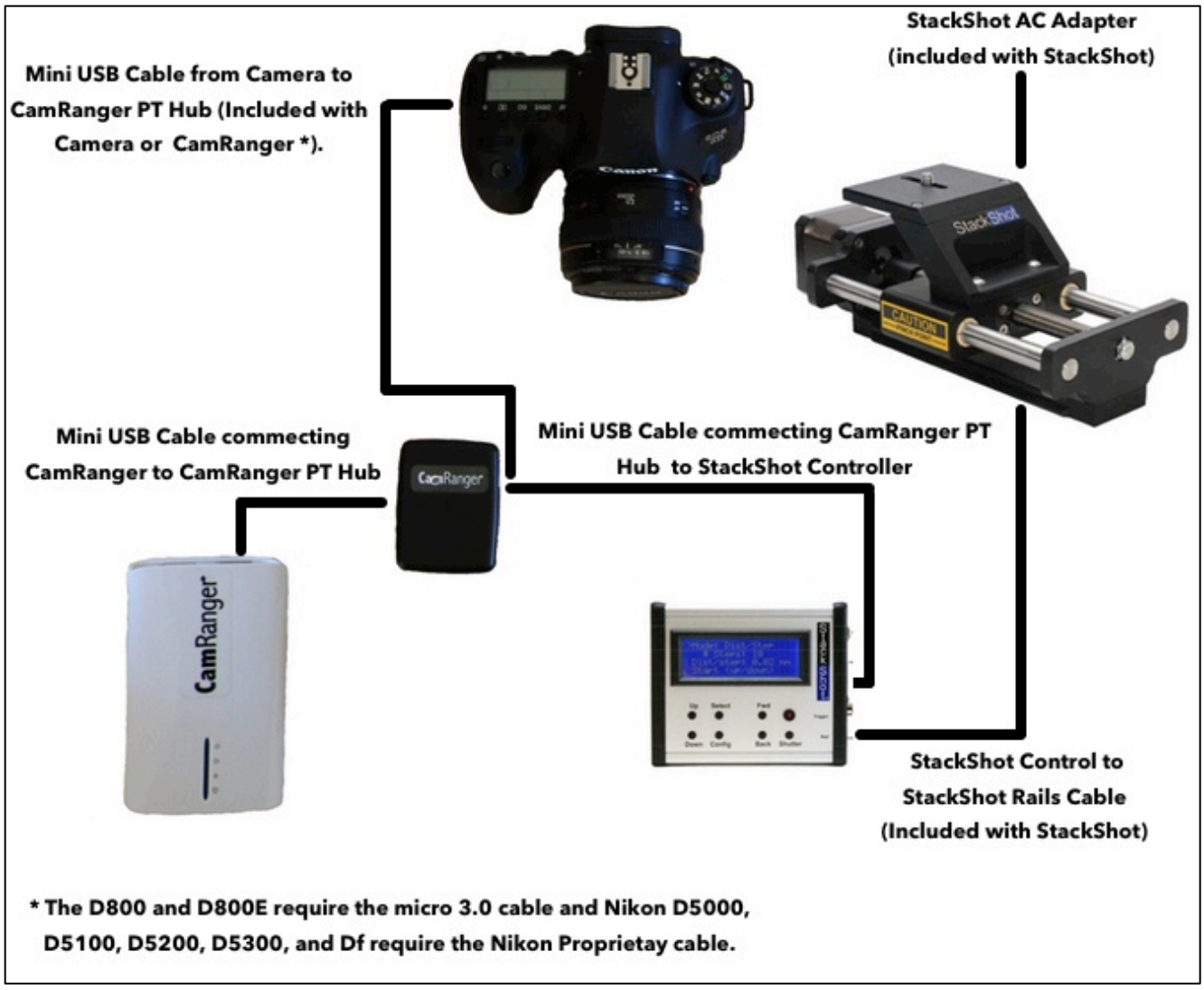
The StackShot is intended for macro photography, allowing for automatic image capture with precise incremental movement of the camera using the Stack Shot rail system. When the StackShot is used with the CamRanger, the photographer can control the automation processes from the CamRanger application. The user has the ability to move the camera from within the app, conduct automatic step motion, and automatic distance step mode. Other features will need to be controlled from the StackShot Controller.

For specific questions about the CamRanger or StackShot refer to the user manuals found on the CamRanger downloads page and the StackShot Technical Highlights page.

