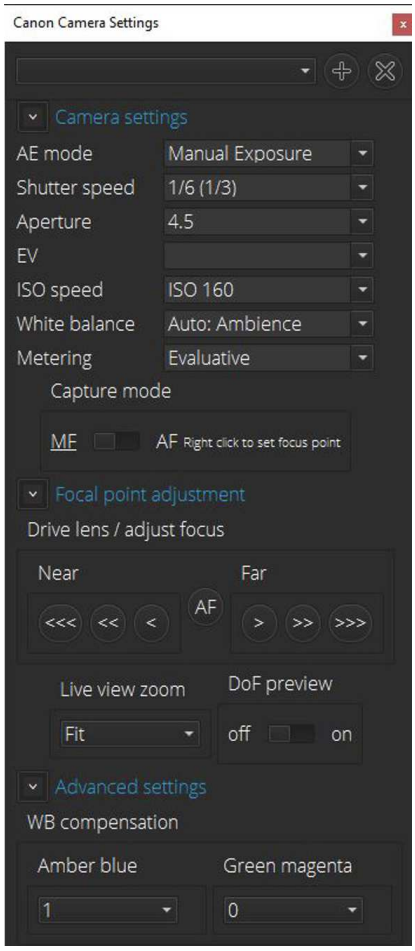

Figure 2.7: Canon camera setting window.

2.4.2 Selecting a Previously Saved Profile

In the Drop Down field at the top of the window, users can access and select from a list of previously saved profiles.

2.4.3 Camera Settings

Please refer to your cameras user manual to gain a better understanding of all camera settings available if unfamiliar.

1. AE Mode: This simply tells the user what Camera Mode the camera is set to. This reflects the physical setting that is set on the camera. It is not adjustable through the software but rather manually on the cameras Shooting Mode Dial. Please be sure Camera is physically set to 'Manual' Exposure mode.

2. Shutter Speed: Shutter Speed is the length of time a camera's shutter is open (defined in seconds) when capturing an image. The slower the Shutter Speed, the brighter the resulting

image.

3. Aperture: Aperture is the opening through which light travels to the cameras sensor. The smaller the Aperture value, the bigger the opening and the brighter the resulting image. This setting is responsible for the depth of focus of a resulting image. The higher the aperture value, the greater the focal depth however can result in poorer image quality. Pending the type of products being shot and lens being used, we typically suggest an aperture value between 10 and 18.

4. EV: Also referred to as Exposure, EV is only an option with Nikon DSLR cameras and simply allows Nikon users to adjust 'Live View' brightness and darkness (this however does not affect the resulting image exposure when image is captured when shooting in Manual Exposure mode).

5. ISO Speed: Also referred to as Sensitization, the ISO is another tool that is used to adjust exposure. This feature is designed for shooting in low light environments when not using a tripod. It is suggested to use an ISO value of 100 – this will help yield the best quality results.

6. White Balance: White Balance' adjusts the intensity of colors in a resulting image. Ideally, users wish to match the light balance preset with their type of lighting. Users who are unsure of their lighting type should use 'Auto White Balance' as this will typically do a great job and automatically compensate for the lighting type being used. Users can also manually set a custom white balance (please refer to the cameras User Guide for instructions) for their own lighting – then select the Manual or Preset option in the drop down after set.

7. Metering: An on camera setting that allows users to control exposure with less effort ([7] for a more in-depth article on metering)

8. Capture Mode: Users can define to shoot using Auto Focus (AF) or Manual Focus (MF). Users can toggle from AF to MF mode based on their preference. Note, if preferred shooting method is Auto Focus, or if you plan to drive lens via software to set a manual focus point, the lens must be set to AF mode.

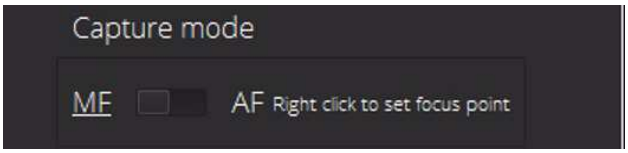

Figure 2.8: Capture mode setting

Auto Focus (AF)

Ensure Capture Mode toggle is set to AF (right side). If your lens is set to AF mode when you launch the software, you will see a matrix of grey boxes on the Live View window (if you do not see these and wish to display, right click on the Live View window). This displays focal areas

from the cameras AF Method (set on camera) and displays focal points available when using Auto Focus.

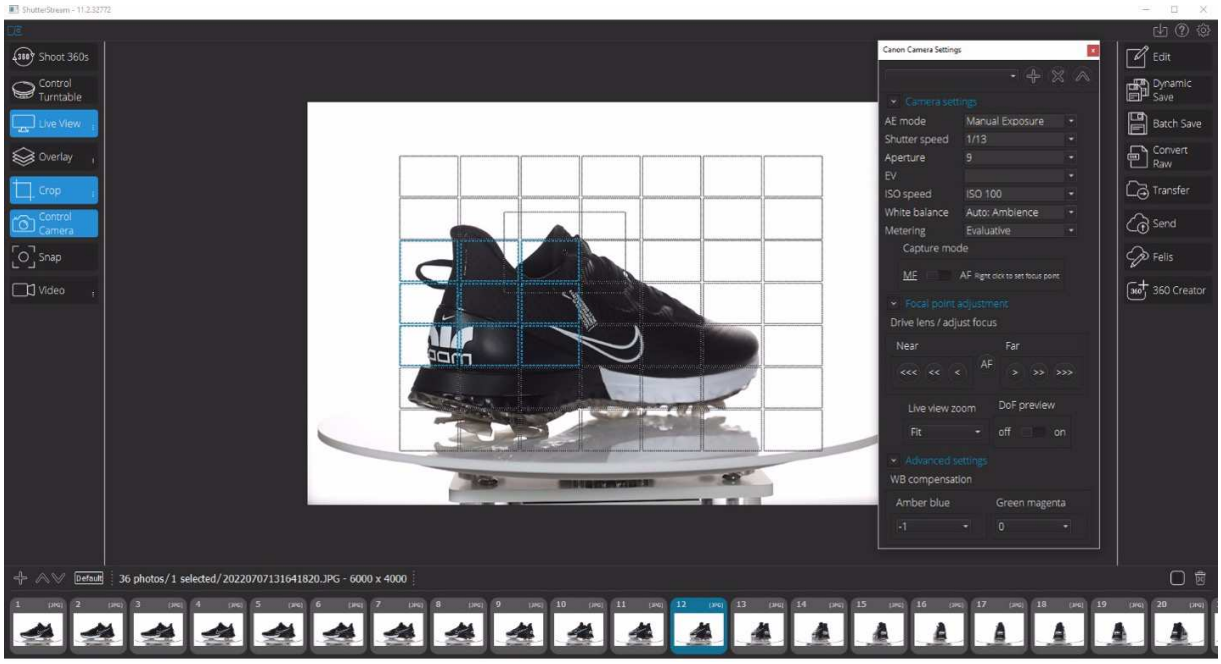

Figure 2.9: Canon camera settings overview.

Users have the ability to right click with the mouse on the Live View Window to display and select a focal area (the focal area will be displayed by blue rectangles). This will adjust the desired focal point to the closest AF points available in the cameras viewfinder (users can change AF method physically on the camera to display different points). When an image is snapped, it will auto focus on this area defined by the user. Users can also make the camera auto focus before image capture by clicking the 'AF' button in the Focal Point Adjustment tools area.

Manual Focus (MF)

If using Manual Focus, users will use the Focal Point Adjustment tools. Set Capture Mode toggle to MF (and ensure camera lens is physically set to AF). Suggested: Always set a Manual Focal Point when shooting 360 Product Photography.

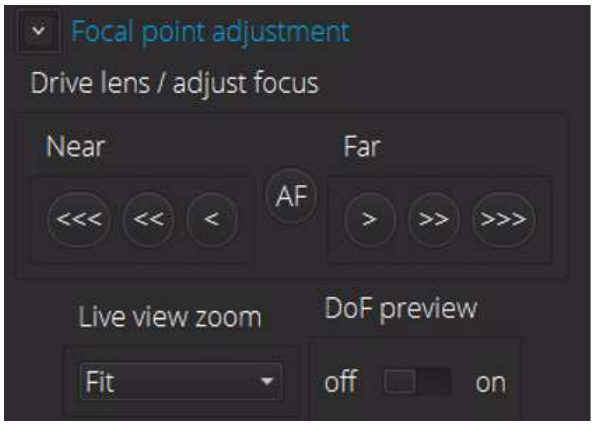

Figure 2.10: Focal point adjustment setting.

2.4.4 Focal Point Adjustment

Users have the ability to adjust/set focal points using the Focal Point Adjustment tool. This mode is typically used by those shooting in Manual Focus mode (that is, those who don't wish to allow the cameras auto focus to set a focal point). Drive Lens Near/Far: To adjust focal point users can drive lens near and far using the arrow buttons. The <<< | >>> equal a large increment, << | >> equal a medium increment, < | > equal a fine increment. The focal point that is set is automatically fixed and applied to the image being captured.

1. Live View Zoom: This option allows users to magnify the Live View window (view at 1:1). This is suggested when setting a focal point manually so users can view up close – making it easier to set the correct focal point. To define the 1:1 view finder area, right click on the desired focal point area in Live View window - this will move the 1:1 View Finder Location Box (denoted with a white border) to that location. Then in the Live View Zoom drop down select 10X – this will adjust the Live View Window to 1:1 viewing mode. After setting a focal point manually, this will be retained from shot to shot until adjusted.

2. DoF Preview: Depth of Field preview allows users to display the depth of focus in real time while in Live View. is available with some supported camera models and will allow users to preview the image focus depth while in Live View, prior to snapping an image. This can be enabled/disabled.

2.4.5 Advanced Settings

These settings will vary from camera to camera, please consult with your cameras user guide for a better understanding of these settings/options.

2.5 Snap

Snap will allow users to capture an image. When the button is clicked, the software sends a capture command to the camera and after the image is captured, it will be sent back to the software for uploading then viewing. There is 4 Snap Modes available. Users can also define auto image editing/processing to be applied directly after capture:

By right clicking the Snap button, users can define and select the desired Snap Mode to be used. Users can also choose to Auto Apply previously created profiles (create profiles in Options area - Pipeline Processing) by holding CTRL (Command on Mac) and right clicking the Snap button. Below discusses the available Snap options.

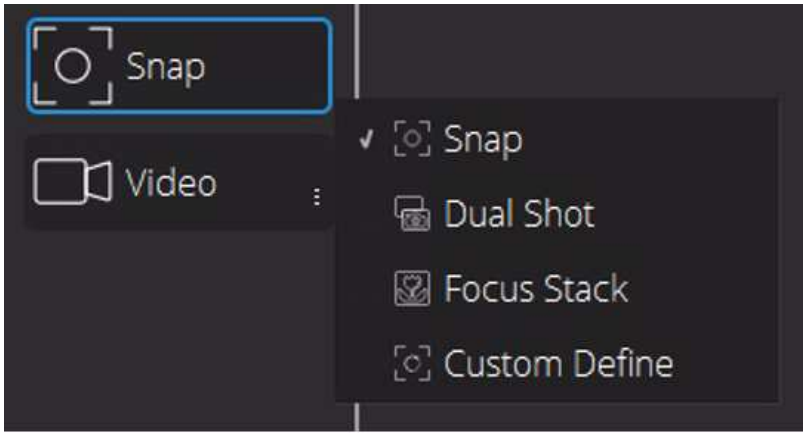

Figure 2.11: Snap modes dropdown window.

2.5.1 Snap

This will capture a single image.

2.5.2 Dual Shot

This will capture 2 images at different exposures for use with the Dual Shot Automated Background Removal Tool. To get started with Dual Shot Capture Mode, enable Live View then right click the Snap button and select Dual Shot option from the menu. After doing so, the Snap button will change to Dual Shot. Users will next need to set up the Dual Shot Capture Profiles. Click the 3-dot icon in the bottom corner of the Dual Shot Snap button to display Dual Shot Options:

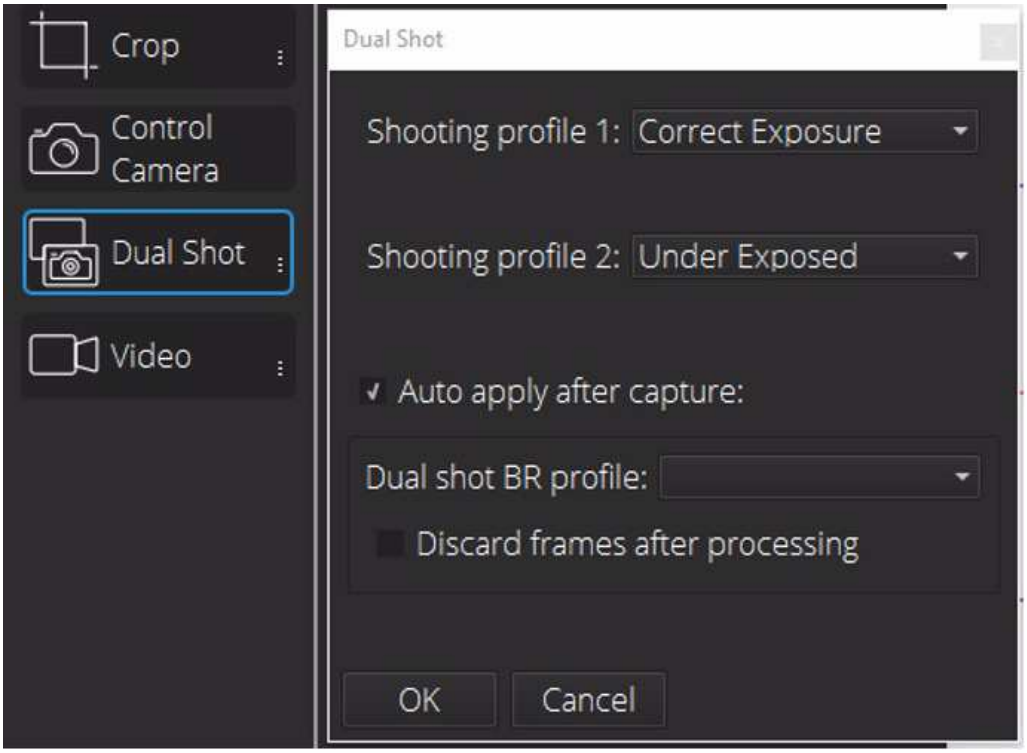

Figure 2.12: Dual shot window.

Shooting profiles are set in the Camera Control window. Users will create and save two different Camera Setting Profiles – typically only adjusting exposure through a change to the Shutter Speed value. Steps for creating Camera Settings Profiles is as follows:

1. Enable Live View, adjust camera settings to correct exposure (color accurate image) and save camera settings profile (ex. name it Correct Exposure). Camera Settings Profiles can be saved using the + icon in the top right of the camera control window.

2. While in Live View, adjust camera settings to an underexposed setting (typically speed up shutter speed 2-3 stops) so that the resulting image would be darker. Save the camera settings profile using a new name (ex. name it Under Exposed).

3. In the Dual Shot Shooting Mode Options menu, define the Shooting Profile 1 (Correct Exposure) and 2 (Under Exposed).

The Dual Shot shooting profile is now enabled and selected. This profile will be used (and retained) anytime the Dual Shot Snap button is clicked. If the profile needs to be adjusted, simply click the Dual Shot options and reset.

Users can also select a Dual Shot Background Removal profile (create this in the editing area – see Dual Shot Background Removal below for instructions) that can be auto applied immediately after capture. Users also have the ability, if auto applying a Dual Shot BR Profile, to discard individual frames and only show the final image after the auto applied editing profile is processed.

2.5.3 Focus Stacking

This will allow users to capture a series of photos at different focal points for use in a Focus Stacked image (ideal for use in still image macro photography). To get started with Focus Stacking Image Capture Mode, enable Live View then right click the Snap button and select Focus Stacking from the dropdown menu.

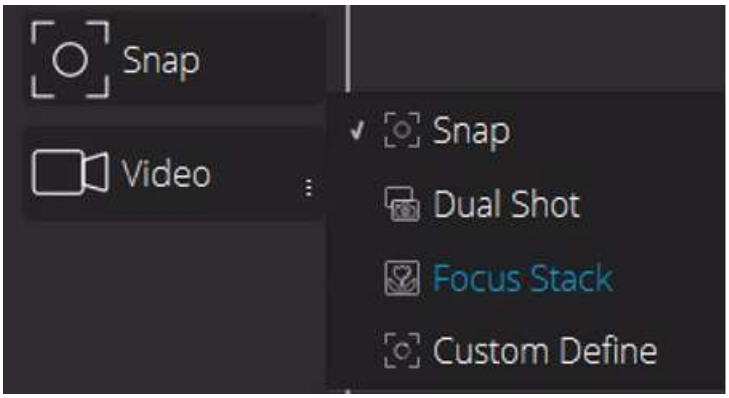

Figure 2.13: Snap modes dropdown - Focus Stack.

After selected the icon will change to Focus Stack. Click the 3-dot icon (bottom right corner of focus stacking snap button) to open Focus Stacking Options:

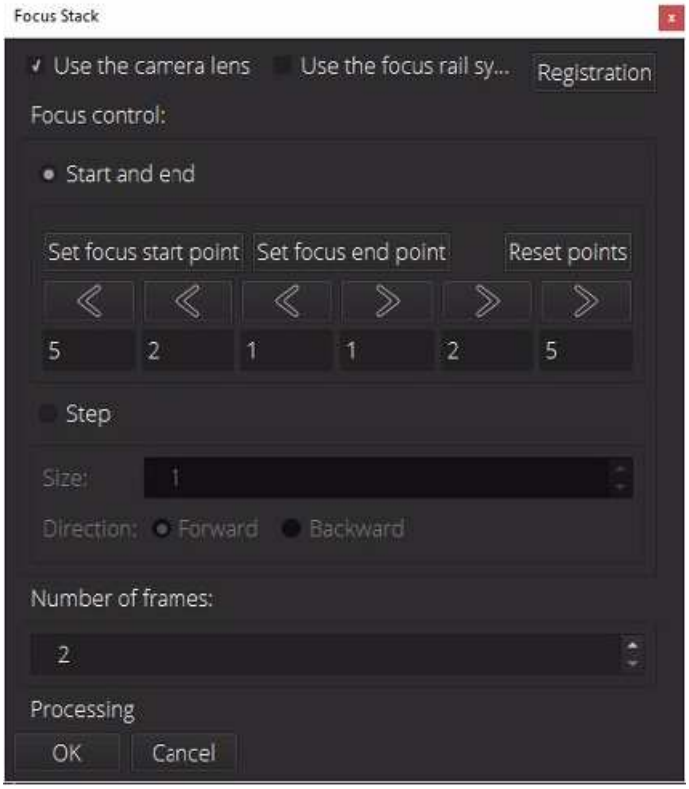

Figure 2.14: Focus Stack window.

Focus Stacking Preference

Users will now need to define their focus stacking preferences. Users can either:

1. Use the Camera Lens: This will automate lens focal ring movement to define different focal points
2. Use the Focus Rail System (coming soon)

Focus Stacking Parameters

Next, user will need to define a Start and an End Point for focus. The Start Point should be at the front of the product while the End Point should be at the back of the product. This will be set while in Live View mode:

1. Enable Live View

Figure 2.15: Focus Stack overview.

2. Open Camera Control Window and the Focus Stacking Options Windows

3. In the Camera Control Window, enable Live View Zoom at 5X to view up close move the View Finder over the front of the product (Live View 1:1 View location can be adjusted by right clicking on the live view).

4. Adjust the focal point by clicking the Focal Point Arrows (note, the sensitivity of the focal point adjustments can be adjusted using the numeric entries below the arrows). We suggest using values of 5, 2 and 1 for near and far.

5. After bringing the front of the product into Focus, select Set Focus Start Point Button:

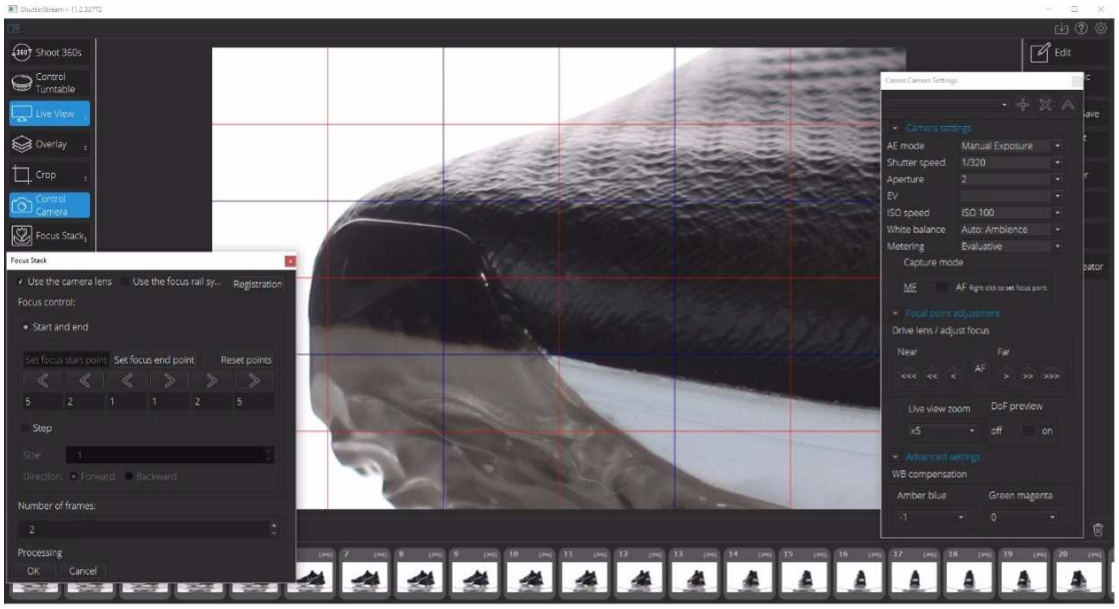

Figure 2.16: Focus Stack live view.

6. Adjust Live View viewfinder to position over the back of the object, adjust focal point using the Focal Point Arrows until the back of the object is in focus, then click Set Focus End Point.

7. Last, define the Number of Frames to be used in the stack (typically between 3 and 5 images should be good however can change based on type of lens being used, distance from lens to object and more variables)

The Focus Stacking parameters are now set. This profile will be used (and retained) anytime the Focus Stacking Snap button is clicked. If the profile needs to be adjusted, simply click the Focus Stacking options and reset.

Processing Focus Stack Images

Users have the ability to auto sack their image sets immediately after capture in addition to discarding individual frames.

