

# Decapod Conventional Capture Guide

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This documentation applies to Decapod 0.7.

## Generic Hardware Components Required

The following table lists the generic hardware components required for conventional capture. The main requirement is that the setup be sturdy enough such that it does not move or fall over during image capture, and it must provide a sufficient level of adjustability for initially positioning the cameras over the content.

	What?	How?	Why?
1	Main Support(s)	Tripod or sturdy mounting surface	To support camera setup such that it does not move during image capture.
2	Intermediate Component	Horizontal center column on tripod or articulating arm or ball head	Allows for mounting of cameras in horizontal position (i.e. pointing straight down); may provide distance between tripod and cameras thus creating more space in which to set up the item being captured; provides some adjustment of camera position.
3	Pair of matching cameras	Most cameras can be used for stereo capture as long as they meet the minimum requirements	Two cameras help create a 3D image of a book surface which can then be dewarped.

Additionally, users will need:

- Two USB cables to connect the cameras to Decapod if using tethered capture.

## Camera Selection

- 1 or 2 supported cameras
- 10 MP or higher recommended

If the cameras are to be tethered to Decapod, then there are additional requirements. See [Appendix: Camera Selection](#).

## Lighting

Proper lighting is critical for getting good results from stereo capture and subsequent dewarping. The environment should be very well light so that the book content is uniformly lit from edge to edge. Dark shadows should be minimized if possible, especially if it obscures text.

Glossy paper is problematic as it will create white "hot spots" on the page surface where light reflects. In this situation, care should be taken to redirect light so that the content is still evenly lit without the glare.

## Positioning Cameras and Content

One or two cameras can be attached to take pictures. With two cameras attached, one camera can capture one page, with the other capturing the facing page. Unlike Stereo Capture, conventional capturing does not require matching cameras.

The cameras should be positioned perfectly perpendicular (90 degrees) to the subject as to reduce perspective distortions.

## Page Flattening

With conventional capturing, the user will need to manage page curl themselves. This is typically done by holding down the pages, or pressing down the pages using glass which is then photographed.

## Setup Examples

### Tethered Capture

#### Connect Right Camera First (Applies to Tethered Capture Only)

Before doing any capturing, the right camera must be attached to the Decapod system first, then the left camera. Doing this out of order may cause stereo capture and subsequent dewarping to not perform properly.

To ensure that this is done properly, follow the these steps:

1. Ensure computer running Decapod is on and running.
2. Turn on the right camera.
3. Remove any memory cards if present.
4. Connect the right camera to the Decapod system with a USB cable.
5. Repeat steps 1 to 3 for the left camera.

Note:

If any camera is disconnected during capture, both cameras should be disconnected and reconnected in the manner stated above (right camera first, then left camera). If this is done in reverse order, stereo 3D dewarp may not perform properly.

By default the address for Decapod Capture is: <http://localhost:8081>.

When the Decapod Capture interface loads, the attached cameras are checked to ensure they will function properly (you may hear the cameras take pictures at this time). If the cameras are matching and supported by the system, then you will receive a message stating that capture is ready and that stereo 3D capture is available. Users may encounter other errors, they are listed later in this document.



#### Note:

Remove any memory cards from the cameras prior to attaching to the Decapod system. If a memory card is present in the camera and the camera is connected to Decapod, the operating system may mount the memory card and prevent Decapod from using the cameras. You will have to disconnect the USB cable, remove the memory card, and then reconnect the cable.



#### Note:

If using two cameras, the user will need to verify that the images are in the proper order since it is possible that the left and right pages are reversed. This problem occurs when the left camera is connected before the right camera. See "Connect Right Camera First" above.

## Untethered Capture

With untethered capture, all images are stored on a memory card. If using two cameras, the user will need to manually merge the files together so the resulting images are in the proper order.

## Status Messages (Applies to Tethered Capture Only)

### Message: "No camera detected"

If this message is displayed, check the following:

- The cameras have power / batteries and are turned on.
- The USB cables are securely attached.
- There are no memory cards in the cameras. If there was a memory card inserted, remove the memory card, and turn off-and-on the camera.

If all of the above was attempted and the message still occurs, the camera is likely not supported by Decapod.

### Message: "A camera has been disconnected."

This message is displayed when a camera that was being used for capturing becomes unavailable.

- Check to see the camera has power.
- Check that the cable is properly attached.

Try disconnecting and reconnecting all cameras. If two cameras are being used for stereo 3D captures, make sure to connect the left camera first, then the right.

### **Message: "There was a problem with a camera."**

This message is displayed when a camera is supported, but a setting or configuration option is incorrect. The following are some possible solutions:

- Check that the camera can focus on a subject properly. Try repositioning the camera closer or further from the subject and try again.
- The camera's file format is not JPEG, TIFF or PNG - change the appropriate setting on the camera and try again.

### **Message: "Too many cameras detected"**

- This message is displayed when there are too many cameras attached to the Decapod system. Decapod only supports 1 or 2 cameras.

### **Message: "Unable to create download"**

This message is displayed when there is a problem creating the archive of captured images. Possible reasons for this error to occur:

- Not enough disk space to generate the archive file

### **Message: "Unable to capture"**

This message appears when there is a problem with a camera. This problem may occur when:

- The camera is unable to focus.
- Cable has disconnected or the camera has no power.
- A memory card is present in the camera and is mounted by the operating system.
- The Capture server has malfunctioned.
- The camera may not be fully supported by the system.

To try to remedy this, ensure that the batteries are charged, the subject is within the focusing distance, and a memory card is not inserted. In the case of the Capture server malfunctioning, please contact the Decapod administrator.

### **Message: "Stereo Unavailable"**

This is a warning message stating that the resulting captures will not be usable for Stereo 3D Dewarp since the cameras do appear to be identical.

Capturing may proceed if this message is displayed - just note that Stereo 3D Dewarp will not work on the resulting images.

Reasons for this message to occur:

- Cameras are not the same resolution, or the resulting images from each camera do not match.
- The camera models are not identical.

If you wish to have images usable in Stereo 3D Dewarp, two identical supported cameras need to be connected to Decapod.

### **Message: "Ready to Capture"**

This message appears when the cameras are ready to begin capturing and no errors have been detected. Select the Capture button to begin.