Requirements for setup

- For this set up, a CamRanger, CamRanger PT Hub, and StackShot is required.
- Make sure the CamRanger firmware is updated to version 7.0 (and up) and the CamRanger app (on the iPhone, iPad, Android device, Mac, or Windows computer) is the most recent.
- The CamRanger must be registered, the CamRanger PT Hub and StackShot do not require registration
- Required parts:
    - CamRanger*
    - CamRanger PT Hub
    - StackShot Control Module
    - StackShot Rail Assembly
    - AC/DC Power Adapter
    - Motor Cable (connects to the four pin connector on the control module)
    - Cables
        - USB cable (included with CamRanger or camera)
        - USB 2.0 A to B connector (included with CamRanger PT Hub)
        - Power Cable for StackShot
        - StackShot Proprietary Cable
    - CamRanger Supported Camera*
    - Device* (iPhone, iPad, Android device, Mac, or Windows computer)
      *Requires charged battery or connection to AC power

NOTE: Before starting, update the firmware on the CamRanger and the CamRanger app. The firmware update must be version 7 or newer. Also, the StackShot must be turned on and properly connected BEFORE starting the CamRanger app.



Set up for CamRanger, CamRanger PT Hub, and StackShot

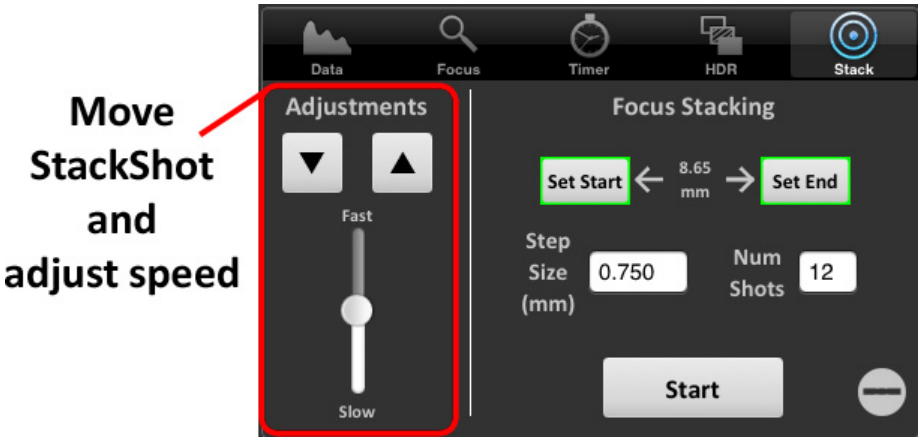
StackShot Controls

iOS screenshots are used to illustrate the various controls, however, images from all supported platforms are included at the end.

Manual Adjustments

The user can control the movement of the StackShot using the up and down arrow buttons within the CamRanger app. This is similar to being in manual mode when using the StackShot and camera alone, without the CamRanger. The speed of the motion can be adjusted using the slider. The up arrow button moves the camera closer to the subject, while the down arrow button moves the camera further from the subject.

Using a faster speed it recommended when performing initial movements, however, adjusting the speed to a slower setting can help fine tune the position.



Step Mode

Step Mode is activated within the Control settings within the Stack Shot settings. With the Step Shot Mode, the user defines the step size and the number of images to be captured. The stack will begin by pressing the "Start" button and begin from the current position of the StackShot and move forward.

Note: Step Mode will not retain the start position of the stack.

Distance Stacking Mode

Distance mode is used to define a stack by specifying the start and end positions. The start position is the nearest or front-most position and the end position is the furthest position. These positions can be set using the "Set Start" or "Set End" buttons. When the start or end position has been set to a valid position, the button or button outline will turn green to indicate this. When both positions have been set, the total distance of the stack will be displayed. The distance between each shot within the stack also needs to be entered. This distance is entered in millimeters and the number of shots will then be automatically calculated and set when all

necessary parameters have been set. After determining the start position, end position, and step size the user should press start to capture the images.

Note: The start and end positions will be retained and the same stack can be performed multiple times by pressing the Start button again.

Set Start Position: Set the nearest point or plane of the focus stack by clicking the "Set Start" button. The location is set and the button or button outline will switch from red to green. Use the Adjustment arrows to establish this location.

Set End Position: Set the furthest point or plane of the focus stack by clicking the "Set End" button. The location is set and the button or button outline will switch from red to green. Use the Adjustment arrows to establish this location. If the end value is set to a position nearer than the start position, the start value will disable by turning red and the Set Start value will need to be reestablished.

Step Size: The user must input the distance in millimeters between each image in the stack. The StackShot has a minimum distance resolution of 0.002 mm.

Start: Once the Set Start, Set End, and Number of Shots are set, the number of shots is automatically calculated and the Start button can be pressed and the images will be automatically be captured.