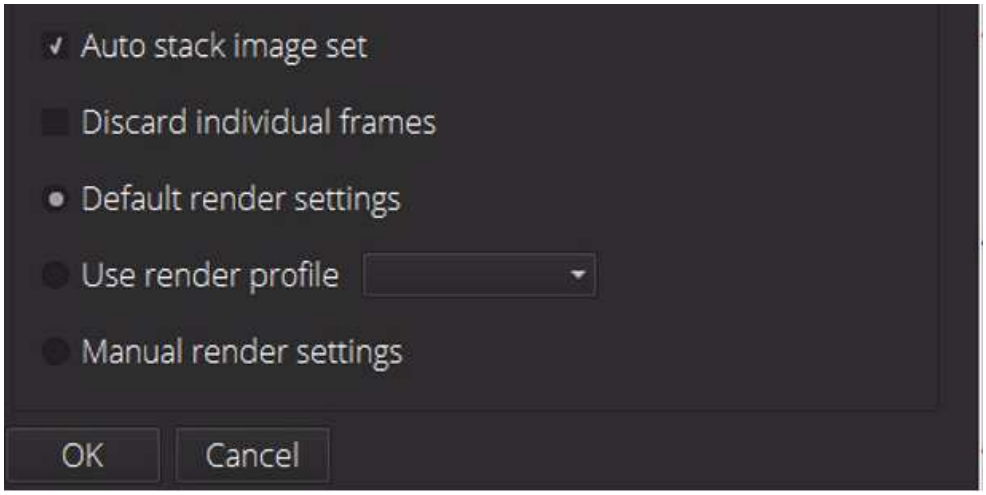

Figure 2.17: Focus Stack options.

1. Auto Stack Image Set: By selecting this option, the set of images captured through the focus stacking option will be auto compiled into a single focus stacked image.

2. Discard Individual Frames: When selecting this option, the images captured in the focus stacking will be deleted after the focus stacking capture and compiling process – leaving the user with a single, focus stacked image. If not selected, the resulting image set after capture and compiling (assuming Auto Stack Image Set is selected) will be:

   (a) The images captured at various focal points (frame count defined by Number of Frames selected in the Capture process)

   (b) The Focus Stacked image.

3. Default Render Settings: In most cases the default Focus Stacking Render Settings will yield perfect results. It is suggested to use the Default Settings.

4. Use Render Profile: In the editing area of the software, users can access Focus Stacking Settings (this is another way users can manually stack image sets). In the Focus Stacking Editing area, users are able to manually adjust Focus Stacking Settings and then create/save a profile. After saving a profile, users are able to select this profile in the Use Render Profile drop down and select it to auto apply.

5. Manual Render Settings: Users can define Focus Stacking Render Settings directly in the Focus Stacking options window. To do so, enable, Manual Render Settings and define the following:

   (a) Weighted Average: The most popular method, it is Ideal for preserving colors and contrast

   (b) Depth Map: Ideal for products with a simple surface that have no sudden changes in surface level. Also ideal for products that have glare.

(c) Pyramid: Ideal for products that has many crossing lines and changes in surface level and images shot with more than 100 images in the stack

(d) Radius: Radius is the most important parameter for processing. We mostly advise you to try different values. Start from the default value and then set it to its minimum and see what happens. Next try to increase the value to get rid of any noise or artifacts, particularly halos along the edges. If your image has fine details and thin lines, as most images do, a low radius level (3-5) will probably yield the best results, although you will probably get more noise and a halo effect. So you'll need to try to find a balance.

(e) Smoothing: All focus-stacking algorithms find and combine the sharp areas. Smoothing defines how the sharp areas are combined. Low smoothing produces a sharper image, but the transition areas may have some artifacts. High smoothing will result in a slightly blurry image without any visible transition areas. Start with the default smoothing. Then if you want more detail, decrease the smoothing value; if you get too much noise and too many artifacts, set a higher value.

The Focus Stacking shooting profile is now enabled and selected. This profile will be used (and retained) anytime the Focus Stacking Snap button is clicked. If the profile needs to be adjusted, enter into the Focus Stacking options and adjust as required[2].

2.5.4 Custom Define

The Custom Define Image Capture mode is designed for users who wish to automate the capture of a series of images. Users can define the camera capture to be set on a timer, the number of frames to be captured in the sequence and even add tips for the next photo to be shot. Custom Define Capture mode is useful for high production product photography environments. To get started with Custom Defined Image Capture Mode, enable Live View then right click the Snap button and select Custom Define from the dropdown menu. After doing so, the Snap button will display Custom Define.

[2]The Focus Stacking Compiler plugin is available as an add on purchase. Users can evaluate the focus stacking plugin prior to purchase – the final result will have a diagonal line through it. If looking to Register the Focus Stacking plugin, this will be done in Editing – Focus Stacking –Registration (enter Activation Code in here).

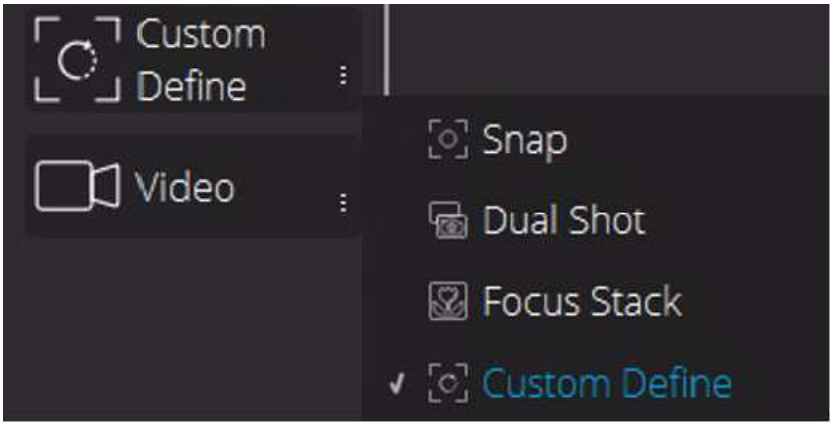

Figure 2.18: Snap modes dropdown - Custom Define.

Users will want to set and define their Custom Define settings. To do so, click the 3 dot icon in the bottom right of the Custom Define button to open up the options area.

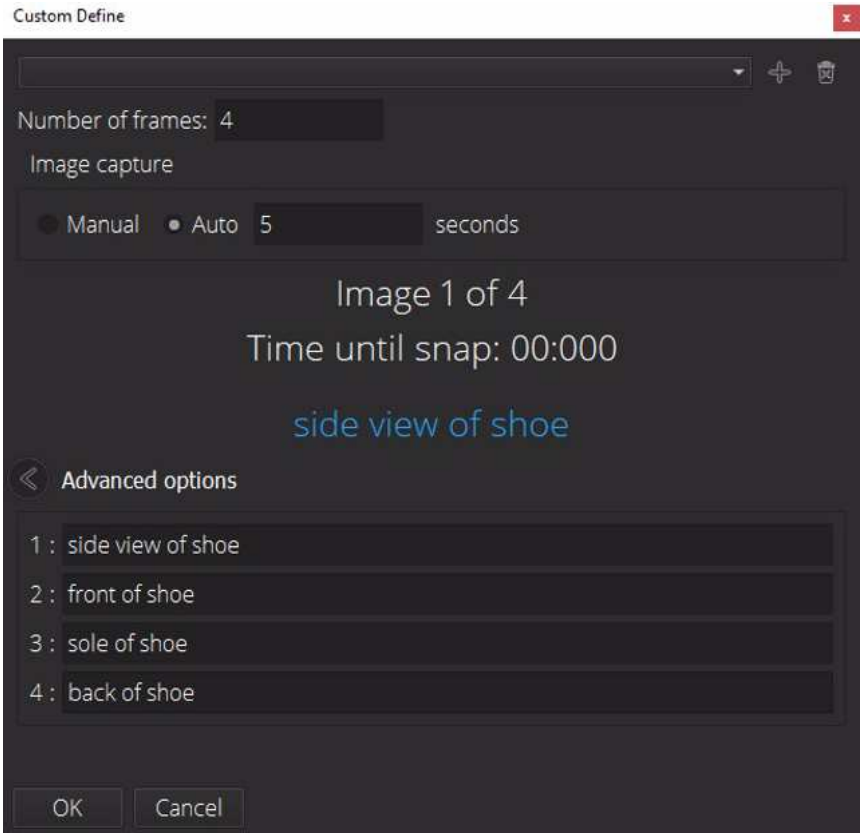

Figure 2.19: Custom Define window.

Profiles

At the top of the Custom Define Settings is the Profile area. Users can create (define Custom Define shooting parameters) and then create and save the profile (so it can be stored in the software and used at a later time). In order to do so, users will first create their Custom Define profile, then click the + icon. This will require user inputs a name for the profile, after which it will be saved. Users can save multiple profiles and access these via the dropdown Profile name field. To delete a previously created profile, select it from the dropdown, then click the Trash Can icon.

Number of Frames

In this field, users will define the number of frames they wish to shoot over the custom defined sequence.

Image Capture

Users can define image capture as Manual or Automated:

1. Manual: Users will be required to click the Snap button via mouse click to Capture each image.
2. Auto: Users can define automated image capture. This will define as every X seconds – with the camera automatically capturing an image every X seconds

Advanced Options

In the advanced options, users are able to add information that can guide the user as to what photo is to be captured next. These can include photo tips – for example, the next angle required to be photographed. In this example, we are shooting a shoe – and each shoe will require 4 angles (side view, front, sole & back). The tips will guide the user, as they stand next to the product, to position it in the correct angle.

The Custom Define shooting profile is now enabled and selected. This profile will be used (and retained) anytime the Custom Define Snap button is clicked. If the profile needs to be adjusted, enter into the Custom Define Snap options and adjust as required.

2.6 Video

The Video function will allow users to start/stop cameras video recording. Users will require their camera set to Video Record mode (physically set on the camera) and require an SD card be inserted in the camera. This button will work as a toggle. To start video record, click the button, it will turn red when recording. To stop video record, click the button again. Users can set Video options by clicking the 3 dot icon in the bottom right corner of the Video button: Video Save Location: Immediately after capture, the video can be uploaded to the computer (will also store a copy of the video locally on the SD or CF Card in the camera. Users can define the video save to location.

Click the 3 dots icon to browse and select a save to location. Users can also choose to open video with default video application after capture and/or open video location folder after capture.

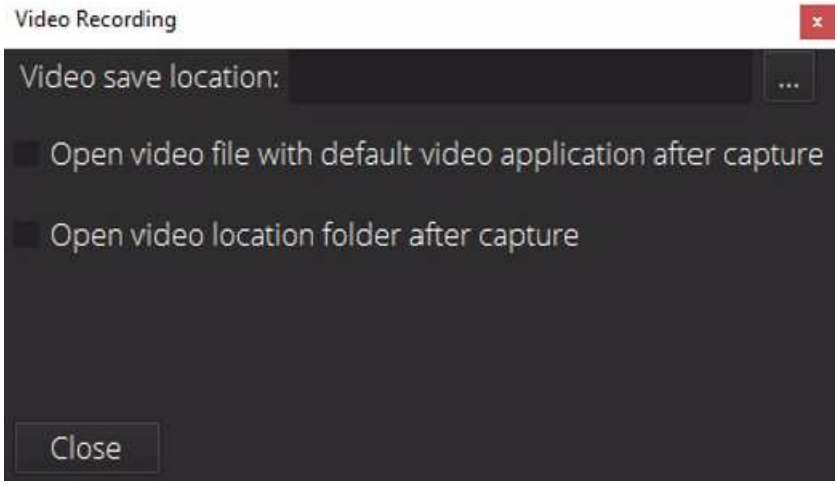

Figure 2.20: Video Recording window.

2.7 Shoot 360

This will allow users to enter into 360 Product Photography shooting mode. This option will include shooting 360's using various turntable types including: Manual, Motorized, Shutter Release and Iconasys Turntables. Users will first want to define their turntable shooting type. This will be set in the Options area (gear wheel top right corner of UI) under Select Turntable option.

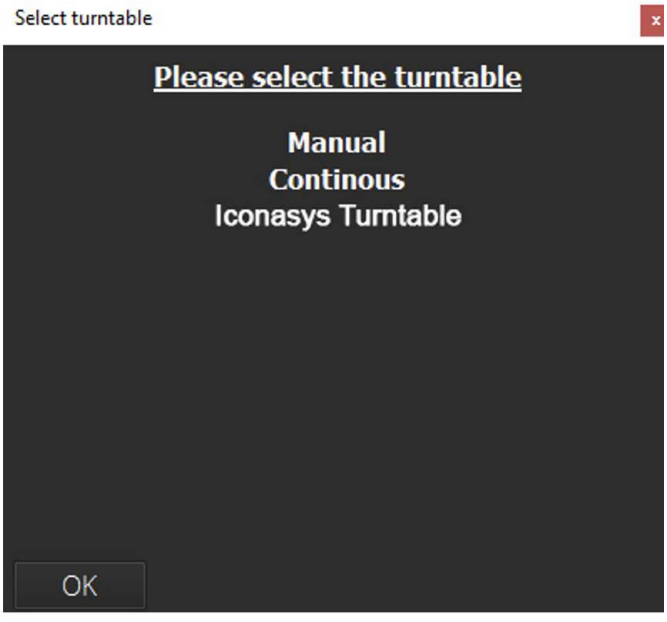

Figure 2.21: Select turntable window.

2.7.1 Manual Turntable Shooting Mode

Users have the ability to shoot with a manual photography turntable and automate the image capture process. To enter in the Manual Turntable 360 Shooting Mode, select Turntable option Manual (Options – Select Turntable – Manual), then click Shoot 360 button.

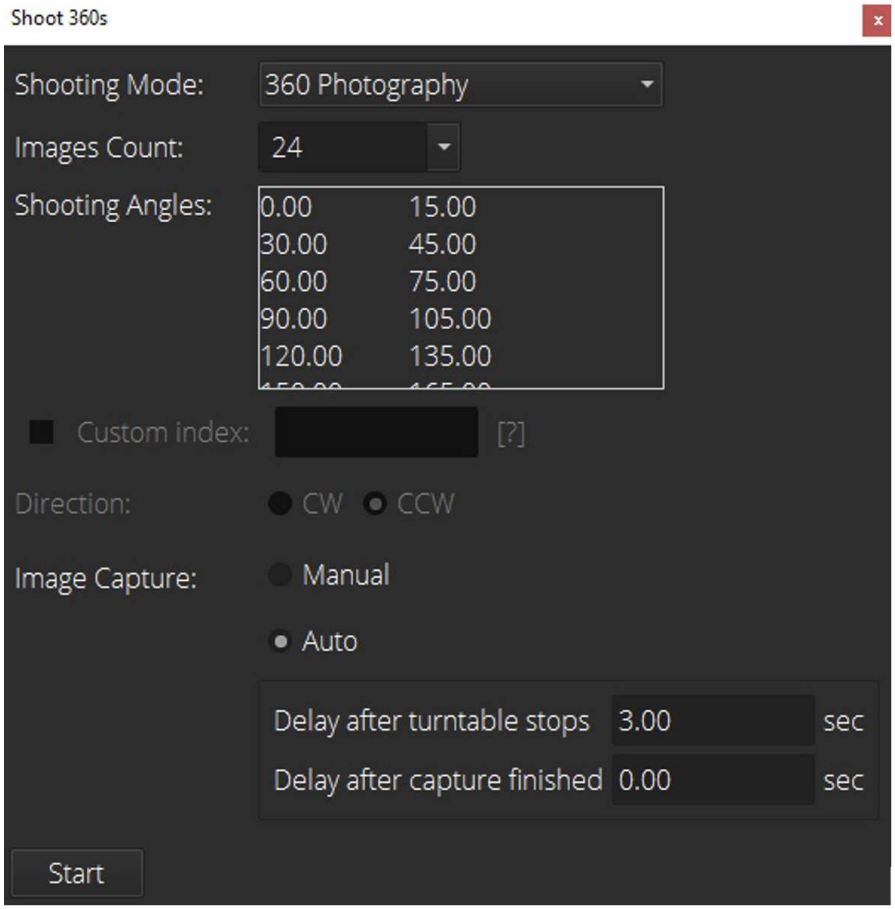

Figure 2.22: Shoot 360s window 1.

Users will define:

1. Images Count: This will be the total number of frames captured over the 360 rotation. Users can select from a drop down of pre-defined values or enter a custom frame count duration. As an image count is defined, the Shooting Angle list will be auto-populated to show each angle that will be captured.

2. Image Capture: Users can choose to Manually Snap (this would require the user click the snap button in the software every time the turntable stops. After the image has been captured, user will be required to position the turntable to the next shooting angle then click the Snap button to capture the next image. The more popular option is Auto Image Capture, which will automatically trigger camera snap at time interval (define by Delay settings).

3. Delay: Users can define a pre or post capture delay. Delay after turntable stops will add a delay between turntable stop and camera snap. Delay after capture finished will add a wait time after camera snap, before the turntable will rotate. If using Auto capture mode, users will want to define a delay time that would be sufficient for the user to manually rotate the turntable to the next shooting angle.

4. Start: The Start button will begin the 360 image capture sequence.

2.7.2 Continuous (Motorized) Turntable Shooting Mode

Users have the ability to shoot with a motorized, continuous spin photography turntable and automate the image capture process. To enter in the Continuous Turntable 360 Shooting Mode, select Turntable option Manual (Options – Select Turntable – Continuous), then click Shoot 360 button.

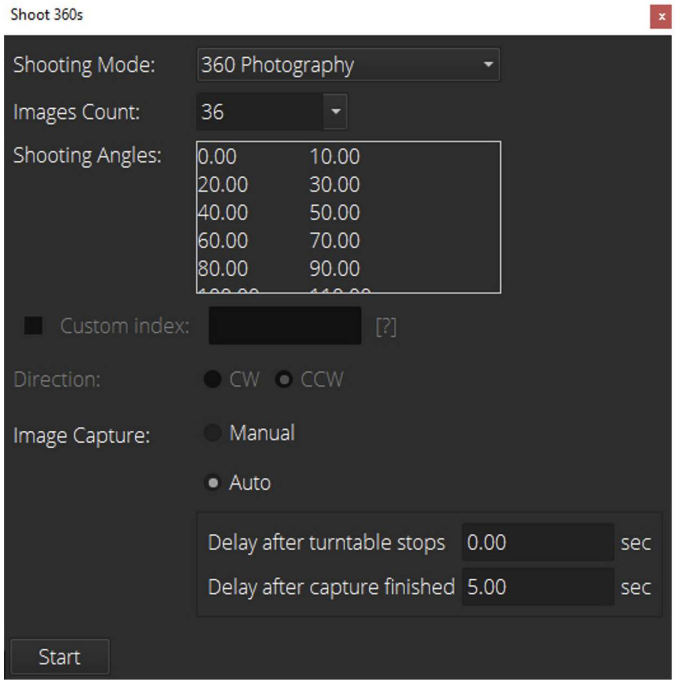

Figure 2.23: Shoot 360s window 2.

Users will define:

1. Images Count: This will be the total number of frames captured over the 360 rotation. Users can select from a drop down of pre-defined values or enter a custom frame count duration. As an image count is defined, the Shooting Angle list will be auto-populated to show each angle that will be captured.

2. Image Capture: Users can choose to Manually Snap (this would require the user click the snap button in the software every time they wish to capture an image). Manual Snap will be hard to trigger the camera at same turntable rotation intervals. The more popular option is

Auto Image Capture, which will automatically trigger camera snap at time interval (define by Delay settings).

3. Delay: Users can define a pre or post capture delay. Delay after turntable stops will add a delay between turntable stop and camera snap. Delay after capture finished will add a wait time after camera snap, before the turntable will rotate. If using Auto capture mode, users will want to define a delay time that would allow them to capture a sufficient number of images. A use case example would be a turntable that spins at a rotation rate of 120 seconds/360. If a user wishes to capture a total of 40 frames, they would define either Delay at 3 seconds (120 seconds/3 seconds = 40 total frames).

4. Start: The Start button will begin the 360 image capture sequence. Users will want to start the motorized turntable rotation and click start when the turntable reaches the desired first shooting angle.

2.7.3 Iconasys Turntable

This will provide users with fully automated 360 product image capture – integrating camera snap with turntable movement at pre-defined user angles. To get started with Iconasys Turntable shooting type, please ensure the Iconasys Turntable is powered on and connected to computer via USB. Select the correct Turntable model from the Select Turntable option (in the options menu). There is two parts to the 360 image capture process:

Turntable Control

The Control Turntable button under Shoot 360s allows users to control turntable movement. This will be used for 360 image composition – previewing the rotation to ensure for correct product positioning and pre-cropping the object. Users will also define turntable rotation speed (10 is the fastest speed) and ramp up/down degrees (additional info on this can be found below)

Shoot 360s

The Shoot 360 area allows users to define Shooting Mode (360 Photography, Custom Defined, and Video Mode):

1. 360 Photography: This will be the selected option for shooting 360 product image sets

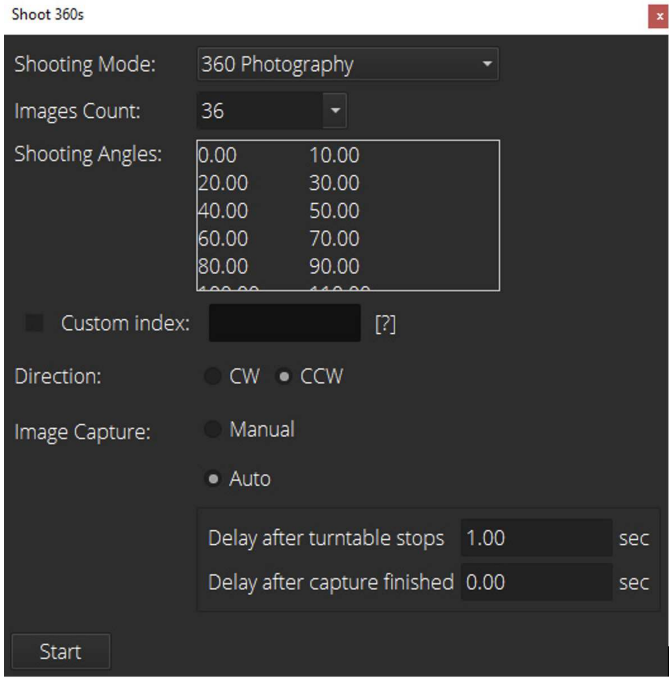

Figure 2.24: Shoot 360s window 3.

In this option, users will define:

(a) Image Count: Select the total number of frames to capture over the 360 rotation (or manually type in a value). In the screen capture above, we have selected 36 frames from the dropdown menu of default values (that equals one capture every 10-degrees). The list of angles captured is auto populated and displayed below in the Shooting Angles area. Should a user require a custom frame count, enter this in Custom Index field

(b) Custom Index: Users can also define specific images of the 360 imaging sequence to capture.

(c) Direction: This will be the 360 image capture direction defined in clockwise or counter clockwise.

(d) Image Capture: Users can choose to Manually Snap (this would require the user click the snap button in the software every time the turntable stops. After the image has been captured, the turntable will automatically move to the next positon. The more popular option is Auto Image Capture, which will automatically trigger camera snap at each turntable stop location

(e) Last, users can define a delay. Delay after turntable stops will add a delay between turntable stop and camera snap. Delay after capture finished will add a wait time after camera snap, before the turntable will rotate. An example of when to use this feature would be for a user shooting with strobes, who requires more time for the strobes to cycle in between image capture or for a bottle with liquid in it, adding a delay to ensure the liquid settles before camera snap is triggered.

2. Custom Defined Shooting Mode: In the Custom Defined shooting mode, users are able to automate image capture at a pre-defined set of angles. This differs from 360 product photography as rotation angle will not be consistent in between frames. This is a great option for users looking to automate still product photography.

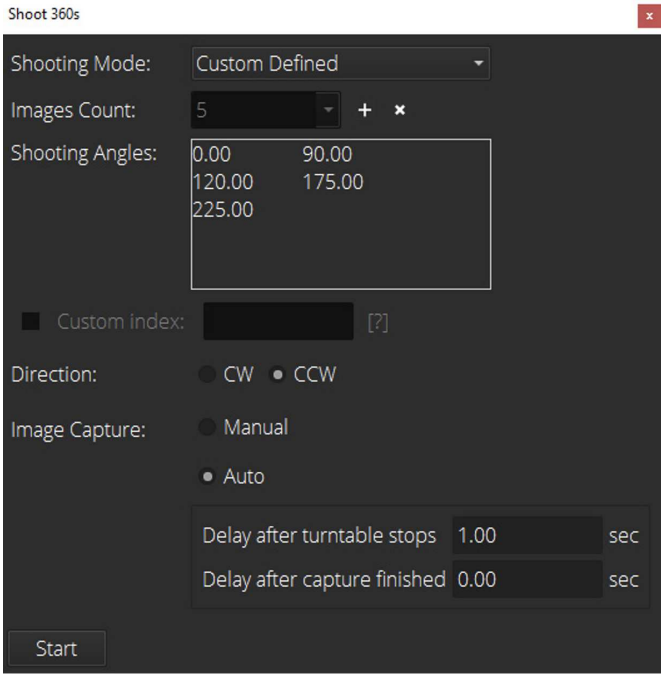

Figure 2.25: Shoot 360s window 4.

In the Custom Defined Mode, users will define:

(a) Images Count: This will be the total number of frames to be captured (defined by number of shooting angles)

(b) Shooting Angles: Users will enter desired shooting angles to be captured in the Custom Defined imaging sequence. To add a shooting angle, click the + button next to the Images Count box and enter an angle (defined in degrees). Users can add multiple angles. To delete angles, click the X button.

(c) Direction: This will be the Custom Defined image capture direction defined in clockwise or counter clockwise

(d) Image Capture: Users can choose to Manually Snap (this would require the user click the snap button in the software every time the turntable stops). After the image has been captured, the turntable will automatically move to the next position. The more popular option is Auto Image Capture, which will automatically trigger camera snap at each turntable stop location

(e) Delay: Users can define a pre or post capture delay. Delay after turntable stops will add a delay between turntable stop and camera snap. Delay after capture finished will add

a wait time after camera snap, before the turntable will rotate. An example of when to use this feature would be for a user shooting with strobes, who requires more time for the strobes to cycle in between image capture or for a bottle with liquid in it, adding a delay to ensure the liquid settles before camera snap is triggered.

3. Video Mode: The Video mode will allow users to use the cameras video record feature, to create 360 product videos and custom defined product videos. This mode will integrate camera video record – automating video record and stop with turntable start/stop.

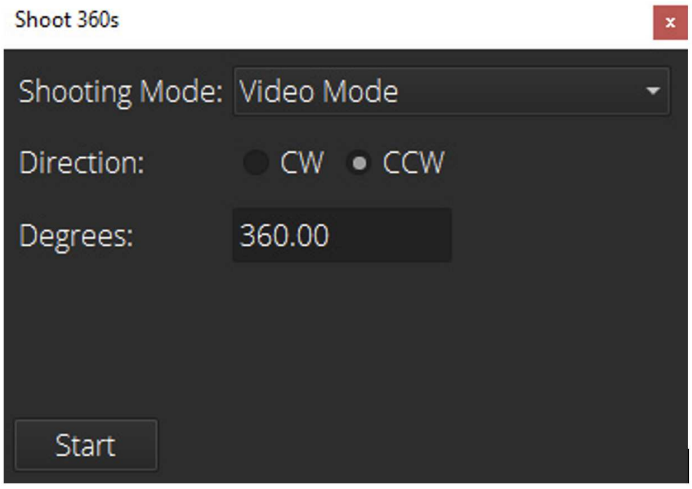

Figure 2.26: Shoot 360s mini window.

In the Video Mode, users will define:

(a) Direction: This will be the 360 image capture direction defined in clockwise or counter clockwise

(b) Degrees: The total number of turntable rotation degrees for the video capture.

2.8 Control Turntable

The control turntable feature is used to control turntable movement when working with an Iconasys Photography Turntable. This option will only be available for those using an Iconasys Photography Turntable (select in Options – Select Turntable – Iconasys Turntable). The Iconasys Turntable needs to be connected via USB and powered on. This will be used for 360 image composition – previewing the rotation to ensure for correct product positioning and pre-cropping the object. Users will also define turntable rotation speed (10 is the fastest speed) and ramp up/down degrees.

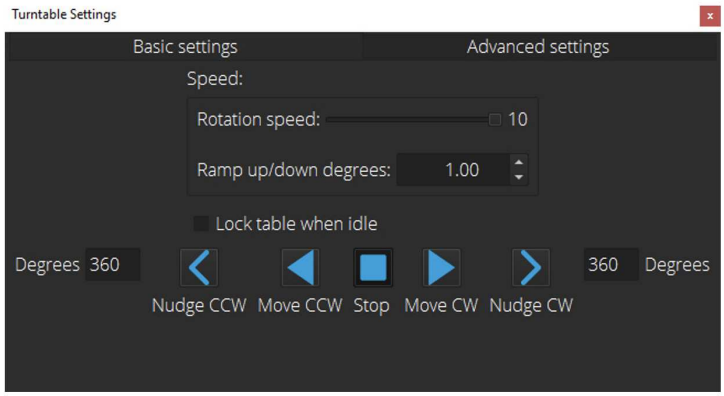

Figure 2.27: Turntable settings window.

In addition:

1. Rotation Speed: This will define with speed at which the turntable will rotate (10 being the fastest speed)
2. Ramp up/Down Degrees: Ramping the turntable will slow the rotation speed at the at the time of turntable start and stop. This will help prevent jerky movements when rotating the turntable at a faster speed. Users will enter a degree value for which the turntable will ramp up/down
3. Lock Table while Idle: If not selected, users are able to position the turntable by hand. When Lock table while idle is selected, it will not be able to be moved and as a result, be more accurate. We suggest to enable Lock Table when Idle (click the checkbox). Turntable Rotation: Users are able to rotate the turntable using the blue buttons.

   For most accurate positioning, you must enable *Lock table when idle*.

4. Nudge: This option allows users to define a specified turntable angle rotation. Users will enter an angle value (defined in degrees) to the side of the nudge button. Anytime the nudge button is clicked, the turntable will rotate in this defined degrees.
5. Continuous Rotation: Users can define to rotate the turntable in a continuous rotation by clicking the solid blue play button. The turntable will rotate until the user clicks the stop button.
6. Stop: This will stop the turntable rotation.

2.9 Image Viewing & Thumbnail Gallery

The ‘Thumbnail Viewing Gallery’ displays all images that have been previously captured into the Shutter Stream program. The selected image (highlighted in blue) will be displayed in the Image Viewing Window.

Figure 2.28: Thumbnails gallery overview.

2.10 Keyboard Shortcuts for Viewing Tools

Please see [8] for all Keyboard Shortcuts.

2.11 Viewing an Image

Left click on the thumbnail to view the image in the Image Viewing Window. The selected image will be highlighted in light blue. Users will have the ability to inspect up close by right clicking on the image and clicking 1:1 icon of adjusting zoom bar. When viewing 1:1, users can pan by holding Space Bar, then clicking and dragging to adjust the 1:1 viewing area. Users can also use the left and right arrows to display other images in the thumbnail queue. Selecting an Image(s): Left click the image. The selected image will be highlighted in light blue. In addition:

1. Batch Select a Set of Images. Select the first image, hold ‘shift’ then select the last image in the set – this will select all images in between. Alternatively, users can select and image, hold “Ctrl’ (or ‘Command’ on Mac) and select other images

2. Select All Images: Click the check box in the top right corner of the Thumbnail Gallery Window (the box next to the trash icon). After selecting an image(s), users can use the Image Processing tools to edit, process and output.

3. Scroll Left/Right: Use Keyboard < and > (SHIFT + , and SHIFT + .) arrows to scroll through Thumbnail Gallery or mouse click, hold and drag left/right.

4. Deleting Images: The ‘Trash’ icon in the top right corner of the Thumbnail Viewing Gallery will delete any selected images (denoted by blue highlight on the thumbnail). Select the

image(s) you wish to delete then left click the ‘Trash’ icon to remove images permanently from the program. The ‘Trash’ icon button can also be used to delete an existing row. If you have added multiple rows in the Thumbnail Gallery and wish to remove a row, first remove all images from that row, then click the ‘Delete’ button on the empty row to remove the row.

5. Multi-Row Thumbnail Gallery: Users have the ability to add additional rows to the Thumbnail Gallery. This can be used to help with file management. To Create a new Row, click the + icon in the top left corner of the Thumbnail Gallery after which, users will be required to provide a name for the Row.

   Images will be captured or imported into whatever row is displayed in the Thumbnail Gallery. To navigate between rows, users can use keyboard shortcuts (up / down arrows) or by mouse clicking the up and down arrows in the top left corner or the Thumbnail Gallery.

6. Adjusting the Thumbnail Gallery Viewing Size: Users are able to adjust size/viewing space of the Thumbnail Gallery. To do so, hover the mouse over the top line of the Thumbnail Gallery. The mouse icon will change (to a resize icon) then users can click and drag up or down to adjust the size of the viewing area:

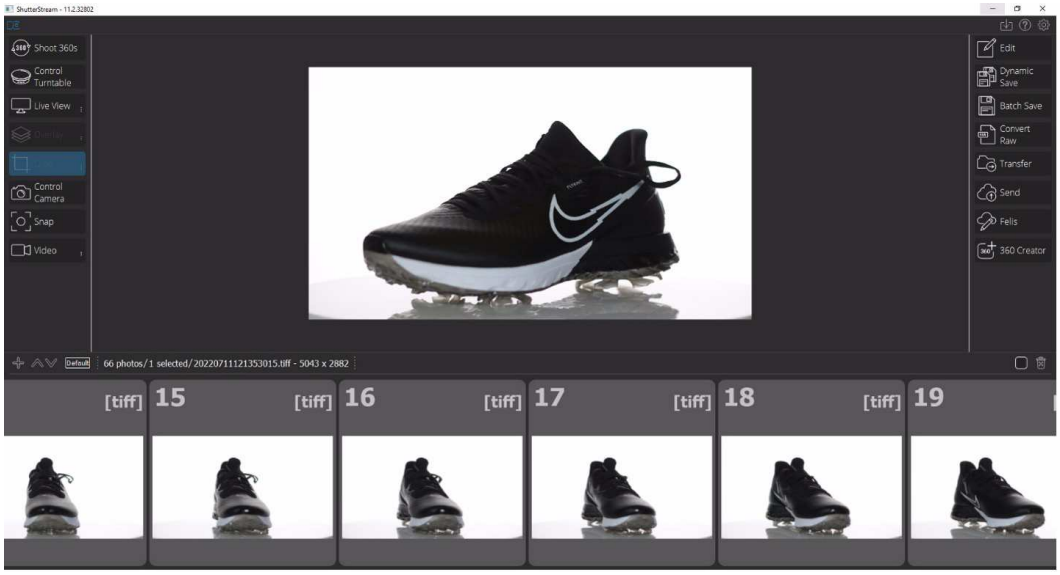

Figure 2.29: Thumbnails gallery resized overview.

Chapter 3

Multi-Camera Support

Starting with version 13.0 Shutter Stream Enterprise[1] added support for multiple cameras. Version 12.0 had support for a single camera.

3.1 Enable

To enable multiple cameras choose *Select camera* from configuration menu of the upper-right gearbox, see Figure 3.1.

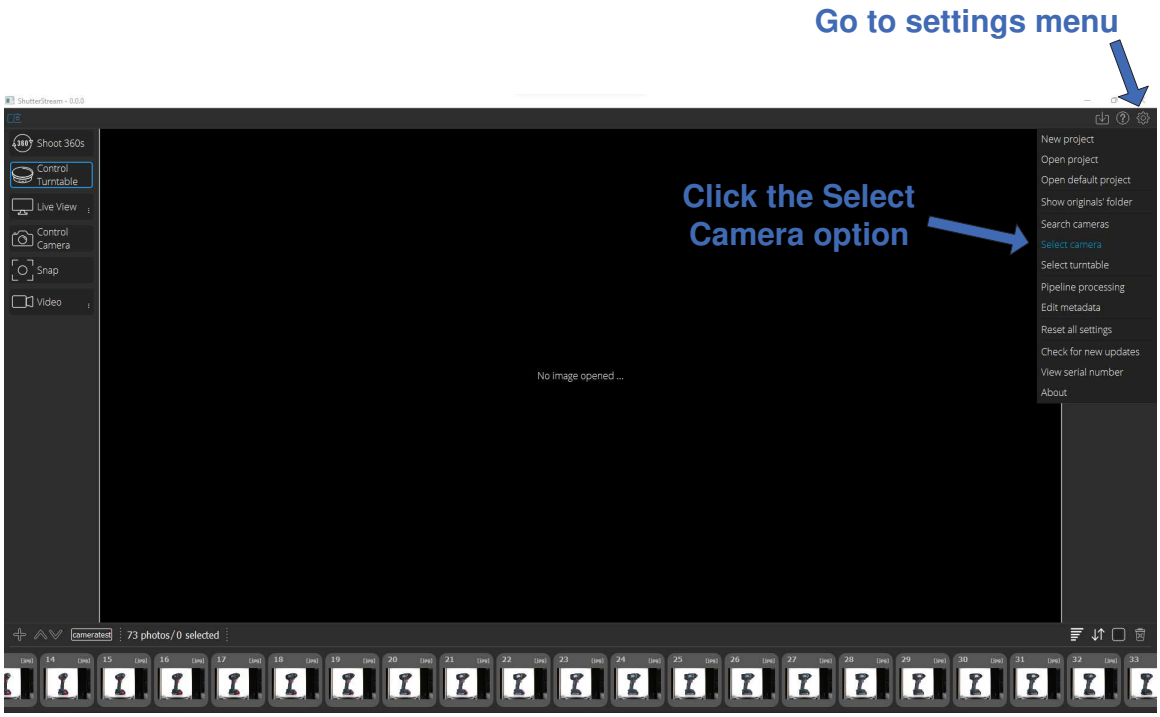

Figure 3.1: Activate Multi-Camera feature.

[1]The Entreprise version started with version 12.0. Versions 11.0 and earlier used a different architecural design.

3.2 Usage

When using multiple cameras to capture a 360 degrees view we face several challenges, including shutter release synchronization and camera calibration. Shutter release synchronization guarantees that all the cameras capture the data at the same time. Camera calibration is important to make sure that all the cameras are pointing at the same center, and that there are no unnatural jerks from frame to frame, as the view moves around the object. There is a full article dedicated to this feature, you can view it at this link: [9]

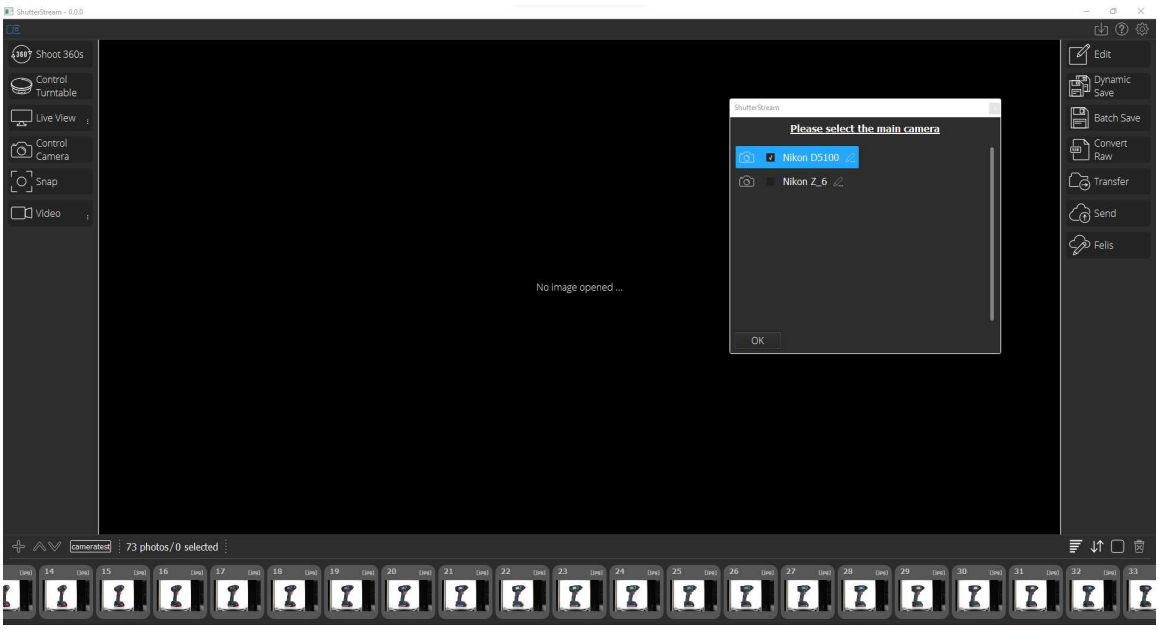

Figure 3.2: Multi-Camera overview.

After opening the multi-camera window, you can select which camera to see in the live view feed. You can do that with a simple mouse click on the camera's list.

3.3 Edit Multi-Camera List

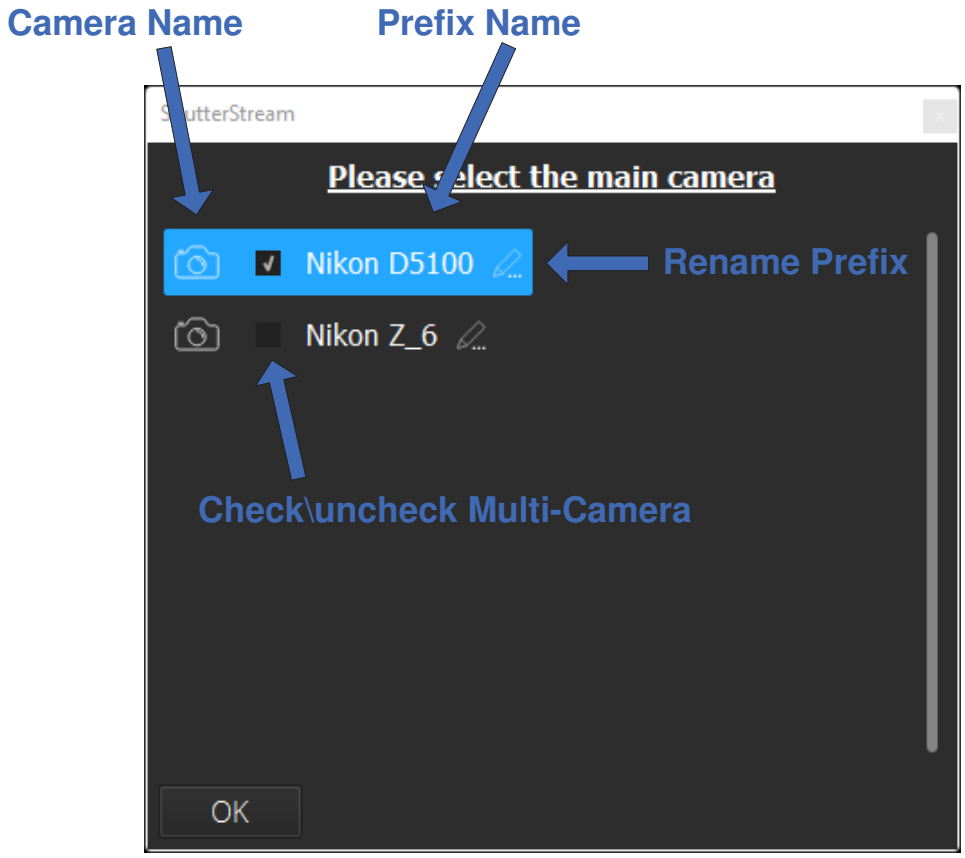

Figure 3.3: Multi-Camera settings window.

Here we can check, uncheck and rename all the cameras available in the list. When you finish editing the multi-camera list and you have everything setup, you cam click on the snap button to snap multiple images or do a 360 shooting.

Chapter 4

Edit Tools

Edit will allow users to make edits to a single or multiple images to enhance image quality, remove backgrounds, color correct and other features to achieve desired quality. There is a wide range of tools available that can help users achieve better quality results. View a list of the Editing keyboard shortcuts [8].

4.1 Editing UI Overview

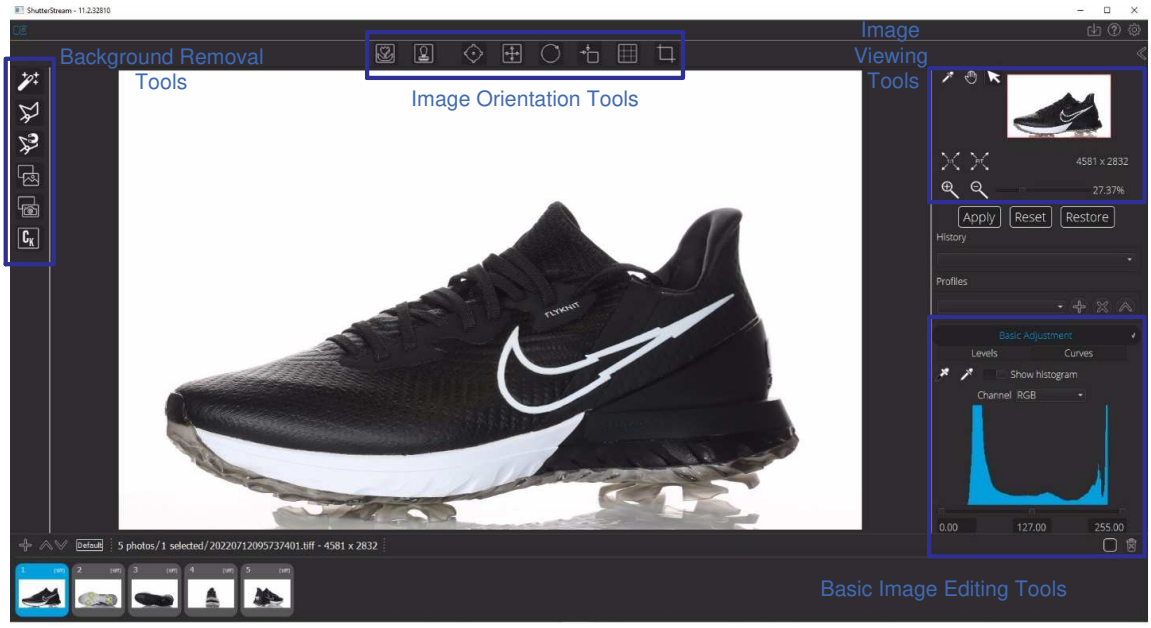

Figure 4.1: Edit window overview.

Editing features and functionality can be divided into 3 categories:

1. Basic Image Editing Tools

2. Image Orientation Tools

3. Background Removal Tools

In addition to the editing tools, there is a Profiles area (where users can create, save and access Edit Profiles), a History area, where users can see previous edits made to an image(s), and Image Viewing Tools.