Settings

The Stack Shot specific settings can be accessed by pressing the + button within the "Stack" tab or from within the main settings/preferences, depending on the platform.

HDR:

If turned on, instead of a single image being taken at each step, an HDR sequence is performed according to the settings in the HDR tab.

Stack Mode:

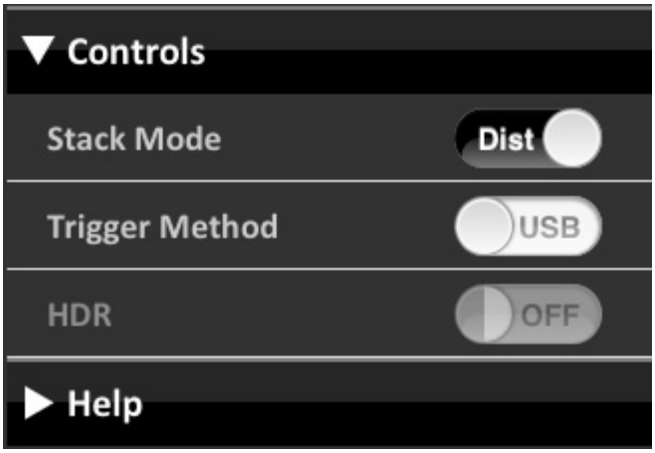
Step: User inputs number of shots and step size between shots

Distance: User inputs start and end location and the step size in millimeters. The number of shots is automatically calculated.

Trigger Method:

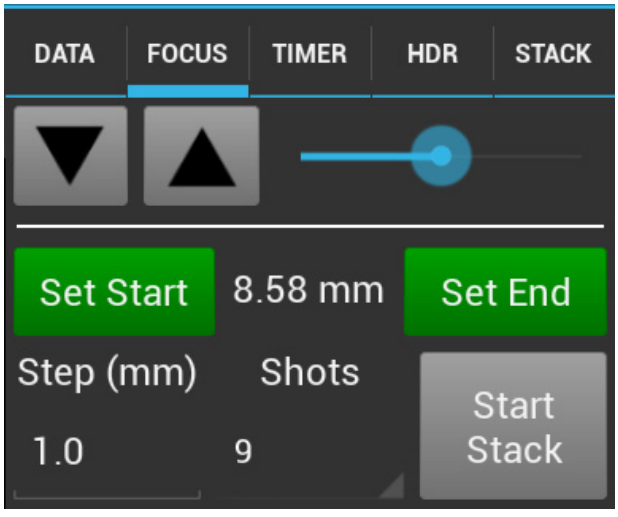
USB: Images are captured with the CamRanger through USB, like normal.

Cable: Images are captured using the StackShot's shutter release cable connected to the camera's shutter release port. Cable mode is recommended if they camera is in mirror-up mode, since this feature is not supported by the CamRanger. However, USB mode may be used when the camera has live view turned on and for nearly all cameras the mirror will remain up during the stack.