4.2 Image Viewing Tools

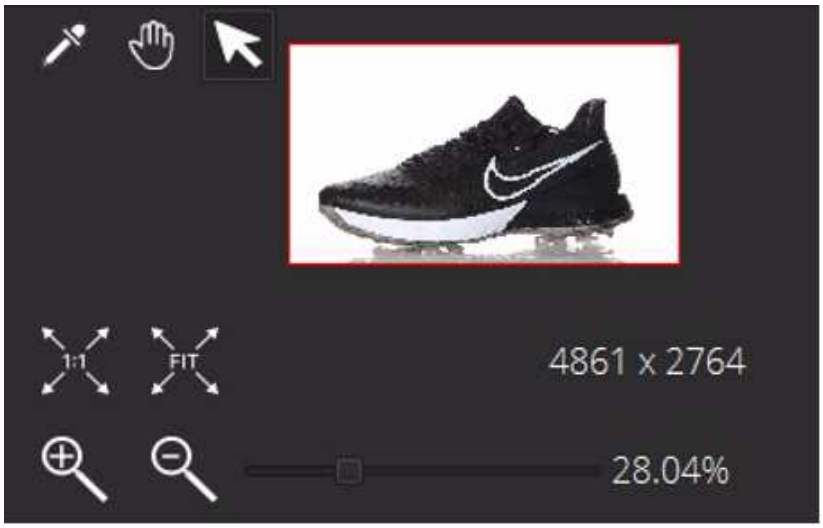

Figure 4.2: Image viewing tools.

Image Viewing Tools allow users to inspect images. Users will see a series of tools available:

1. Eye Dropper Tool: Inspect the image RGB color value

2. Hand Cursor Icon: Pan an image when viewing at a zoom level

3. Mouse Pointer: The default icon,

4. 1:1 View: View image at 100

5. Fit: Fit Image to screen

6. Zoom In / Out + Zoom Bar: Zoom on images

4.3 Profiles

On the right side of the UI, users will see Profiles. Underneath this, there is a dropdown (displays list of previously saved Profiles), and a '+', X and îcon. Users are able to create, save and access image editing profiles in this area. Profiles can be made from a single or series of Basic Adjustments, or individually for Background Removal and Image Orientation tools. To create a Profile, users will first make editing adjustments to an image and click the + icon under Profiles area (click + icon before applying edits). Next, users will be required to input a name for the profile, after which it will be saved. Users can save multiple profiles and access these via the dropdown Profile name field. To delete a previously created profile, select it from the dropdown, then click the X icon. To update a previously created profile, select the profile name from the drop-down list, make adjusted to the Processing Settings, then click the îcon.

4.4 History

History[1] will display a list of editing changed made to the image (before they are applied – after selecting Apply, the history will be cleared). Users can select from the History list to revert editing changes to a previous state.

4.5 Edit Overview

To edit an image or set of images, users will simply make adjustments using the available tools. As changes are made, the image is updated in near real time. Editing changes are not formally applied to the image until the user clicks OK or Apply. Edits can be applied to a single or set of images. Users will select a single or set of images, (refer above to Image Viewing and Thumbnail Gallery – selecting an image). Selected image(s) will be shown highlighted in blue in the Thumbnail Gallery at the bottom of the UI.

1. OK. When the user clicks OK the settings are applied to all selected images and the editing dialog box is closed and the filter settings are reset to their defaults, of no change.

2. Apply. When the user selects Apply, this will apply the editing changes to all selected image(s) and the edit dialog will remain open and the filter settings remain unchanged. This allows a user to select a new set of images and apply the same settings to the same set.

3. Reset. Users can choose to Reset images – this button is used to reset editing changes before any edits have been applied.

4. Restore. Users can also choose to Restore images – this button is used to restore images to their original orientation after edits have been applied. Users are unable to restore images if edits have been applied and have exited the editing area.

[1] History is not properly implemented in this version and has been disabled.

4.6 Basic Image Editing Tools

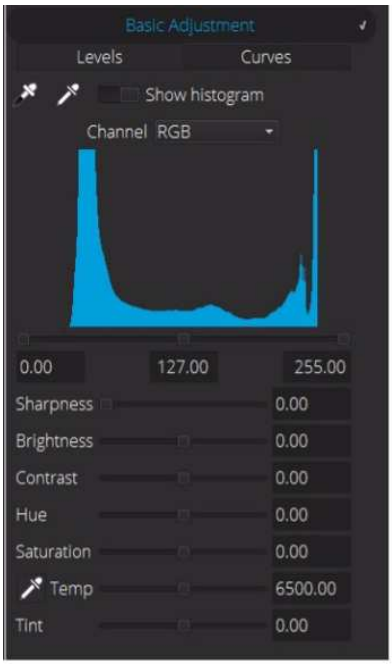

Figure 4.3: Image editing tools.

Basic Adjustments should be open by default. Users can maximize/minimize the drop down by clicking the Basic Adjustments task bar. Edits made in each individual section will need to be applied otherwise changes will be lost when clicking into another tool:

1. Levels/ Curves: Toggle between Levels and Curves by selecting the Name.

2. Levels: Users will see two Eyedropper icons (White Point Selector/Black Point Selector). These can be used to adjust levels by selecting either tool and clicking on the image. These tools will help set all pixels beyond the selected pixel value (using eye dropper) to pure white or pure black. For example, if user selects a white point with a RGB Value of (230,230,230), this will adjust all pixels with a value of (230,230,230) or greater to pure white (255,255,255). To 'Select a white point', select the eyedropper tool, then left click on the darkest white pixel to make other pixels. To 'Select a black point', right click on the lightest dark pixel.

   The graphic with the mountain looking shapes is called the Histogram - this describes the color values in the selected image. The left side is the very dark (black) colors in the image, on the right the very bright (white) colors in the image. The higher the mountain – the more a specific color is in the image. To adjust levels value, users will see three 'reference points' immediately below the histogram that are adjustable by clicking and dragging (or by double clicking on the reference point and entering a value). For instance, if we have an image with a gray background and wish to change that to white, we will drag the right reference point to the left – this will turn all colors to the right of the repositioned reference point white.

3. Curves: Curves is a more advanced version of the Levels tool. The reference points are along a diagonal line. The Curves tool allows users to adjust 'reference points' throughout an image's tonal range by clicking and dragging. The top of the y-axis is white and the bottom is black. The right of the x-axis is white and the left is black.
4. Sharpness: Adjust the sharpness (clarity) of the image
5. Brightness: Adjust an images brightness intensity
6. Contrast: Adjust the separation between the darkest and brightest areas of an image (typically shadows and highlights)
7. Hue: Adjusts the main color properties/vividness of an image
8. Saturation: Adjust the separation between colors
9. Temp: Adjustment to the color temperature of the image. Affects the overall tone of the photo by making it appear warmer (more red tongs) or cooler (more blue tones). Users can also adjust white balance using the Eyedropper tool drop down, then manually selecting the white point.
10. Tint: Used to fix color contrast

4.7 Image Orientation Tools

Listed from right to left.

4.7.1 Crop

Users can define a specific portion of the image to be retained. Enable the 'Crop' tool by left clicking on the 'Crop' button, then click and drag over the selected frame in the viewing area. Users can define Crop as free form rectangle, a square or a custom ratio. After Crop has been set, hit Apply to apply the crop the selected image(s).

4.7.2 Transform

Transform allows users to adjust image position within the frame. For example, if an image was shot off-centered, users can us the transform tool to re-center the image. There is also blue/ red guidelines within this tool that will overlay on top of the image. These can help with consistently placing multiple product images in the same location. The guideline location can be adjusted left/right (vertical guidelines) and up/down (horizontal guidelines). To move the image, enable Transform, then either: click and drag the image to adjust the location or use the buttons/enter values to adjust the location (values defined in pixels). Users are also provided the ability to enlarge or decrease the size of the product within the frame.

4.7.3 Resize

Users have the ability to resize image(s) within the editing tool. Users can define width or height (and both however this is not suggested as images can be skewed or stretched if the resize dimensions are not the same as the image dimensions). Enter the width or height value, then hit Apply (do not close window before hitting Apply). Note, users also have the ability to resize during the output step (Batch of Dynamic Save).

4.7.4 Rotate

Users have the ability to Rotate image(s). Users can select from pre-defined rotation angles (0, 90, 180 or 270), flip horizontal, flip vertical or manually rotate using the slide bar (or entering a rotation value up to 360.00) for smaller, custom adjustments. After rotation has been made, click Apply to set the rotation on the selected image(s).

4.7.5 Add Canvas

Users can add additional frame to an image. Users will define how many pixels to add to and to which portion of the image (Top, Bottom, Left, Right OR Top and Bottom, Left and Right). For ex. if a user choses to add 200 pixels to Left/Right, 100 pixels will be added to each side. Users also have the ability to choose the 'Canvas color' – this is the color of the pixels that will be added to the frame. This can also be added as a transparent layer by selecting 'Transparent'.

4.7.6 View Alignment

Users have the ability to compare a set of images stacked on top of each other. This tool is useful should a user wish to 'Batch Crop' a set of images during the image editing step. In order to use this too, select at least 2 images from the Thumbnail Gallery, then click View Alignment button. Users can select another Image Orientation Tool (ex. Crop) and the alignment view will remain.

4.7.7 Watermark

Users have the ability to watermark image(s). Users will import an image by clicking the '...' icon to the right of Watermark Path, select the Position, size (image Percentage) and Transparency. Users are required to use a PNG format image. After the watermark has been set, users can hit the Apply button – the watermark will be stamped on the image(s) selected in the Thumbnail Gallery.

4.7.8 Focus Stacking

A plugin purchase[2] is required, else users will see a diagonal white line. Users can manually stack image sets shot at multiple focal points to create a fully in focus image. Note, this process can be entirely automated as well.

[2] After purchase, users need to register the Focus Stacking Plugin. Click the Registration button and enter your Activation Code into the Activation Code field.

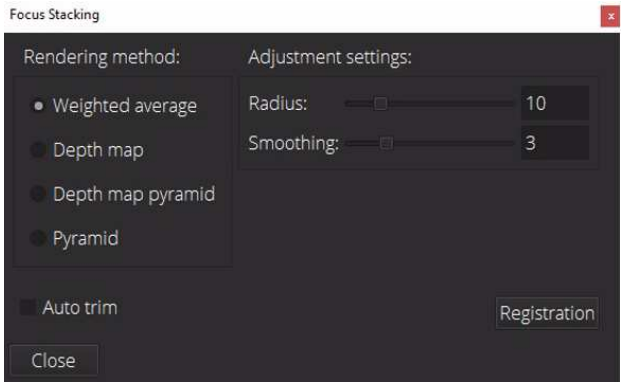

Figure 4.4: Focus Stack edit window.

Focus Stacking Parameters: In most cases, you can use default values and get good results. For complex items, you may want to adjust the parameters.

1. Weighted Average: The most popular method, it is Ideal for preserving colors and contrast
2. Depth Map: Ideal for products with a simple surface that have no sudden changes in surface level. Also ideal for products that have glare.
3. Pyramid: Ideal for products that has many crossing lines and changes in surface level. And images shot with more than 100 images in the stack
4. Radius: Radius is the most important parameter for processing. We mostly advise you to try different values. Start from the default value and then set it to its minimum and see what happens. Next try to increase the value to get rid of any noise or artifacts, particularly halos along the edges. If your image has fine details and thin lines, as most images do, a low radius level (3-5) will probably yield the best results, although you will probably get more noise and a halo effect. So you'll need to try to find a balance.
5. Smoothing: All focus-stacking algorithms find and combine the sharp areas. Smoothing defines how the sharp areas are combined. Low smoothing produces a sharper image, but the transition areas may have some artifacts. High smoothing will result in a slightly blurry image without any visible transition areas. Start with the default smoothing. Then if you want more detail, decrease the smoothing value; if you get too much noise and too many artifacts, set a higher value.

To enable Focus Stacking Capture Mode, right click on the Snap button and select 'Focus Stacking'. Users can evaluate the focus stacking plugin prior to purchase – the final result will have a diagonal line through it.

4.8 Background Removal Tools

4.8.1 Magic Wand

Allows users to select a background color and automatically remove that color (within a defined tolerance) from the image. This tool works well when shooting products on a consistent, near white background and when the product contrasts with the background. Steps:

1. Select 'Magic wand' tool
2. Click on the Background of the image
3. Define Constrain or Unconstrain Selection
4. Adjust settings (Threshold, Edge Sensitivity, Edge Blending, Hole Fill Radius, Mask Grow Radius, Speck Removal). As changes are made the results of setting changes will be reflected in near real time
5. Select 'Apply' to process selected image(s) in Thumbnail Gallery

Magic Wand options have the following explanations.

Constrain Selection to Clicked Region

This option, when enabled (checked) will constrain the background removal to only pixels that are touching each other. If it is enabled, users will have to select a pixel location (prompted after selecting 'Apply' or 'Apply to All'. Note, there is no real time preview for the constrain option. For example, if object has a hole in the center of it, the center hole would not be selected if this option was checked.

Unconstrain Selection

Will select pixels within the threshold anywhere on the image frame. For example, if object has a hole in the center of it, the center hole would be selected if this option was checked

Edge Sensitivity

Defines the level of edge smoothing before applying the threshold. We suggest this between 0 and 7 (typically much closer to 0)

Threshold

This is used to adjust the amount the tool will remove colors that differ from the Reference Image. If the color of the product is similar to the background, you will want to use a lower number. If the product contrasts the background color well, you can use a higher number. For example if you are trying to remove shadows, you will want to use a higher number – however by increasing Threshold, it might eat into the product. Users will see flickering grey background – this denotes which part of the image is being removed. We typically suggest a value between 5 and 40.

Mask Processing

1. Apply to New Mask Selection Only: This will only apply the mask processing options to the current mask selection
2. Apply to Entire Mask: This will apply the mask processing options to the entire image
3. Hole Fill Radius: Fills in holes generated by larger threshold values in the BR tool. A note of warning though: if the tool is applied to objects that already have many holes, those holes may fill as well
4. Speck Removal: This is the opposite of Hole Fill. Remove specks of foreground from the background
5. Mask Grow Radius: This allows users to grow the mask selection area. It is defined in pixels
6. Edge Blending: The sharpness of the transition between the foreground and the background. We suggest a value between 0 and 5 – typically closer to 0.

4.8.2 Polygonal Lasso

Users will mouse click to select the cutout path (and connect the polygon points by double clicking at the last point). Alternatively, users can click and drag to draw a path.

4.8.3 Magnetic Lasso

Users will click to start the selection path and adjust mouse around the object. This tool will automatically cling to edges of contrast objects. With this tool, users can define settings including Radius (size of boundary), Point Gap (distance between point placements) and Magnetic Force (strength of magnet).

4.8.4 Drawing with the Lasso Tools

Users first want to define the area of the frame they need to remove (or add) by enabling the tool then clicking around their target area. Users will need to 'close off' the selection area by connecting the start and end point. This can be done by double clicking the left mouse button – this will automatically draw a straight line from existing point to the starting point. After user has confirmed the selection region and the selection output, hit 'Apply' or Right Click to enable 'Lasso Options' window.

- Tip 1: It might be easier to use the 'Zoom' tool to view close up when manually drawing a polygon (ex. change viewing from 20
- Tip 2: Hold space bar to change from lasso tool to navigation cursor to navigate on frame when zoomed in
- Tip 3: Should you wish to use the same Lasso tool options used previously, user can use keyboard shortcut 'Delete' and the changes will be applied

4.8.5 Lasso Cut Options

Select Region

1. Inside Polygon: Frame can be removed (Alpha Transparent) or added (Alpha Opaque) of the region (polygon) drawn
2. Outside Polygon: Frame can be removed (Alpha Transparent) or added (Alpha Opaque) outside of the region (polygon) drawn

Selection Output

1. Solid Color: This will fill the inside of the outside of the polygon with whatever color is selected
2. Alpha Transparent: This will remove the defined area from the image, and fill with transparent. Use case: if a user uses background removal tool and it doesn't remove a shadow. User could manually cut out the shadow using this option
3. Alpha Opaque: This will add previously removed frame back into the defined area. Use case: User cuts into product while using the background removal tool – they could then go and add the part that was previously removed back in using this option
4. Alpha Custom: Users have the ability to choose opacity using this option. Meaning the layer selected can show at any opacity
5. Edge Smoothness: Smooths the edges of the lasso selection

4.8.6 Reference Image BR

This tool is designed to automate background removal through the use of computer vision. It will require the user, after shooting all product images, to shoot a background only 'Reference Image' in which no variables (lighting, camera settings, focal point & zoom) have been adjusted. Steps:

1. Enable 'Live View' mode then place an object in the field of view of the camera
2. Adjust camera settings to optimize for lighting environment (if required)
3. Enable Crop and define Pre-Crop markers (if required) - that is the area that users wish to capture, around the subject
4. Put camera into 'Manual Focus' mode to adjust (if required) and set a fixed focal point
5. Capture image by clicking 'Snap' button in software – immediately after image is captured, this will be uploaded into the Shutter Stream application for viewing
6. Repeat steps 1 – 4 while not changing any variables (camera position, crop markers, camera settings, focal point and lighting must not change at all)

7. After product images are captured, user will be required to shoot a 'Reference Image' – that is an image of just the background. All shooting variables must be maintained when capturing the reference (background only) image
8. Enter Edit area
9. Select Reference Image BR tool
10. Select the background only image from the gallery at the bottom of the BR window
11. After the Background Reference Image has been set, select the image(s) from the Thumbnail Gallery you wish to remove backgrounds from
12. Adjust Settings (defined as follows below)

Mask Selection

1. Constrain selection to clicked region: This option, when enabled (checked) will constrain the background removal to only pixels that are touching each other. If it is enabled, users will have to select a pixel location (prompted after selecting 'Apply' or 'Apply to All'. Note, there is no real time preview for the constrain option
2. Unconstrain selection: This will not constrain the selection and colors that are similar in the product vs. the background may be removed
3. Edge Sensitivity: Defines the level of edge smoothing before applying the threshold. We suggest this between 0 and 7 (typically much closer to 0)
4. Threshold: This is used to adjust the amount the tool will remove colors that differ from the Reference Image. If the color of the product is similar to the background, you will want to use a lower number. If the product contrasts the background color well, you can use a higher number. For example, if you are trying to remove shadows, you will want to use a higher number – however by increasing Threshold, it might eat into the product. Users will see flickering gray background – this denotes which part of the image is being removed. We typically suggest a value between 5 and 40

Mask Processing

1. Apply to new mask selection only: This will only apply the mask processing options to the current mask selection
2. Apply to entire mask: This will apply the mask processing options to the entire image
3. Hole Fill Radius: Fills in holes generated by larger threshold values in the BR tool. A note of warning though: if the tool is applied to objects that already have many holes, those holes may fill as well

4. Speck Removal: This is the opposite of Hole Fill. Remove specks of foreground from the background

5. Mask Grow Radius: This allows users to grow the mask selection area. It is defined in pixels

6. Edge Blending: The sharpness of the transition between the foreground and the background. We suggest a value between 0 and 5 – typically closer to 0 After adjusting settings, select Apply to apply the editing changes to the selected image(s). *Do not close Reference Image Background Removal window before hitting apply – otherwise changes will be lost.

4.8.7 Dual Shot Background Removal

The Dual Shot Background Removal Tool uses 2 images, shot at different exposure, and will attempt to remove backgrounds by analyzing both images. Steps:

1. Enable Live View, adjust camera settings to correct exposure and save camera settings profile (ex. name it Correct-Exposure). Camera Settings Profiles can be saved using the blue disc icon in the top right of the camera settings window.

2. While in Live View, adjust camera settings to an underexposed setting and save camera settings profile (ex. name it Underexposed). To adjust camera settings exposure, we suggest adjusting Shutter Speed.

3. Enter Options area, select 'Snap Options' then select 'Dual Shot Options' and select:

   (a) Shot 1 camera profile: Correct-Exposure

   (b) Shot 2 camera profile: Underexposed

4. Enable Dual Shot Shooting Mode: Right click the 'Snap' icon under Image Capture Tools menu and select "Image Capture with Dual-Shot'

5. Pre-Crop Subject (optional)

6. Snap Image

7. Continue snapping images of product (if multiple angles required)

8. Enter into the 'Editing' area

9. Select Dual Shot BR tool

10. Select Mask Type: 'Use Odd Images as Mask'

11. Adjust the mask layer using settings. Mask Selection:

(a) Constrain selection to clicked region: This option, when enabled (checked) will constrain the background removal to only pixels that are touching each other. If it is enabled, users will have to select a pixel location. This can be done by clicking the mouse on the preview image on the background. If users forget to define selection area, they will be prompted after selecting 'Apply' or 'Apply to All'). Note, there is no real time preview for the constrain option. Users will be able to adjust the mask using histogram tonal adjustments.

(b) Darks: This refers to all black or dark pixels in the image

(c) Mids: This refers to all mid tones in the image

(d) Brights: This refers to all white or highlights in the image

Users will make adjustments to the 3 slide bars to find an optimal mask that will properly cut the image from its background. We suggest keeping these 3 bars close together (for example, Darks: 111, Mids: 112, Brights: 113). If you are editing an product image with some opacity (ex. a water bottle), it is suggested to spread out the sliders.

12. Mask Processing:

    (a) Apply to new mask selection only: This will only apply the mask processing options to the current mask selection

    (b) Apply to entire mask: This will apply the mask processing options to the entire image

13. Hole Fill Radius: Fills in holes generated by larger threshold values in the BR tool. A note of warning though: if the tool is applied to objects that already have many holes, those holes may fill as well.

14. Speck Removal: This is the opposite of Hole Fill. Remove specks of foreground from the background.

15. Mask Grow Radius: This allows users to grow the mask selection area. It is defined in pixels.

16. Edge Blending: The sharpness of the transition between the foreground and the background. We suggest a value between 0 and 5 – typically closer to 0.

Click Apply to apply Dual Shot Background Removal tool to selected image(s). We suggest to select the option to delete the mask after applying the edits)

4.8.8 Chroma Key Background Removal

Similar to BR Using Solid Color, this option uses Chroma key colors (Red, Green or Blue). Steps:

1. Shoot on a Red, Green or Blue Background

2. Enable 'Live View' mode then place an object in the field of view of the camera.

3. Adjust camera settings to optimize for lighting environment (if required).

4. Enable Crop and define Pre-Crop markers (if required) - that is the area that users wish to capture, around the subject.
5. Capture image by clicking Snap button in software – immediately after image is captured, this will be uploaded into the Shutter Stream application for viewing.
6. Repeat steps 2 – 5 for shooting additional product images.
7. Enter into the Edit area, select the Chroma Key BR tool
8. Select a color that most closely resembles the background
9. Next, users will adjust:
   (a) Smoothing: The higher the number, the smoother the edge definition
   (b) Soft Transparency: Will define the how much of the background is completely removed. The higher the number, the more background that is completely removed (see full description below).
   (c) Adjust Mask Grow Radius (allows users to grow the mask selection area - defined in pixels) if required.
10. After done adjusting settings, click the Apply button to batch edit the selected image(s).
11. If required, users can take advantage of the other editing tools (Lasso Tool, Levels, Curves, Brightness, Saturation, Contrast, Sharpness & Hue) to make additional edits and/or color corrections.

Soft Transparency

Soft transparency controls the level of transparency based on the strength of the background color. By adjusting the transparency based on the strength of the background color the algorithm is able to more naturally introduce transparency around the edge of the object. Increasing the soft transparency threshold ignores subtle color changes more. This has the effect of making the background completely transparent. A lower value of soft transparency results in more semi-transparent backgrounds (versus fully transparent backgrounds) that look more natural. This effect can be easily noticed around strands of hair, smoke, fine details or transparent objects with a lot of color gradients. When the soft transparency is set to a low number, the fine details are maintained extremely well but the background is not fully transparent – unless the pixels are exactly the color set for transparency. This creates a more natural look when replacing the background with another image or another color. When the soft threshold is set to a high number, the color transparency becomes more aggressive and more pixels become fully transparent at the cost of removing finer details and making the object look less natural and more threshold with fully transparent background pixels. When using Chroma Key Background Removal, it is best to set the background as far away from the object as possible so that the fine details of the background (i.e. material texture) are not in focus and they are out of the depth of field. This will allow users to use a lower soft transparency threshold, which will make the results look more natural.

4.8.9 Artificial Intelligence Background Removal

The Artificial Intelligence Background Removal (AIBR) algorithm is a new tool which can be used to remove the subject's background using a Deep Learning algorithm. More details are available in the AIBR Chapter 6.

Chapter 5

Shortcuts

In this chapter you will find all the keyboard shortcuts available in Shutter Stream.

Table 5.1: Main Window - Keyboard Shortcuts

Windows	MacOS	Description
ctrl+n	cmnd+n	Create a new project.
ctrl+o	cmnd+o	Open a project.
R	R	Search for camera.
shift+Up arrow	shift+Up arrow	Snap image.
Alt+n	Alt+n	Duplicate selected thumbnails.
Ctrl+a	Command+a	Select all thumbnails.
Ctrl+d	Command+d	Deselect all thumbnails.
Delete	Fn+Delete	Delete selected thumbnail/s.
Ctrl+.	Command+.	Scroll thumbnails to end.
Ctrl+,	Command+,	Scroll thumbnails to start.
.	.	Scroll towards end.
,	,	Scroll towards start.
Right arrow	Right arrow	Move to next image.
Left arrow	Left arrow	Move to previous image.
Down arrow	Down arrow	Move row down.
Up arrow	Up arrow	Move row up.
Shift+a	Shift+a	Apply.

Table 5.2: Edit Window - Keyboard Shortcuts

Windows	MacOS	Description
. or >	.	Go to next image
, or <	,	Go to previous image.
Ctrl+.	Command+.	Go to first image.
Ctrl+,	Command+,	Go to last image.

Table 5.2: Edit Window - Keyboard Shortcuts

Windows	MacOS	Description
Ctrl+Up arrow	Command+Up arrow	Fine adjustments for crop position to move up.
Ctrl+Down arrow	Command+Down arrow	Fine adjustments for crop position to move down.
Ctrl+Left	Command+Left	Fine adjustments for crop position to move left.
Ctrl+Right arrow	Command+Right arrow	Fine adjustments for crop position to move right.
u	u	Restore original image/s.
l	l	Select Lasso tool
Delete	Fn+Delete	Delete selected lasso area using previous lasso settings.
c	c	Select Crop tool.
m	m	Select Magic Wand tool.
b	b	Show Background Removal tool.
i	i	Select Eyedropper tool.
a	a	Show Add Canvas window.
v	v	Make Select tool active.
Alt	Alt	The ALT key shortcut will pause the magnetic property of magnetic lasso tool and allow the user to click and add a new point anywhere or just move the mouse to another location and release the ALT key to continue magnetic lasso
Space	Space	Hold Space key to drag an image.
Shift	Shift	Hold Shift while in Crop tool to create a square crop.
Shift	Shift	Hold Shift while in Polygon Lasso tool to draw a straight line.
Ctrl+Mouse wheel	Command+Mouse wheel	Using mouse scroll wheel to zoom in or zoom out in the current image, while using any of the editing filters.

Chapter 6

Artificial Intelligence Background Removal

6.1 Introduction

Background removal is when you isolate the subject of a photo and wipe the rest of the image clean through alpha masking. You're left with a white background (or a color of your choosing background). Product photos with white backgrounds have become the industry norm, and many popular online marketplaces require white backgrounds. The AIBR is a new tool that can remove the background from images within seconds. Our background removal is designed to recognize products and human objects. It will automatically erase the background using alpha masking.

6.2 Installation

Figure 6.1: AIBR install.

In order to install the AIBR tool, follow these simple steps:

1. Go to settings menu (gear wheel icon)

2. Click to open the About window
3. Hit the install button, right next to the AIBR text and then wait for the progress to finish.

6.3 Usage

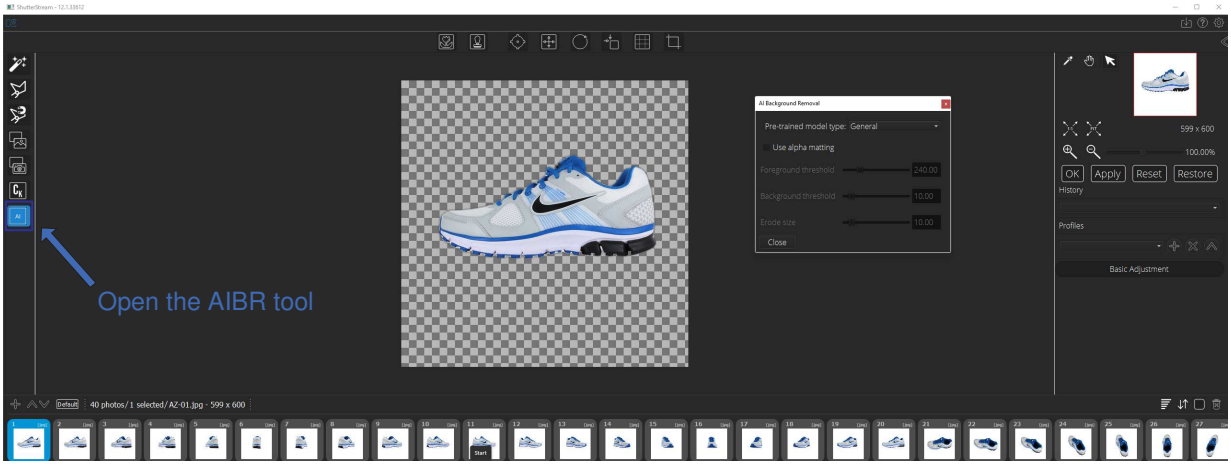

Figure 6.2: AIBR usage overview.

Click on the AIBR tool on the left side of the editing panel. Now the tool will apply the background removal automatically. You can also choose between three different pre-trained model types:

1. General priority
2. Human priority

To apply, simply click on the OK or Apply buttons on the right side.

> Enabling *"Use alpha matting"* will significantly slow down the AIBR algorithm.

AIBR does have a few options for controlling the mask edges and mask blending, but enabling these options will slow down the AIBR processing:

1. Foreground threshold. The mask returned by the AIBR algorithm is a gray level mask specifying the confidence of the algorithm about whether or not the pixel is a background or a foreground pixel. White, or maximum, is considered a foreground and zero, or a minimum, is considered a background. Any mask values larger than this value are considered to be foreground.
2. Background threshold. The mask returned by the AIBR algorithm is a gray level mask specifying the confidence of the algorithm about whether or not the pixel is a background or a foreground pixel. White, or maximum, is considered a foreground and zero, or a minimum, is considered a background. Any mask values lower than this value are considered to be background.

3. Erode size. This is a mask-growing radius.

Chapter 7

Dynamic and Batch Save

7.1 Dynamic Save

Users have the ability to save a single or multiple images from the thumbnail viewing gallery multiple times in different formats (JPG, PNG, RAW & TIFF), different size (pixels wide or tall), Resolutions (72, 150 or 300 DPI), and more. An example of a real-world scenario that would be a good use for Dynamic Save is a business that has different use cases for each image they create. For instance, a user has shot 3 images of a single product – a top, a front and a side view. They wish to save this set of images for their print catalog (300 DPI .TIFF image at 1000 pixels wide and also for their website at 3 different sizes (thumbnail, product page and large view) - 150, 500 and 1000 pixels wide at 72 DPI. Using the 'Dynamic Save' tool, they can create a custom save profile that includes these 4 different save types and in one click the 3 images will each be saved 4 different times exactly as required for their applications.

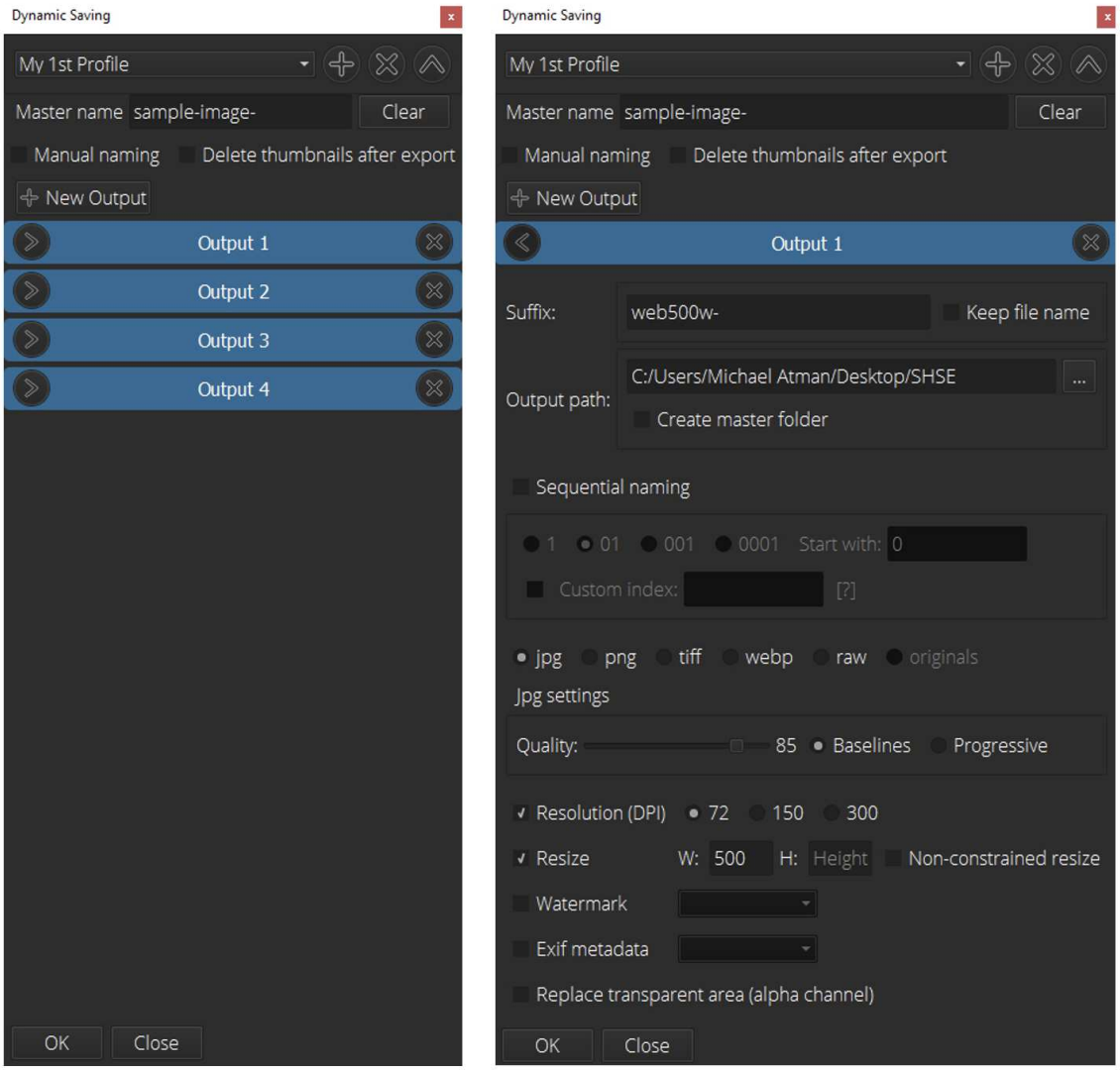

Figure 7.1: Dynamic Save windows overview.

Dynamic Save is made up of two parts – the Output and the Output Settings. The output will be a single output. For example, if a user defines multiple outputs (4 in the example above), the images selected from the Thumbnail Gallery will be output 4 separate times. Each Output can have its own settings. These include unique naming, output path, image format, quality setting, resolution, resizing and more.

To add additional Outputs, click the + New Output button. To open the settings for each output click the > icon on the left side of the Output bar.

7.1.1 Profiles

At the top of the Dynamic Save UI is the Profile area. Users can create (define specific Dynamic Save parameters) and then create and save the profile (so it can be stored in the software and used at a later time). In order to do so, users will first create their Dynamic Save by selecting

Outputs, Names, Save to Locations, Image Formats, Quality, Resolution, Resizing and more. After completed, user will select the + icon next to the Profile Name dropdown. This will require the user inputs a name for the profile, after which it will be saved. Users can save multiple profiles and access these via the dropdown Profile name field. To delete a previously created profile, select it from the dropdown, then click the Trash Can icon. To update a profile, select it from the dropdown to load the profile, adjust settings, then click the ˆ icon to update.

7.1.2 Master Name

This is a mandatory field and will be at the start of the image name. For example, let's use: sample-image– Manual Naming: Users can define sequential naming in the individual output settings (EX. 01, 02, 03...). In the case a user wishes to manually rename the suffix for multiple images (ex. front, back, side), they can do so using the Manual Naming field. Skip this step if its not required to manually the suffix for each image can be numerical. Delete Thumbnails After Export: By enabling this option, after the Dynamic Save process is complete and the image(s) have been output locally on the computer, the images are deleted from the Shutter Stream Software.

7.1.3 Creating Multiple Outputs

When using Dynamic Saving, users have the ability to save an image or set of images multiple different times. To add an additional 'Save Type' users simply click the '+ New Output' under Manual Naming. To delete an additional 'Save Type' users click the 'x' icon next to Output X name. These will be names as Output followed by a number. Ex. Output 1, Output 2, Output 3 etc. Defining Output Settings: To open the settings for each output click the > icon on the left side of the Output bar.

7.1.4 Suffix

The suffix will be added after the Master name field. This is an optional field and can be used as a unique identifier for the individual save type. Users can also choose to Keep file name which will retain and use the original image name in the suffix field. For example, let's use: web500w-

7.1.5 Create Master Folder

This option will create a New Folder in the save to location using the 'Master' name.

7.1.6 Output Path

Defines the local or networked folder where the image(s) will save.

7.1.7 Sequential Naming

This is designed for users who are saving a set of images in the 'Dynamic Save' tool. Users have the option to name images sequentially by clicking the check box then selecting their numerical

preference 1, 01, 001 or 0001. Users can also define to start with a different number For example, let's use: 01 The name of the resulting images (assuming we are saving a set of 3 images) is as follows:

- sample-image-web500w-01.jpg
- sample-image-web500w-02.jpg
- sample-image-web500w-03.jpg

If we instead decided to use the Manual Name field, and defined as front, back and side (for image 1, 2 and 3) of the resulting is as follows:

- sample-image-web-500w-front.jpg
- sample-image-web-500w-back.jpg
- sample-image-web-500w-side.jpg

7.1.8 Start With

Users can override sequential naming starting with 1 by entering a different number in this placeholder. This would then result in naming as follows for the previous example:

- sample-image-web-500w-04.jpg
- sample-image-web-500w-05.jpg
- sample-image-web-500w-06.jpg

7.1.9 Custom Index

In this area users can define to output a single or series of images from the selected image set. A use case example of this would be a user who shoots 360 product photography and wishes to, in addition to output the entire 360 image set, output a subset of the images to be used as single product images on the website (for example, images 1,8, 15 and 21) Image Format: Users can define the image format for output (choose from JPG, RAW, TIFF, PNG, WebP). Both TIFF and PNG images will retain transparent background properties (if background had been removed). Original will output the original, unedited image(s). Based on the format selection, users can define the Image Quality or Compression Type. Resolution: Users can enable Resolution and define the output DPI. This specifies pixels per inch (72, 150 or 300) in the image meta data (typically only required if outputting images for print media). If this is not checked, the images will be output at the DPI value defined at time of capture (by the camera).

7.1.10 Resize

Users can enable Resizing. This allows users to resize image(s) by defining pixel width or height OR by both width and height if Non-Constrained Resize is selected. Watermark: Users can auto apply a custom Watermark to the image during output. Users will first need to create and save a Watermark Profile (this is done in the Image Editing area). After a Watermark Profile has been created, this can be selected from the drop-down list and it will be auto applied during the Dynamic Save process.

7.1.11 EXIF Metadata

Users can auto apply Metadata to the image during output. Users will first need to create and save a Metadata Profile (this is done in the Options area). After a Metadata Profile has been created, this can be selected from the drop-down list and it will be auto applied during the Dynamic Save process.

7.1.12 Replace Transparent Area (Alpha Channel)

For images with transparent pixels (ex. images that have been edited to remove background), users can define to replace the transparent pixels with a specific color. When this option is enabled, the UI will expand and users can define a color or image that will be used as the background for the image.

7.2 Batch Save

Batch Save[1] is the 2nd save/output option available within Shutter Stream Software. This is a simplified, less advanced Saving option that allows for the selected image(s) from the thumbnail gallery to be output a single time to a single location.

[1] Not available in 360 View Creator Software

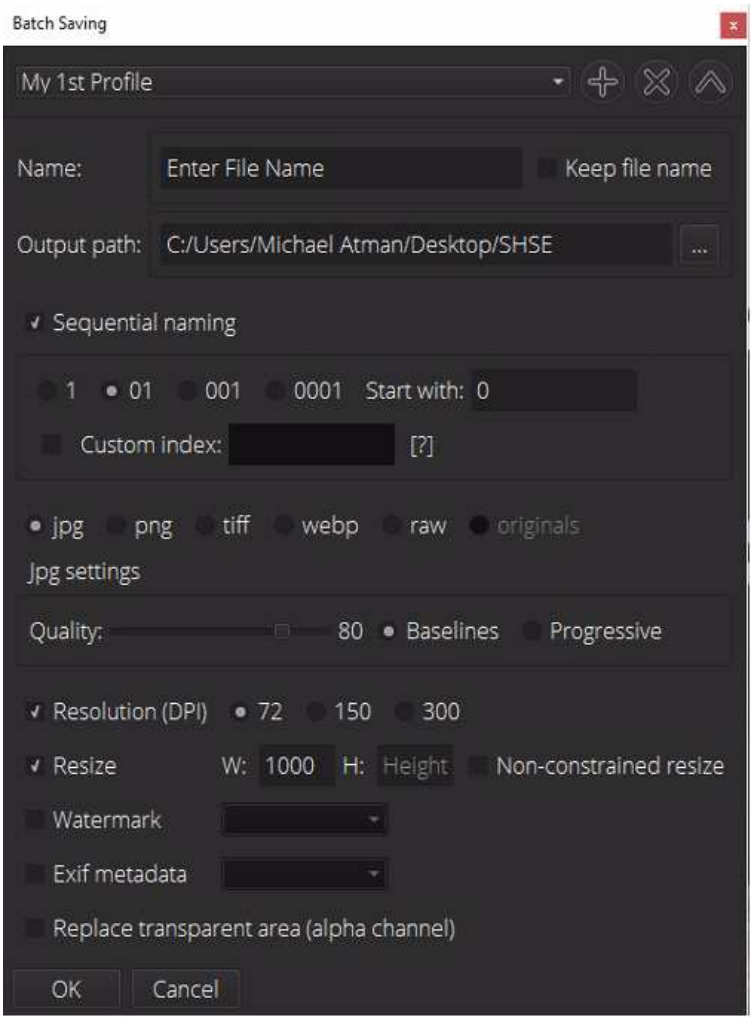

Figure 7.2: Batch Save window overview.

7.2.1 Profiles

At the top of the Batch Save UI is the Profile area. Users can create (define specific Batch Save parameters) and then create and save the profile (so it can be stored in the software and used at a later time). In order to do so, users will first create their Batch Save by selecting Entering a Name, Save to Location, selecting image format, quality, resolution, image size and more. After completed, user will select the + icon next to the Profile Name dropdown. This will require the user inputs a name for the profile, after which it will be saved. Users can save multiple profiles and access these via the dropdown Profile name field. To delete a previously created profile, select it from the dropdown, then click the X icon. To update a profile, select it from the dropdown to load the profile, adjust settings, then click the ˆ icon to update.

7.2.2 Master Name

This is a mandatory field and will be at the start of the image name. Users will either manually enter a name here or can use the original file name by selecting Keep file name checkbox.

7.2.3 Output Path

defines the local or networked folder where the image(s) will save.

7.2.4 Sequential Naming

This is designed for users who are saving a set of images using the Batch tool. Users have the option to name images sequentially by clicking the check box then selecting their numerical preference 1, 01, 001 or 0001. Users can also define to start sequential naming with a different number.

7.2.5 Custom Index

In this area users can define to output a single or series of images from the selected image set. A use case example of this would be a user who shoots 360 product photography and wishes to, in addition to output the entire 360 image set, output a subset of the images to be used as single product images on the website (for example, images 1,8, 15 and 21)

7.2.6 Image Format

Users can define the image format for output (choose from JPG, RAW, TIFF, PNG, WebP). Both TIFF and PNG images will retain transparent background properties (if background had been removed). Original will output the original, unedited image(s). Based on the format selection, users can define the Image Quality or Compression Type. Resolution: Users can enable Resolution and define the output DPI. This specifies pixels per inch (72, 150 or 300) in the image meta data (typically only required if outputting images for print media). If this is not checked, the images will be output at the DPI value defined at time of capture (by the camera).

7.2.7 Resize

Users can enable Resizing. This allows users to resize image(s) by defining pixel width or height OR by both width and height if Non-Constrained Resize is selected.

7.2.8 Watermark

Users can auto apply a custom Watermark to the image during output. Users will first need to create and save a Watermark Profile (this is done in the Image Editing area). After a Watermark Profile has been created, this can be selected from the drop-down list and it will be auto applied during the Dynamic Save process.

7.2.9 EXIF Metadata

Users can auto apply Metadata to the image during output. Users will first need to create and save a Metadata Profile (this is done in the Options area). After a Metadata Profile has been created, this can be selected from the drop-down list and it will be auto applied during the Dynamic Save process.

Chapter 8

Convert Raw

Users have the ability to shoot RAW image format and auto process these using the Iconasys RAW conversion tool:

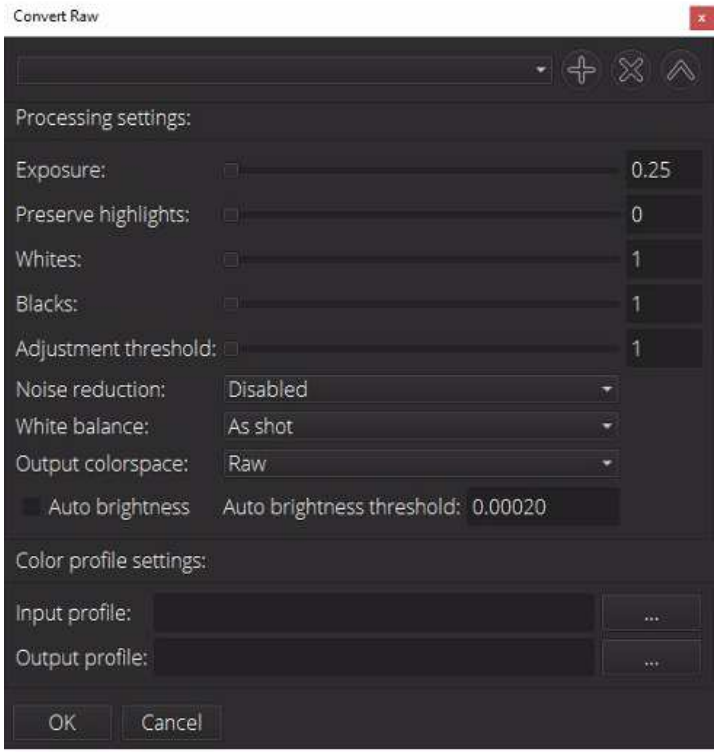

Figure 8.1: Convert Raw window.