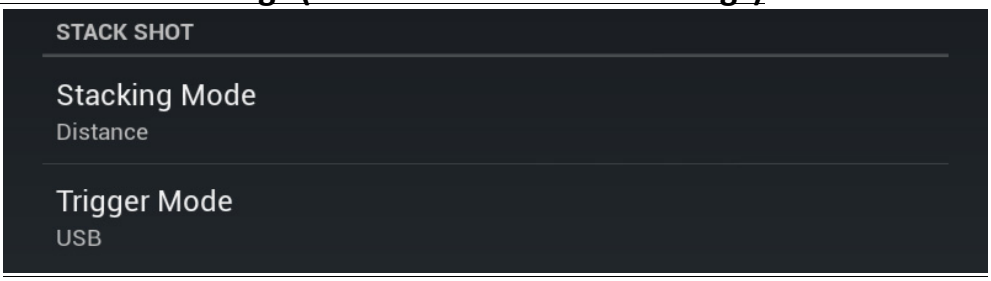


Other Platforms

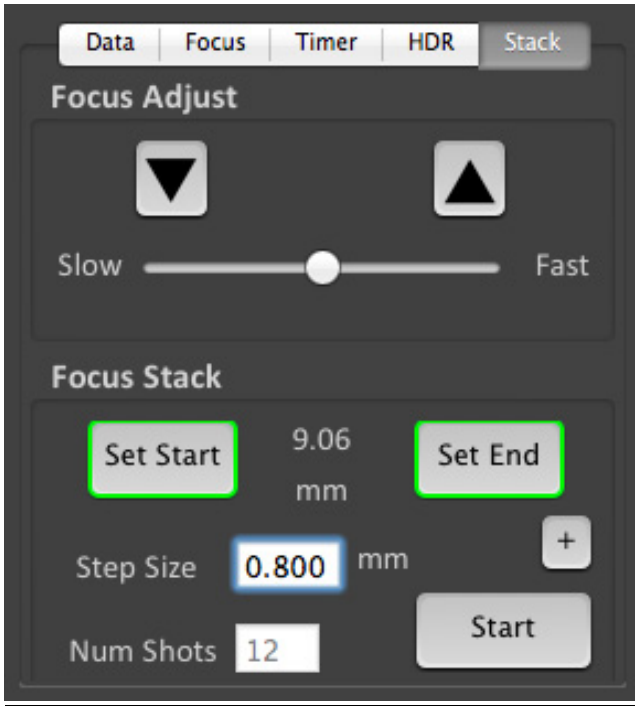
Android StackShot Tab



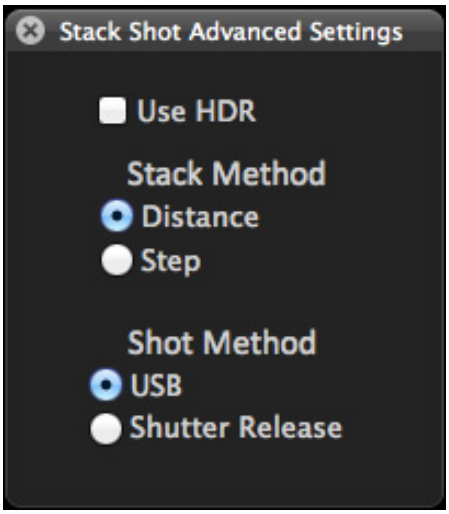
Android StackShot Settings (accessed with other Settings)



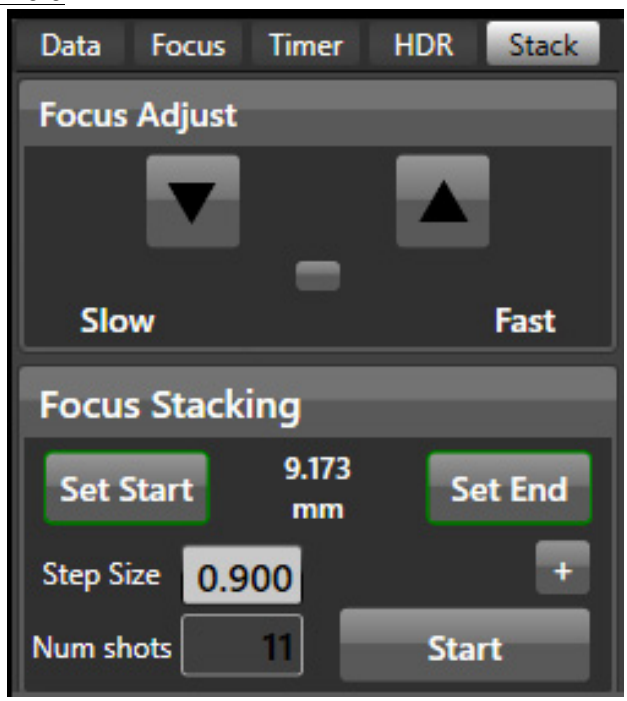
Mac StackShot Tab



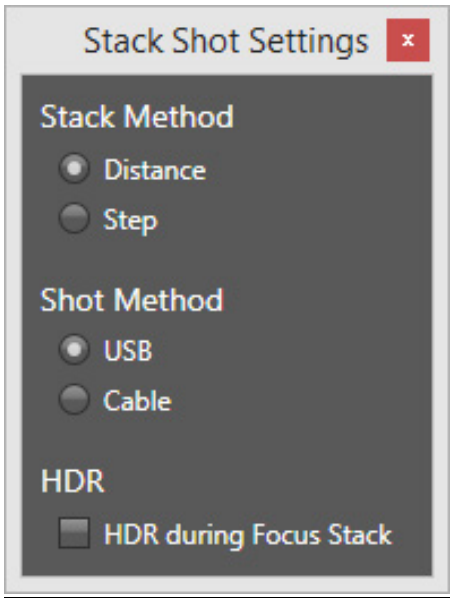
Mac StackShot Settings



Windows StackShot Tab



Windows StackShot Settings



Post Processing

After generating a sequence of images, they must be combined through post processing software. There are a number of software programs that can accomplish this, however, we recommend Zerene Stacker: http://zerenesystems.com

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