8.1 Conversion Tool

8.1.1 Profiles

At the top of the RAW Conversion Settings is the Profile area. Users can create (define RAW Conversion parameters) and then create and save the profile (so it can be stored in the software and either auto applied or accessed ata later time). In order to do so, users will first adjust RAW Conversion settings (under Processing Settings) to create their RAW Conversion profile, then click the + icon. This will require user inputs a name for the profile, after which it will be saved. Users can save multiple profiles and access these via the dropdown Profile name field. To delete a previously created profile, select it from the dropdown, then click the X icon. To update a previously created profile, select the profile name from the drop down list, make adjusted to the Processing Settings, then click the ˆ icon. Users can auto apply RAW Conversion by creating a Processing Pipeline. To do so:

1. Create a RAW Conversion profile (instructions above)
2. Click Options (gear wheel top right corner of the UI)
3. Select Pipeline Processing
4. Create a new Profile for RAW Conversion
5. Under Section 1, click Add New Profile ad select the previously created RAW Conversion Profile (in the example below, we named the RAW Conversion Profile ‘Convert RAW Profile”.

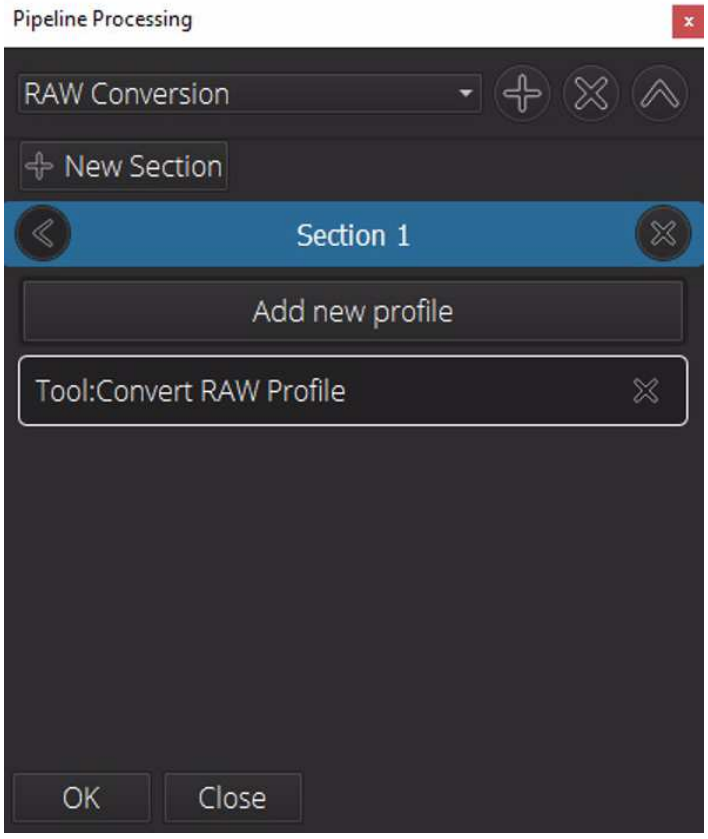

Figure 8.2: Pipeline Processing window.

6. Save the Pipeline Processing profile (click the + icon and give it the profile a unique name)
7. Close the Pipeline Processing window and enable Live View by clicking the Live View button
8. Hold CTRL (Command on Mac) + Right Click on Snap button and choose the RAW Conversion Profile created in the Pipeline Processing window.

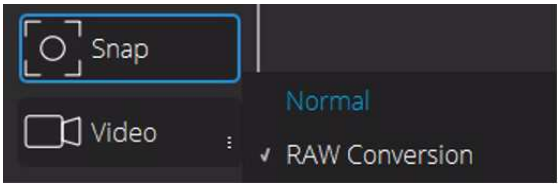

Figure 8.3: Snap Profile dropdown.

9. This is now enabled, RAW Conversion will be applied to every image capture (in RAW format) until disabled (to disable, CTRL (Command on Mac) + Right Click and select 'Normal')

Chapter 9

Image Transfer

9.1 Image Transfer

Image transfer is not available in the 360 View Creator Software license. The 'Image Transfer' tool allows users to send images to a 3rd party application instantly. This function can be used by first, defining the path where the user wishes to send images. Users are provided 3 options to choose from:

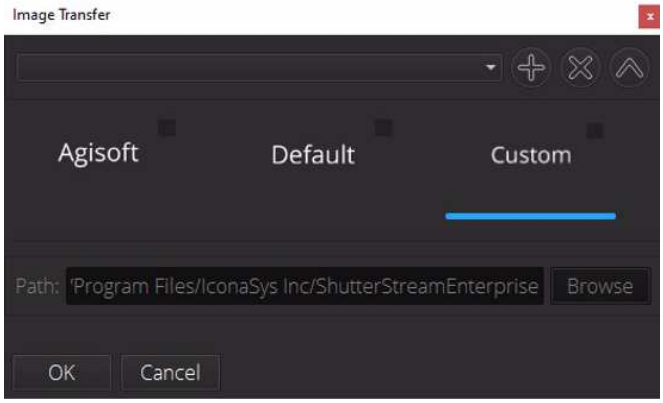

Figure 9.1: Image Transfer window.

1. Agisoft: If this option is selected, images will automatically be sent to Agisoft software (for creating 3D Models). Note, Agisoft software must be installed for this function to work. Users will need to define the path to the Agisoft exe file.

2. Default: The default is 'OS Default' which is the program the computer uses to image formats

3. Custom: Users can define a custom path to send images to from the Shutter Stream Software.

For example, should a user wish to send images from Shutter Stream to Adobe® Photoshop, they could do so here. Users will need to define the path to the 3rd party imaging application

exe file. After setting the preferred Image Transfer options, this will be stored as the default. To Transfer images, select image(s) from the Thumbnail Gallery, click the Transfer button, then click OK.

9.2 Profiles

At the top of the Transfer Settings UI is the Profile area. Users can create (define Transfer parameters per above) and then create and save the profile (so it can be stored in the software and either auto applied or accessed at later time). In order to do so, users will first set the Image Transfer settings then click the + icon. This will require user inputs a name for the profile, after which it will be saved. Users can save multiple profiles and access these via the dropdown Profile name field. To delete a previously created profile, select it from the dropdown, then click the X icon. To update a previously created profile, select the profile name from the drop-down list, make adjusted to the Processing Settings, then click the ^ icon. Users can also define to auto apply Image Transfer immediately after Snap. This can be set in Pipeline Processing (in the options area). Users simply add their Image Transfer profile in the Pipeline Processing area, save a Pipeline profile, then set it to auto apply by holding CTRL (Command on Mac) + Right Click on Snap button and choose the Image Transfer profile created in the Pipeline Processing window.

Chapter 10

Image Send

10.1 Send

Send is not available in 360 View Creator Software. The send tool is similar to the Transfer tool however will send images via web instead of to a local application on the computer. Users are provided 4 options as to where they can send image(s).

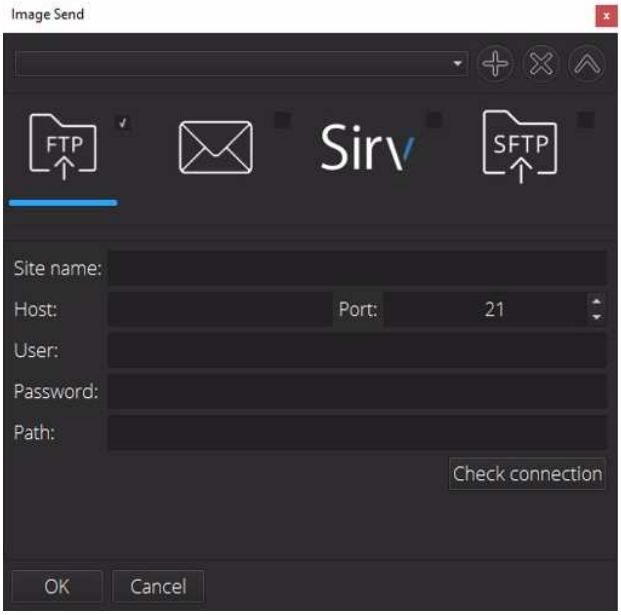

Figure 10.1: Image Send window.

To view the send option, click on the Icon. To enable the Send option, click the checkbox icon in the top right or the placeholder (in the above screen capture, FTP is selected (denoted by blue underline) and enabled (denoted by checkbox).

10.1.1 FTP

Users can instantly transfer image to an FTP site. User will input FTP credentials and check the connection (button, bottom right) to confirm it is working). After confirmed, the FTP is set up correctly

10.1.2 Email

Users can input their email credentials and account info to send personalized emails with images from Shutter Stream as attachments.

10.1.3 SIRV

SIRV is a leader in 360 product view hosting and our preferred 360 hosting partner. For users interested in a hosting service for their 360 product views, SIRV is a great option that allows fr seamless integration into many CMS and eCommerce platforms. If a user has a SIRV account, images can be transferred directly to the SIRV platform for composition and hosting.

10.1.4 SFTP

Send images directly to your SFTP server. User will input SFTP credentials and check the connection (button, bottom right) to confirm it is working). After confirmed, the FTP is set up correctly

Users can select a single or multiple Send options from the Send options area.

10.1.5 Profiles

At the top of the Send UI is the Profile area. Users can create (define Send parameters per above) and then create and save the profile (so it can be stored in the software and either auto applied or accessed at later time). In order to do so, users will first set the Send settings then click the + icon. This will require the user to input a name for the profile, after which it will be saved. Users can save multiple profiles and access these via the dropdown Profile name field. To delete a previously created profile, select it from the dropdown, then click the X icon. To update a previously created profile, select the profile name from the drop-down list, make adjusted to the Processing Settings, then click the ˆ icon. After setting the preferred Send options, this will be stored as the default. To Send images, select image(s) from the Thumbnail Gallery, click the Send button, then click OK. Users can also define to auto apply Sending Images immediately after Snap. This can be set in Pipeline Processing (in the options area). Users simply add their Send profile in the Pipeline Processing area, save a Pipeline profile, then set it to auto apply by holding CTRL (Command on Mac) + Right Click on Snap button and choose the Send profile created in the Pipeline Processing window.

Chapter 11

360 View Creator

11.1 360 View Creator

The 360 View Creator is not available in Shutter Stream Software, The 360 Creator is used to compose 360 product image sets into web-ready 360 product views.

11.1.1 Overview - 360 Product View Creator UI

1. Image Gallery (drag and drop or browse then import using local directory). If Multi-Row 360 view, select number of Rows.
2. 360 Product View Settings and Advanced Setting Options
3. Output Settings, Filename and Save to Location
4. Project (Create New, Save, Load)
5. About (version number, registering software, importing license file), Help (links to KB, Video Overview, User Documentation & Support Portal) and Options (login info for Iconasys 360 Hosting Server)
6. 360 Preview Window
7. Player Button Options and Output Size + Reload Preview (anytime changes are made to the file, users can reload the preview)
8. Save (output 360 view with selected Output Settings)

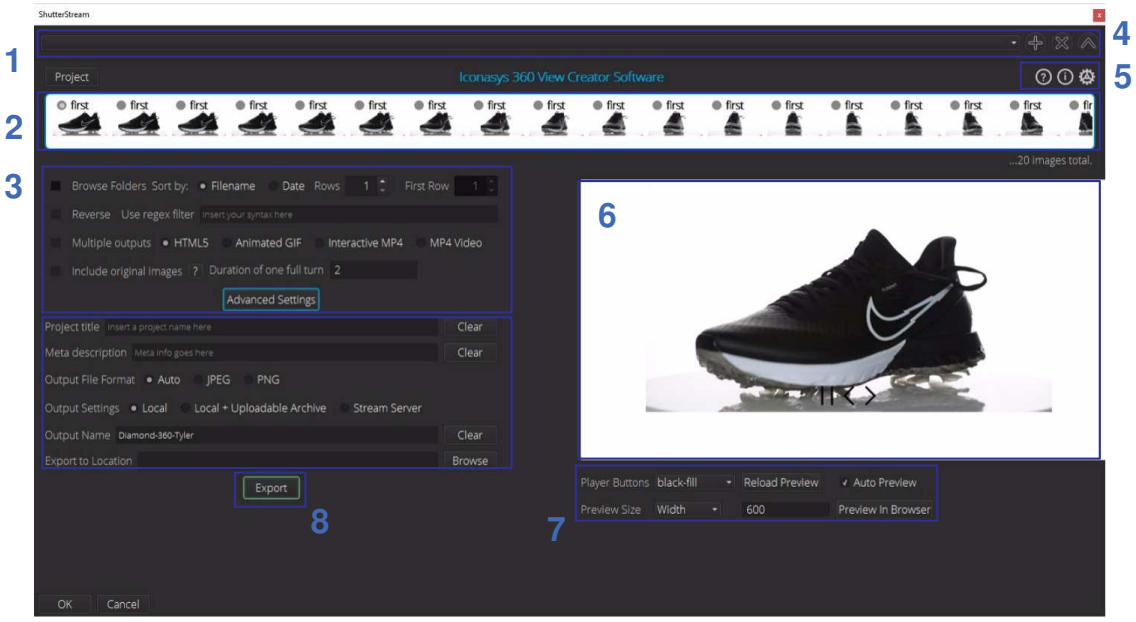

Figure 11.1: 360 View Creator overview.

11.2 Projects

Users can choose to 'Save Project' should they wish to revisit and edit/adjust their 360 Product View. This can be done by selecting 'Project' button in top right corner of UI then selecting 'Save'. This will output a folder (.ivcp format) that can be easily uploaded back into the 360 View Creator Software. To upload in the software, select 'Load' from Projects drop down, navigate to folder you wish to import, then 'Select Folder'. Selecting 'New' from the Projects drop down will allow users to start the creation process of another 360 product view (and remove any existing project).

11.3 Importing Images

Select your 360 or multi-row 360 image set from the Thumbnail Gallery in the main UI then click the 360 Creator icon to send images to the 360 Creator area. Users can also import images into the 360 Creator Software from a local or networked folder. To do so, open the 360 Creator area, click Project button in the top left of UI and click New. This will then clear all images in the 360 Creator from the Image Gallery then allow users to import images.

11.3.1 Drag and Drop Images

Users can open a folder, select a set of images, then drag and drop them into the Image Gallery area

11.3.2 Browse Folder

Users can either left click the Image Gallery area (this will open file explorer – allowing customers to locate a folder and import images.

11.3.3 Resize after Import

After images have been imported into the 360 Creator area, users are prompted with an option to resize. This is optional. If required, users can define a pixel width or height (define either or, not both to retain correct image orientation) then click Resize All. Alternatively, users can click Don't Resize to retain original image size.

11.4 Creating 360 Views

The preview of the 360 View should be automatically loaded in the Preview Window on the right of the UI. Preview is not available for 'MP4 Video' option. In the case the user requires MP4 Video output, select 'HTML5' to view preview (and if prefer to output a different format, select that format before Output/Saving).

11.4.1 Selecting First Frame of Animation

Should it be required, users can select the first frame of the animation – that is the first frame that will be displayed upon loading. Users can select this frame by selecting the 'First' button on the corresponding image in the Image Gallery area. To scroll through image queue, left click and drag.

11.4.2 Inspect your 360 View

It is in this step you will want to inspect your animation to ensure all images were imported successfully and in the correct order. User will have the option to sort images either by:

Figure 11.2: 360 View Creator preview window.

11.4.3 Filename

It is important if sorting by filename to ensure images are named sequentially in a numerical format with a placeholder between the filename and the number.

IMPORTANT:If you have more than 9 images, please use 2 digits for the sequential naming. For ex. FILENAME-01, FILENAME-02... FILENAME-23, FILENAME-24. If you have more than 100 images, please use 3 digits for the sequential naming. For ex. FILENAME-001, FILENAME-002... FILENAME-099, FILENAME-100.

11.4.4 Date

This will sort using the date stamp on the image itself. So if your images were exported or uploaded onto your computer in the correct order, you can also use this method for sorting the image set.

11.4.5 RegEx Filter

A regular expression, regex or regexp (sometimes called a rational expression) is a sequence of characters that define a search pattern. Usually this pattern is used by string searching algorithms for ”find” or ”find and replace” operations on strings, or for input validation. Additional instructions can be viewed [10].

11.4.6 Reverse

This option will reverse the order of the imported images. Multi-Row 360 Product View: If creating a multi-row 360 product view – that is a 360 view shot at multiple different rows, users will define

number of rows (vertical steps). Naming for image sequence should be sequential. For ex. 24 images / 360 rotation at 3 rows (72 images total) should be named as follows:

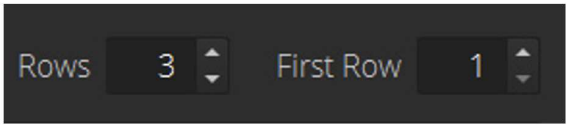

Figure 11.3: 360 View Creator Rows.

1. Row 1: Filename-01, Filename-02… Filename-24
2. Row 2: Filename-25, Filename-26… Filename-48
3. Row 3: Filename-49, Filename-50… Filename-72

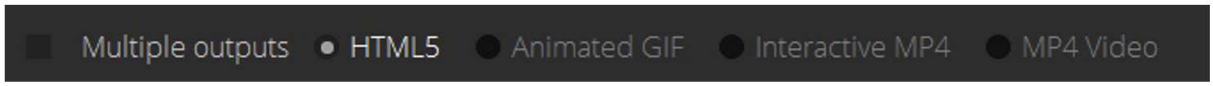

Figure 11.4: 360 View Creator Outputs.

Users can also define which row will be the first row Multi-row is only supported in HTML5 option.

11.4.7 Reload Preview

Some changes will auto-reload the preview. For changes that do not auto reload preview (ex. Player Button adjustments or options in Advanced Settings), users can select the Reload Preview button to regenerate the preview with updated changes.

11.4.8 Auto Preview

A preview will be auto generated in the 360 Preview Window if this option is selected.

11.5 Customizing your 360 Views

It is now time to customize your 360 product view (if required).

11.5.1 Output Type

Users have four different options for output type. Users can select a single Output type or multiple (by selecting Multiple Outputs checkbox). Output options include:

1. HTML5: Interactive 360 in HTML5 format.

2. Animated GIF: Auto play/ auto loop 360 (no interactivity – GIF's display at only 256 bit color so may be lower quality).
3. Interactive MP4[1]: Interactive 360 view in MP4 format.
4. MP4 Video[2]: A standard 360 video file (suggested to use more frames for MP4 video).

Suggested Usage per Output Type:

1. HTML5 – Website
2. Animated GIF: Social Media (ex. Instagram, Facebook) & Marketplaces
3. Interactive MP4 Video: Website
4. MP4 Video: Social Media & Marketplaces (Amazon, eBay) & Video hosting sites (ex. YouTube)

11.5.2 Include Original Images

Selecting this checkbox will retain the original resolution files that were imported into the software (ex. images were at 2000 x 2000 pixels before importing, this will retain the 2000 x 2000 pixels). These images will be used for 'Zoom In' on the 360 view. It is important to note, including high resolution images can significantly increase file size. *This feature is not available for 'Animated GIF' or 'MP4 Video'

11.5.3 Adjusting Rotation Speed

In the 360 View Settings users will see a drop down next to the text Duration of One Full Turn. It is in this area users can define the speed at which it will take to complete a 360 rotation (defined in seconds). After a change has been made to the speed, the preview will automatically reload (assuming Auto Preview option is selected).

11.5.4 Choose Player Buttons

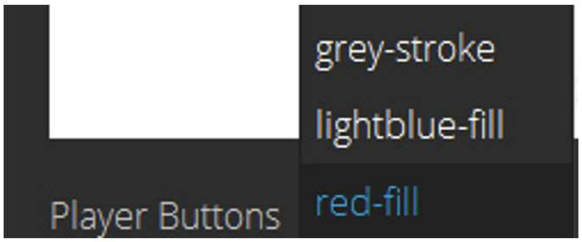

Figure 11.5: 360 View Creator Player Buttons.

[1]No preview available.
[2]No preview available.

Users can next define the Skin (player buttons) that will be used in the 360 Product View. There are 9 options available. Users can also:

1. Create/Upload Custom Buttons: By going into Advanced – Player – UI – then selecting Browse next to Install New Theme. Please follow instructions [11].

2. Choose Custom Button Color: Select Advanced Settings – Player – UI then selecting a ‘theme (suggested to use the gray color option) then clicking ‘Custom Button Color’ check-box then using the Color Picker to select color. *Player Buttons will not be displayed in ‘Animated GIF’ or ‘MP4 Video’.

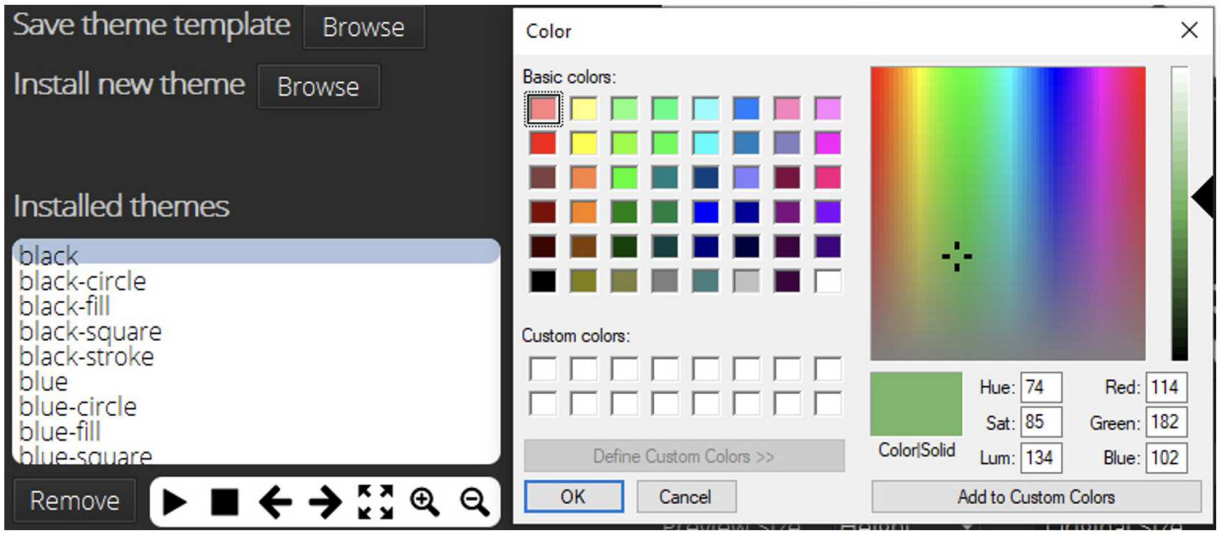

Figure 11.6: 360 View Creator Themes.

After enabling Custom Button Color (checkbox) and selecting the desired color, user will select the correct Player button under Choose Player Buttons option (dropdown)

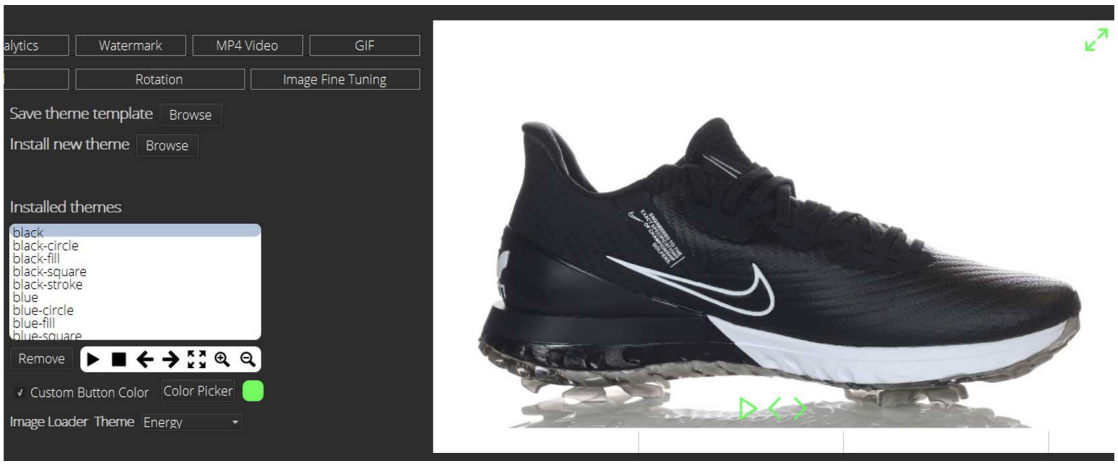

Figure 11.7: 360 View Creator Themes preview.

11.5.5 Choose Output Size

Output size is the pixels (defined in width or height) that the file will output & display at. If outputting 'HTML5' or 'MP4 Video with Controls', the index.html file will constrain the viewing size to the value that is set for Output Size while the iframe.html file dynamically scales to fit to screen or placeholder when embedded into a website (note, users can further define HTML5 output size through embed code when inserting into webpage). It is important in this step to understand the size users wish to display or share the 360 view. Users can define a custom output size in the drop down menu.

11.5.6 Choose Output Name

You will next want to define the Output Name. This will be the master name of the 360 View being output from the software.

11.5.7 Advanced Settings

By clicking the Advanced Settings button, users can further customize the 360 product view. Options will include:

1. Player Options: After making any of these changes, you can click the Reload Preview button in the Player Window to view the changes you have applied):

2. Player UI: Allows users to select which buttons to include and omit in the 360 view output. Users also have the ability to adjust button positions. Last, in this area, users can 'Install new theme' (upload a custom set of player buttons (instructions can be viewed [11]).

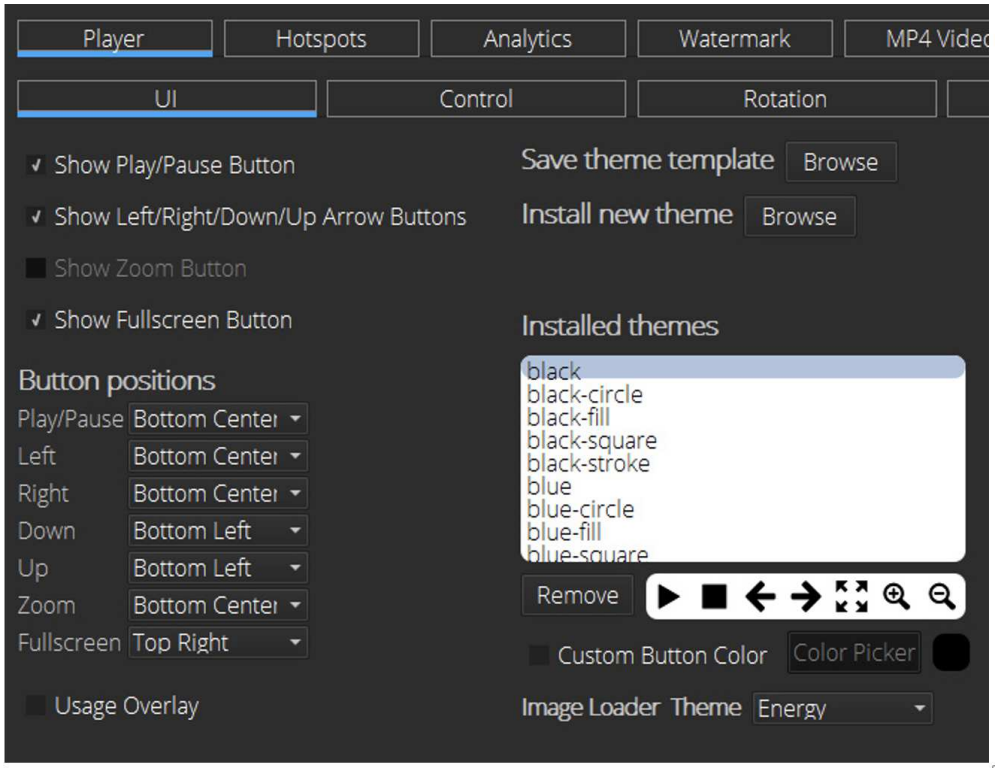

Figure 11.8: 360 View Creator Player UI.

Note, if displaying Zoom button, please be sure 'Include master images for zoom' checkbox on the Main UI is checked (select Return in top left to return to main UI). Users can define and set Image Loader Theme from a drop down menu. This is the Load Bar that will be used while the 360 view is downloading. Users can also choose to include a Usage Overlay. When enabled, this will provide a transparent overlay over the 360 view with instructions to 'Drag to Spin'

Figure 11.9: 360 View Creator Shoe preview.

Users will have the option to further customize Player Buttons:

1. Custom Buttons: Install New Theme (upload a custom set of player buttons (instructions can be viewed [11]).
2. Custom Button Color: To do so, select any Grey button option (ex. gray-fill or gray-stroke), select desired color then select the same Player button option from the 'Choose Player Buttons' drop down menu under the 360 Preview Window.
3. Player Control: Reverse Pointer Drag Direction: This will reverse mouse control click and drag direction (ideal for 360 views shot in a counter clockwise direction.

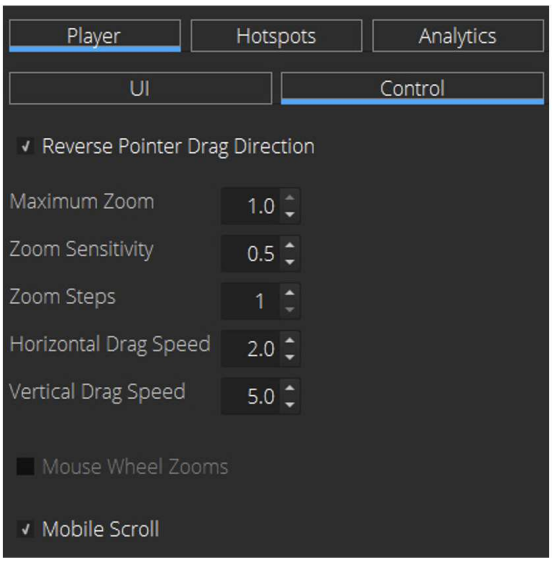

Figure 11.10: 360 View Creator Player Control.

4. Maximum Zoom: A value of 1.0 will use the master image size (size images were imported in). To scale back zoom depth, use a value ¡1.0.
5. Zoom Sensitivity: This will define sensitivity of Zoom when of 'Mouse Wheel Zoom' when its enabled
6. Horizontal Drag Speed: Speed at which mouse click and drag left/right will move
7. Vertical Drag Speed: Speed at which mouse click and drag up/down will move (used for multi-row 360 views
8. Mouse Wheel Zooms: If zoom is enabled, this option will enable mouse wheel zoom in/out
9. Mobile Scroll: Disables vertical scrolling when viewing on mobile device (suggested)
10. Rotation: Rotate on Start: Will auto rotate 360 view after loading.

11. Rotate Just Once: Will limit rotate on start to a single 360 rotation.

12. Start Rotation in Reverse Direction: Will start rotation in opposite direction the images were shot in.

13. Bounce Rotation: Will rotate back and forth between the first and the last image (not in a constant 360). Ideal for 180-degree animations.

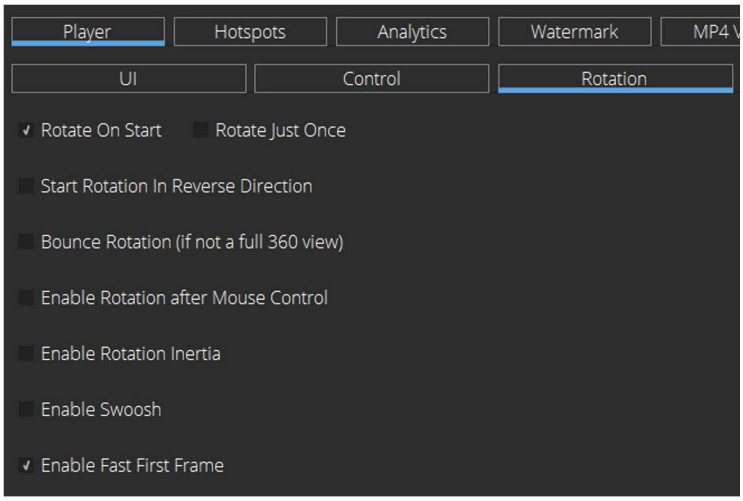

Figure 11.11: 360 View Creator Player Rotation.

14. Enable Rotation after Mouse Control: If this option is checked, after a user interacts with the 360 view via mouse control, the object will resume rotation after letting go of mouse click.

15. Enable Rotation Inertia: Users have the ability to 'throw' the rotating object with the mouse.

16. Enable Swoosh: Designed for 360 product views composed using fewer frames – to provide a more seamless rotation as the object rotates.

17. Enable Fast First Frame: This option will stall loading of the 360 view until the image is clicked. It will include a text overlay on the image 'Click to Load'.

18. Image Fine Tuning: This option allows users to apply an Unsharp Mask to the images. This enhances image sharpness and can help with image quality. Users can also adjust Image Quality. 100 will not degrade the originally imported image quality. Lowering image quality can help with the 360 product view output file size.

19. Hotspots: Create interactive hotspots that are overlayed on top of an image and will allow for extra interactivity when viewing the 360 view. Click the Hotspots tab in the Advance UI.

11.5.8 Hotspots

To get started, click the Click to Add Hotspot button. This will allow user to first define which action you want the hotspot to take. Hotspots can be added in the form of:

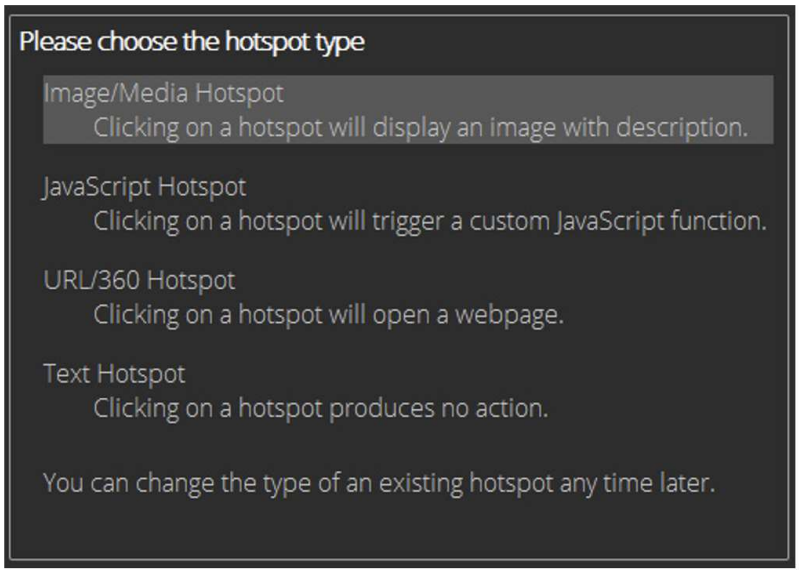

Figure 11.12: 360 View Creator Hotspot Types.

1. Image/Media Hotspot: When viewer clicks on hotspot, it will display an additional image, video and/or audio file.
2. JavaScript Hotspot: This option will trigger a custom JavaScript function (designed for advanced users).
3. URL/360 Hotspot: Clicking the hotspot will open a custom URL and/or can link to another 360 file.
4. Text Hotspot: This option will simply display a hotspot icon & text. When clicked it will produce no action.

After selecting Hotspot type, users can define:

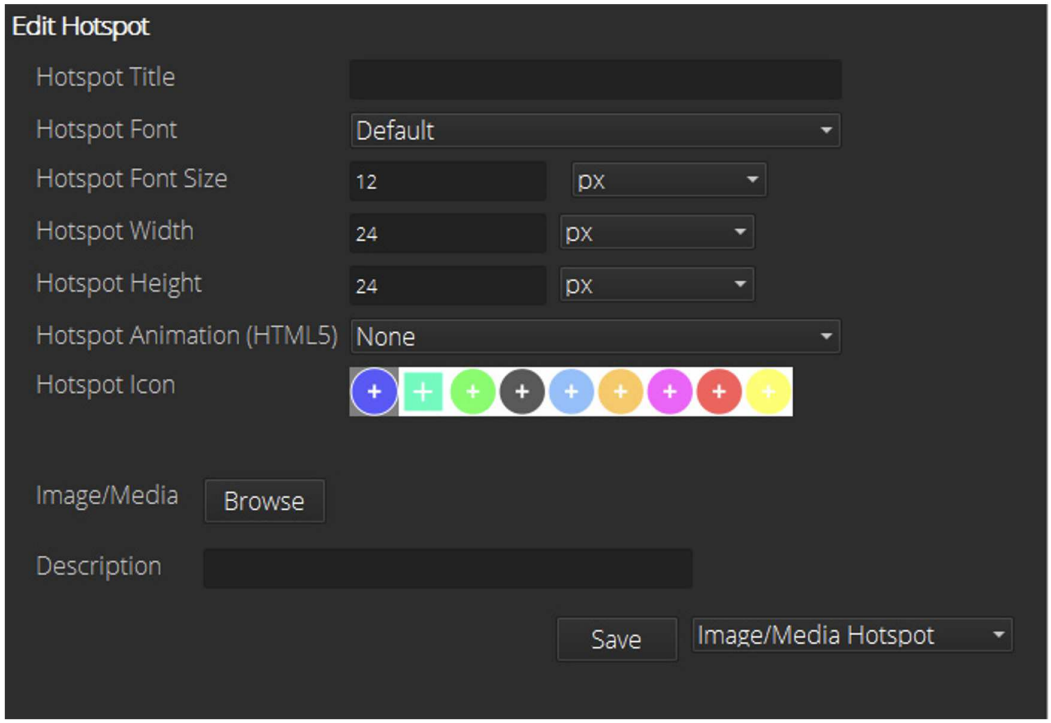

Figure 11.13: 360 View Creator Hotspot Edit window.

1. Hotspot Title – This is for your own reference.
2. Hotspot Font – Option to select Font Type if using a Hotspot Title.
3. Hotspot Font Size – Option to select Font Size if using a Hotspot Title.
4. Hotspot Animation – Option to have Hotspot icon Pulse
5. Hotspot Icon – This is the icon you will be inserting onto the image.
6. Image/Media – If selected Image Hotspot, users will browse for an image then select it. This image will be displayed as a viewer clicks the Hotspot.
7. Function to Call – If selected JavaScript Hotspot, users can enter a custom JavaScript function to call when the Hotspot is clicked.
8. URL - If selected URL Hotspot, users will enter the URL they wish to link to the Hotspot in the URL field. The URL must include http:// or https://. Opens in - If selected URL Hotspot, users can define to open the URL in New Window or Current Page (within the 360 view window).

After defining Hotspot, users will now add the Hotspot to the image(s) in the Editor window. To do so, click and hold on the Place button then drag the hotspot onto the image in the Hotspot Editor window. Note, the image is viewed at 1:1 in the preview window so users may need to

scroll (mouse wheel) or use the slider bars (on the bottom and the left side) to adjust 1:1 viewing location.

Figure 11.14: 360 View Creator Add Hotspot.

After placing your hotspot on the image – this can be adjusted to move to desired position either by clicking and dragging the hotspot or by adjusting the 'X' and 'Y' coordinates of the hotspot. To add a Hotspot(s) to a different frame, use the 'Next' and 'Previous' (and 'Up' and 'Down' buttons if a multi-row 360 view) under the Hotspot Editor window – this will scroll between all frames. Alternatively, users can choose to 'Set On All Frames' – which will fix the hotspot in the same position to all frames. Users can place infinite Hotspots on image(s) by dragging the Hotspot on to the image (as defined in Step 3). Users can also add multiple different types of Hotspots (ex. a Image Hotspot and a URL Hotspot) by selecting 'Click to add Hotspot' button.

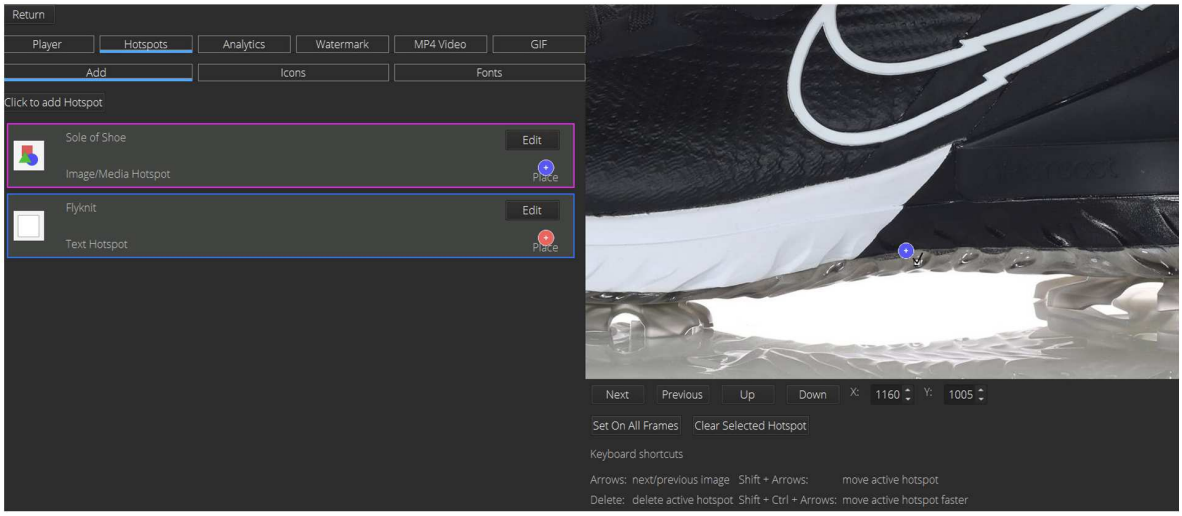

Figure 11.15: 360 View Creator Hotspot preview page.

To remove a Hotspot, use the Next and Previous buttons to choose the frame you wish to remove the Hotspot from, then click on the Hotspot (it will be displayed with a checkbox when selected). After selecting the Hotspot click Clear Selected Hotspot button – this will delete the hotspot from the frame. Alternatively, users can delete the hotspot by selecting the Hotspot Template using the panel on the right side of the screen then clicking Edit button, then Delete this Template. This will remove the hotspot from all frames.

When completed, click the Return button in the top left and the hotspot(s) will be retained. Custom Hotpot Icon: Users can create and upload their own custom hotspot icons. This can be

done in the Hotpots – > Icons Window and clicking 'Add New Hotspot Icon' button. Users will be required to upload a PNG image (transparent background). Suggested dimensions 200 x 200px. Fonts: This area displays a preview of available fonts used with hotspots.

Analytics

Designed for advanced users, analytics allows users to enter their Google analytics information to gain performance data on their 360 view

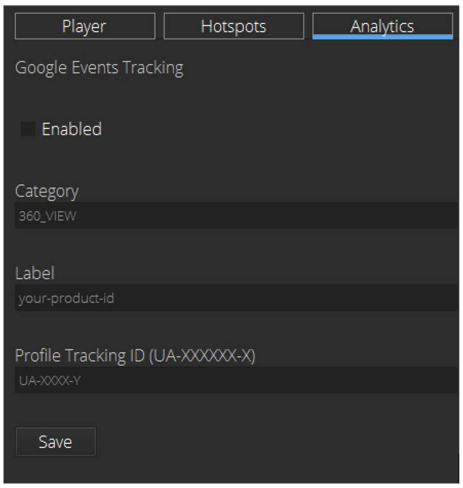

Figure 11.16: 360 View Creator Analytics.

Watermark

Watermark will allow users to add a watermark to their 360 view. Image must be in PNG format and should be sized accordingly. Use the Browse button to navigate and select the image to be used for watermark Placement of logo can be set using Offset X and Y options (values displayed in pixels and starts in the top left corner).

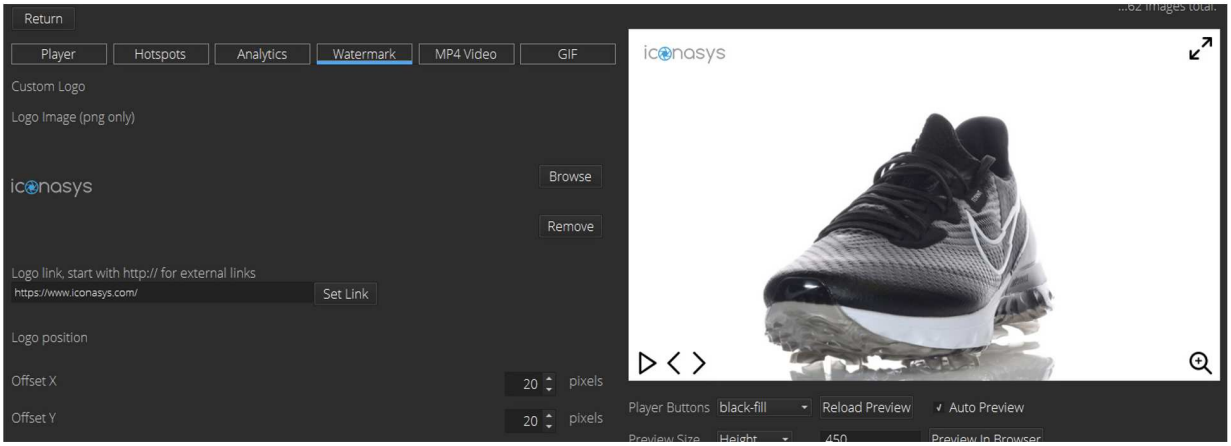

Figure 11.17: 360 View Creator Watermark.

MP4 Video

Users can adjust the Video Bitrate. This is designed to enhance video output quality (for both Interactive MP4 and MP4 Video output options). The higher the Bitrate value, the better quality the output.

GIF

Users can define a GIF image repeat rotation. Some applications/viewers will auto loop GIF files (in this case there is no need to repeat the gif). If defining Repeat Count, this will be the number of times it will rotate. For example if user sets repeat count 2, it will rotate 2 full turns twice.

11.5.9 Saving a 360 Product View

Users can output the 360 Product View by clicking the Export button (in the master UI – if in the Advanced settings area click the Return button (top left) to revert back to the master UI).

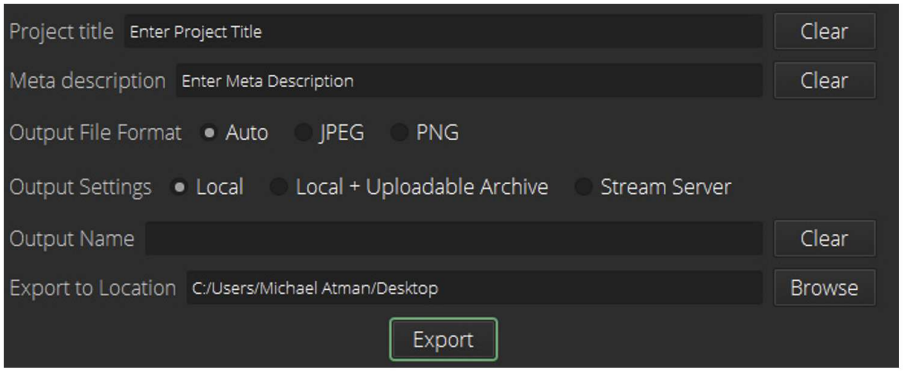

Figure 11.18: 360 View Creator Projects Export.

11.5.10 Project Title

This is the 'title tag' that will be used in the 360 product view output.

11.5.11 Meta Description

This is the 'meta description' that will be used in the 360 product view output.

11.5.12 Output File Format

For the HTML5 and Interactive MP4 output options, users have the ability to output their 360 product view using JPG or PNG images. The 'Auto' option will utilize the current format of the image. Be sure the desired Output Type(s) are selected before saving (see info above. Options include: HTML5, Animated GIF, Interactive MP4, MP4 Video

11.5.13 Output Settings

Chose the location where to output the 360 View file: Local – Output the 360 View in as a local file that can be viewed locally and/or uploaded to your own server for hosting. This is the only option that will work with the 'Multiple Output' functionality. Local + *Uploadable Archive – Output the 360 View as a local file in addition to a proprietary encoded file format (.ivcs) file that can be uploaded to our 360 Image Hosting Server (https://stream.iconasys.com/). *Stream Server - Uploads the output directly to our 360 Image Hosting Server. Should you wish to use this option, please go to [12] and create an account. *After upload to [12] , users can access iframe embed code for the hosted 360 views to easily embed into their own websites and marketplaces. Only 'HTML5' & 'MP4 Video with Controls' can be uploaded to the 360 View Server.

11.5.14 Output Name

Provide a name for the 360 View file

11.5.15 Export to Location

Define a save to location by clicking the Browse button and choosing a save to folder.

11.5.16 Export

This will save the 360 view file to the defined export location. After the users has defined 360 Product View settings and customization, these will be retained inside the software. So when creating your next 360 Product View, it will be as simple as importing a set of images and clicking 'Save'.

11.6 Creating your Next 360 View

When ready to start your next project, users can either:

1. Click the X button (top right of UI) to close the 360 Creator window
2. Click the Project button (top left of UI) and select New. This will remove all images from the current project and be ready to import a new set of images get started with a new project.

11.7 Viewing the 360 File Locally HTML5 / Interactive MP4

Open the output folder. On the first layer you will see two files with the extension .html. You will simply want to open these in a web-browser: index.html (will display at whatever output size specified when creating the 360 view) OR iframe.html (will dynamically fit to viewing screen). *Note Google Chrome browser does not support LOCAL viewing of Interactive MP4 output (will work fine with Interactive MP4 file is hosted).

11.7.1 Animated GIF

Click to open file – viewing application should auto play GIF with animated properties.

11.7.2 MP4 Video

Click to open file – view in any video player application.

11.8 Hosting your 360 Product View

Now you are ready to host your 360 Product View (HTML5 & 'MP4 Video with Controls'). Simply upload the entire folder to your server, copy the path and (then if required embed the link into the webpage OR hyperlink the file to corresponding link). The 360 player files are in the first row of the 360 The index.html file (will display at whatever output size specified when creating the 360 view) The iframe.html file will be the file used to embed into your website and will be responsive to fit into any placeholder (will dynamically fit to viewing screen). If you are placing this into your site in an HTML editor, you may require an iframe wrapper for the URL to display correctly.

Chapter 12

Other Tools

12.1 Import

In the Import area, users can import:

1. Images: Navigate to the desired local or networked folder and select a single or set of image(s) to import.

2. Video[1]: This option allows users to import and extract individual frames from a video file. Navigate to the desired local or networked folder and select the video file to import. After selecting the video file, users can choose to downsample the video. For example, if you upload a video made up of 1000 frames and choose a downsample factor of 10, it will import 100 total frames.

12.2 Help

Clicking the Help icon will populate a drop down menu in which users can select to view the User Guide, access the Knowledge Base (FAQ's / quick help), enter the Technical Support Portal or view the Release Notes.

12.3 Settings (Gearbox)

12.3.1 New Project

Shutter Stream Software allows users to create Projects. These are used to save and store sets of image that can be accessed at a later time by loading the project back into the Shutter Stream Software. Using projects is optional (the software will still retain all captured and/or imported images until deleted). Should a user wish to create a New Project, select New Project from the options area, create a new folder and choose a location for the working directory.

[1]Not available in Shutter Stream or Shutter Stream 360 Software.

12.3.2 Open Project

Users can import a previously created project. Click the Open Project option in the Options area and then browse local folders to access the previously created Project folder.

12.3.3 Open Default Project

This option will open the Default Project folder and import all images.

12.3.4 Show Originals Folder

This option will display the original images as they were captured, before any image processing was applied (ex. before edits).

12.3.5 Search Cameras

This option allows users to display a list of all cameras connected to the computer and allows users to select the camera to be controlled for image capture.

12.3.6 Select Turntable

This option allows users to set the Turntable type they are working with. Options include Motorized, Manual, Shutter Release and Iconasys Turntable options. If using an Iconasys Turntable option, please ensure it is connect via USB and powered on before selecting the turntable type.

12.3.7 Pipeline Processing

This option allows users to automate workflows. Users can define to auto process images after capture by selecting previously created profiles and ordering these. Users first need to create profile(s) in their respective area. For example, a user can create an Editing Profile in the Editing area or a Dynamic Save profile in the Dynamic Save area. All available profiles can select a single or multiple profile(s). Under Section 1, click Add New Profile. This will display a list of all the Edit and Tool Profiles that have previously been created. Select from the list of profiles, adding one at a time. Users can adjust the order of the profiles by clicking and dragging the profile up or down in the UI. Should it be required, users can add multiple sections. To add a new Section click the + New Section button, this will create Section 2. Add New Profiles in here as need be.

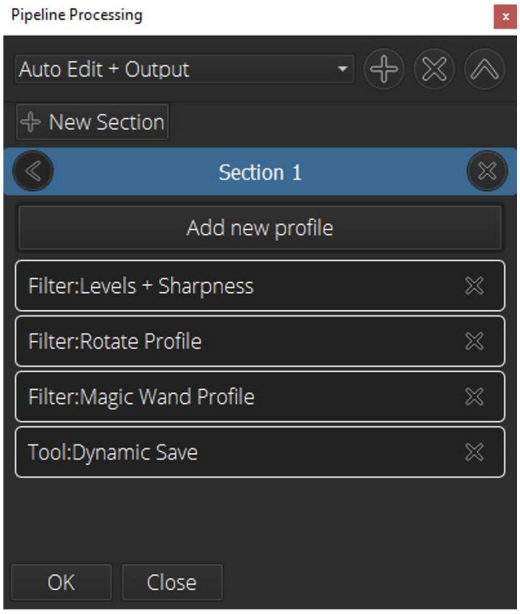

Figure 12.1: Pipeline Processing Profiles.

Pipeline Processing Profile

After the Profile has been created, this can be Saved as a Profile – which can then be Auto-applied after image capture. To save a Pipeline Processing profile, click the + button at the top of the UI, give the profile a name and hit Enter. This will save the profile. To delete a profile, click the X button and to update a profile, make changes to a selected profile and click the ˆ button.

Apply the Pipeline Processing Profile

By clicking OK, the Pipeline Processing will be applied to all selected image(s) in the Thumbnail Gallery. If you create a new profile and do not wish to apply it to selected image(s), click the Close button.

Auto Apply Pipeline Processing Profiles after Capture

To auto apply a Pipeline Processing Profile immediately after image capture, hold CTRL (Command on Mac) and right clicking the Snap button. This will display a list of all Pipeline Processing Profiles available. Select the desired profile.

12.3.8 Edit Metadata

In this area, users are able to add EXIF metadata to captured images. Enter custom meta data next to the Image Description, Software, Artist and Copyright fields then click OK. To Apply Metadata to images, users will need to create a Metadata profile then choose to apply the metadata during Dynamic or Batch Saving process.

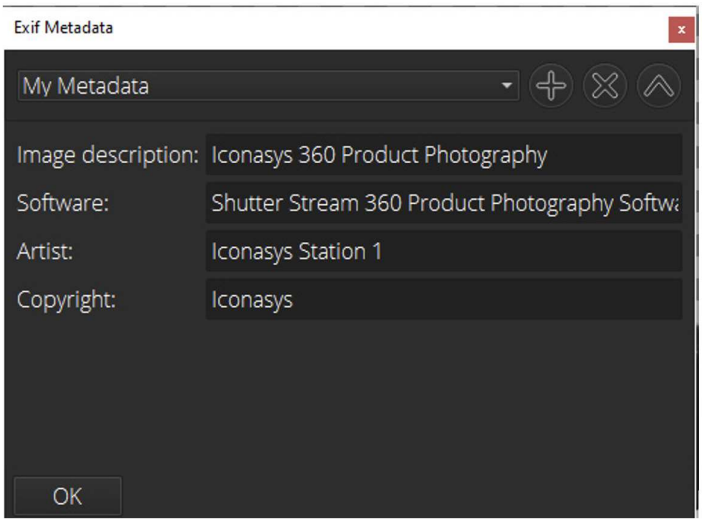

Figure 12.2: Exif Metadata window.

12.3.9 Metadata Profile

After the Metadata fields have been filled, this can be Saved as a Profile – which can then be Auto-applied to images. To save a EXIF Metadata profile, click the + button at the top of the UI, give the profile a name and hit Enter. This will save the profile. To delete a profile, click the X button and to update a profile, make changes to a selected profile and click the ˆ button.

12.3.10 Reset All Settings

This option will reset the software to its original settings.

12.3.11 Check for New Updates

This option allows users to search for New Software Updates. Note, users are notified within the software when a new release is available for download.

12.3.12 View Serial Number

This will display a windows showing the Software Serial Number and provide a registration page (should user have overlooked registering software – in this case, please be sure to select the correct 'License Type'). It is also in this area where users will Import their License File to activate the software so that it won't expire.

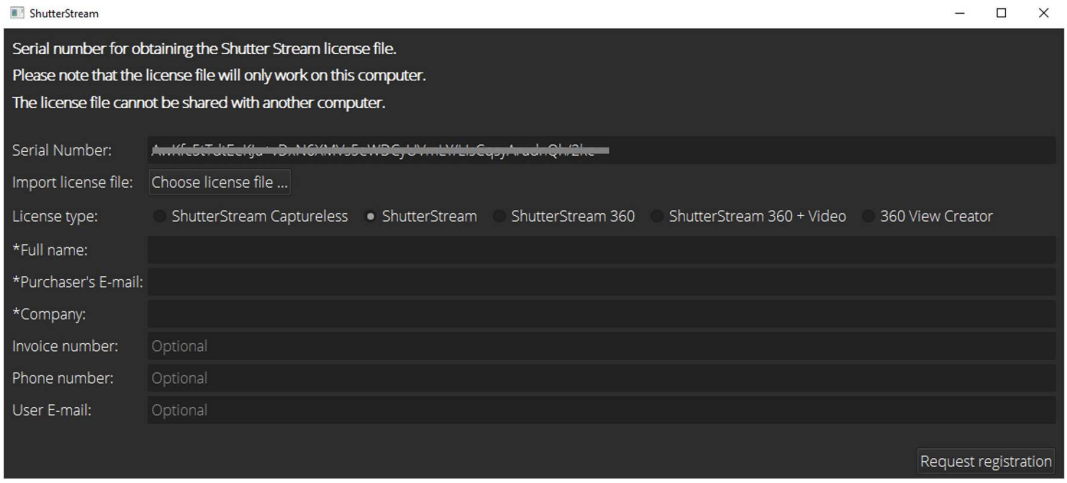

Figure 12.3: License registration window.

12.3.13 About

This will provide information about the Version number of the software being used and the License Type. Users also have the ability to install compatible 3rd party plugins into the software using the Plug-ins folder button.

Chapter 13

Turntable Controller Application

13.1 Download and Install

The Iconasys Turntable Controller is a standalone software that can be used with current Iconasys turntables and with any 3rd party programs that supports shutter release. The Turntable Controller is now part of the Shutter Stream installation package[1].

[1] Older Turntable Controller versions, before the release of Shutter Stream 12.0, are available for download at [13].

13.2 Usage

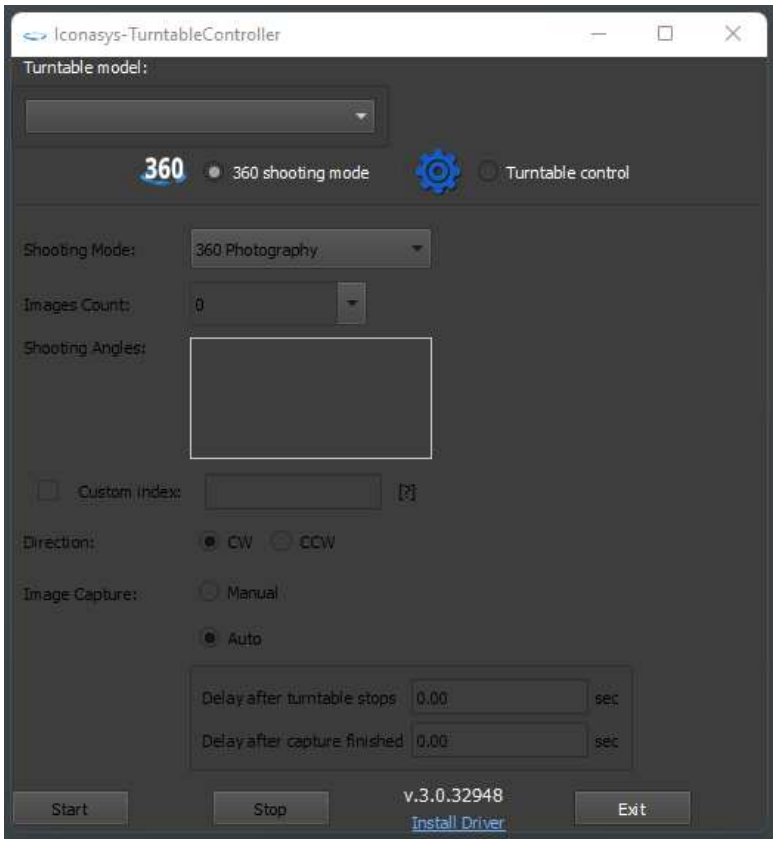

Figure 13.1: Turntable Controller App - 360 Shooting Mode.

Here you can select multiple settings to setup your turntable shooting mode.

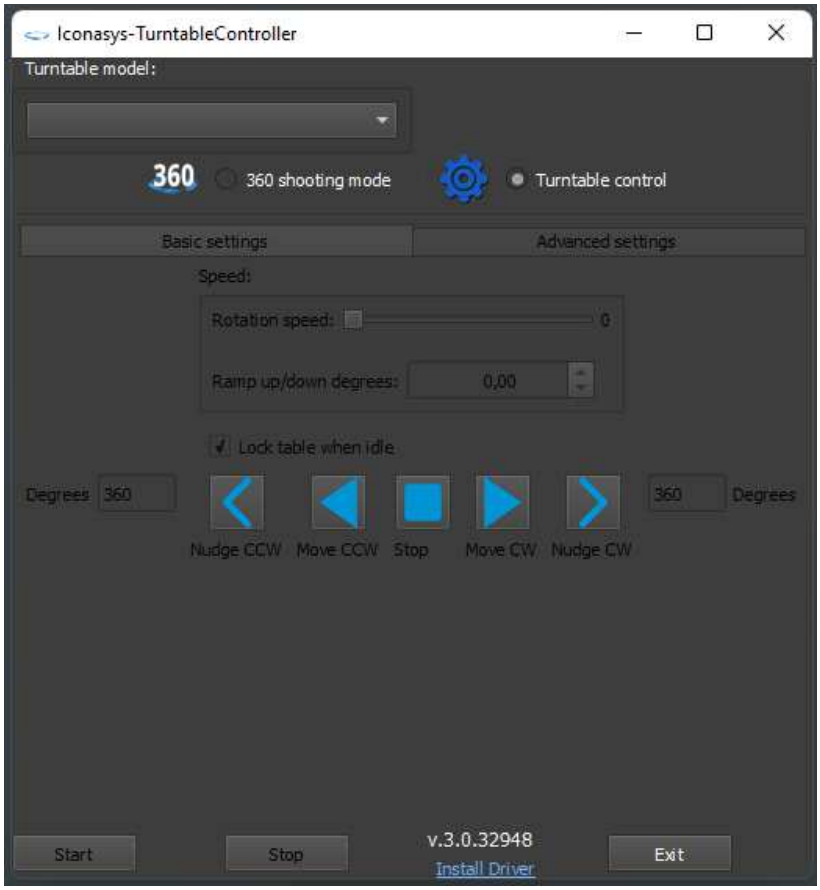

Figure 13.2: Turntable Controller App - Turntable Control.

Here you can select multiple settings to control your turntable.

Chapter 14

Mobile Camera Connection

14.1 Download

The mobile camera shooting feature allows users to capture still and 360 images using their smartphones. A 360 mobile sample can be found on this page: [14].

14.2 Install & Run

1. Step 1: Download the mobile app that can be found both on AppStore: [15] and Google Play Market: [16].
2. Step 2: Install the ShutterStream mobile application and open it. After you open it, the UI will look exactly like in 14.1

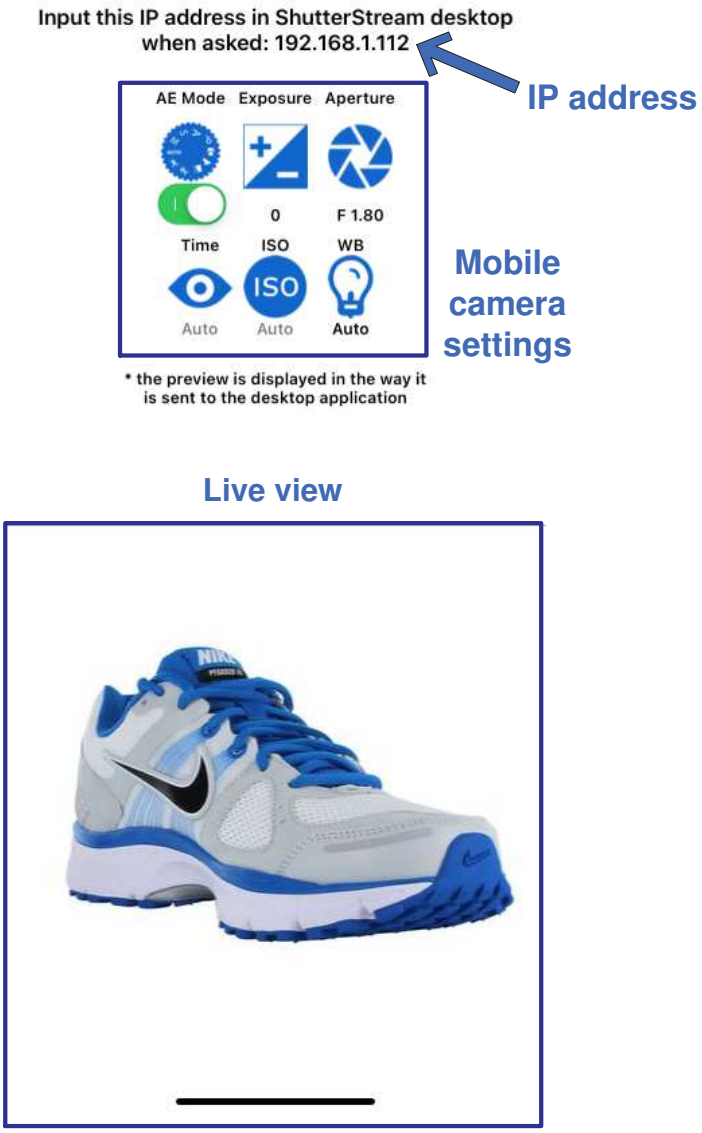

Figure 14.1: Mobile Camera Connection App UI.

We can adjust manual or automatic camera settings depending on user's preference. Here we will need to copy the IP address. Please make sure that both your computer and smartphone are on the same local network.

3. Step 3: Open the Shutter Stream software and a mobile connection window will pop-up right away. Now we need to insert the IP address from 'Step 2' inside the IP text box, and after that we need to press the connect button. If the connection was successful, Shutter Stream will now retrieve the live view feed directly from the mobile app and the user can start shooting images right away.

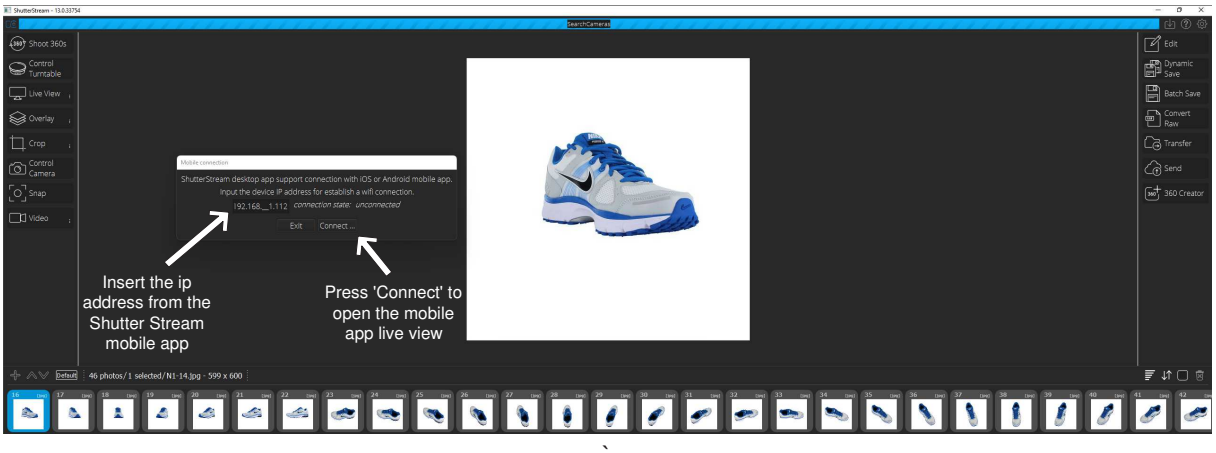

Figure 14.2: Mobile Camera Connection Window.

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