DRAGON STOP MOTION

Setup Camera:

1. Remove the battery and use the AC power supply. Remove the SD card. Attach camera firmly to copy stand or tripod and connect to computer with a USB cable. You may need an extension, but be sure it works well. (we had flicker due to one)
2. On the lens, turn off image stabilization and autofocus.
3. On the Mode Dial Choose M for manual.
4. In the camera menu, set Live View to Enable. Set Auto Power Off to Off (wrench menu 2?)
5. Quality Choice: Select "Small Jpeg fine" under "Quality". This is the size of an HD frame. It is not necessary to capture higher than this on your camera *UNLESS you want to color grade raw footage, make a 4K product or use parts of a larger image frame later on. Caveat: how much can the computer handle?*

Setup Workspace:

1. On the computer, close any other applications that might connect to your camera
2. Set up your lighting: Lighting is very important! Fluorescent lights will most likely give off a flicker effect, Incandescent and Halogen lights will do this less. We are going to use mostly LED lights. Turn off the overhead lights in the room and use the blackout curtains between sets. You can also use a lightbox. You can bounce light off a white surface if you find the direct light shows too many shadows.
3. Dragon comes with a USB controller you can use if you do not have an extended keyboard. It is not required but you might find it helpful, and keep you from running back and forth between your computer and your setup. If you decide to use the controller, plug it in before launching Dragon.

Starting a New Project

Dragonframe organizes your projects into *Scenes* in gray folder (the entire project) inside of which are *Takes* in red folder (each session of capturing images) made of *exposures* in a green folder (each shot in tiff format). There is also a feed and backup folder in the red Take folder that consists of low-quality preview jpgs.
When you launch Dragon, you will have the option to "Create a New Scene" or "Open Scene" or "new take."

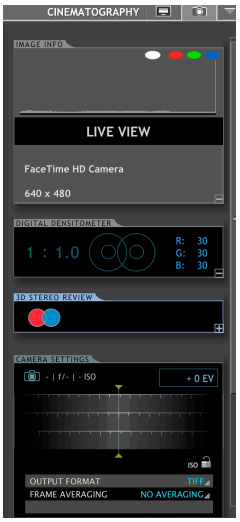
Camera Connections:

If Dragon does not see your camera immediately, try resetting the connection: CMD+R. Make sure all connections are tight. If you still do not see your image, you may need to go to the "Capture" set in the toolbar. In the menu, select Capture / Capture Source / your device.

The Dragon Interface: https://www.youtube.com/watch?v=727OBfGdkhw&t=13s

Dragon has two main views - "Animation" and "Cinematography."
You can toggle between the two views with the icons, located in the upper right corner of the screen.

Cinematography View



Here you can adjust your camera settings. Make sure your set up and lighting are complete, then select camera adjustments in this window before capturing. Set white balance to auto under lighting, then switch to manual to keep those settings and move aperture and shutter speeds to average 0EV. Use cross hair icon to adjust focus (or the camera manual focus ring) Take a test shot . (Test shots reside below the shot tray and will show higher accuracy of focus and exposure than the preview window.) Use the zoom slider on the lower right of the main window to view focus closely. When you are ready to shoot your sequence, switch to the animation view.
https://www.youtube.com/watch?v=z4o2xpYHJSM

Animation View

Decide what **frame rate** you want to shoot at. When you choose more shots per second and move the object less, the animation looks smoother. The fewer shots per second,

the image may appear more choppy. Pick what is best for your idea. Somewhere around 12-15 FPS is like early movies, 24 like contemporary film. You can change the **FPS** with the drop down menu at the bottom of the screen.

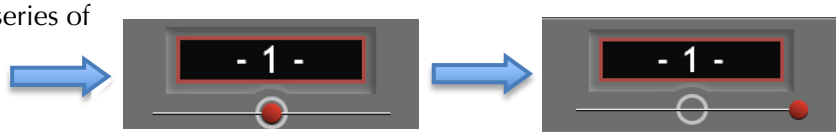
Before you begin:

Choose to crop the image to 16:9 aspect ratio, unless you have a reason not to. By sliding the shadow crop on you will be able to compose your image the way it will appear on export.

You can also choose to use a grid here to help you line things up or rotate the image if you are using a copy stand and your camera is shooting "upside down".

Icons on the lower right allow for seeing each frame, seeing audio, seeing the shot list (Xsheet). This window and the shot tray below make for easy deletion by selecting the offending shot and pressing delete twice.

Turn the onionskinning option by dragging the red dot at the bottom center toward the right of the slider. This will overlay a ghost of your previous frame as a point of reference when you are shooting. **Onionskinning** can be very helpful when planning smoothly animated takes. You can choose how many frames to overlap in the tool palette under the button with a series of circles.



Dragon saves two versions of each frame you shoot. One is a lower quality image for the animation preview. The other is a high quality image that will be used to export. You should animate with the high quality images, to know what your exported footage will look like in each frame. To turn this feature on, make sure the icon with four squares is highlighted red. *Check possible changes to this instruction!

To **capture** a frame, press the "Enter" key on the Dragon Keypad, the extended keyboard, or "Return" on a regular keyboard. To see and use a layout of the keypad, go to Window / Show Keypad. You can drag the objects around in the working window to rearrange.

To **delete** a frame, while you are in the **animation** window use arrows to find the frame you wish to delete, press the button with an X inside the square on the Dragon Keypad **twice** or "Delete" on the keyboard **twice.** Wait for Dragon to renumber frames. If you are using the HQ view while you do this it will delete the HQ image. If you are using the lo-res quicker preview, then delete will only delete that small image and when you export the undesirable frames will still be in the video. **So, make sure you set the HQ button at LEAST when you delete.**

To watch your animation, press the play button on the Dragon Keypad or the spacebar on the keyboard. If your camera looses the connection, try resetting the camera by pressing "Command" and "R."

Animation Tips
For smooth transitions, it is important to make sure you are making subtle movements with your elements, and not moving too much between frames. You might only need to move your object 1/16th of an inch for each frame. Keep in mind your frame rate. How far do you want this object to move in one second? Onionskinnning will help you track your movements! If you move less distance and shoot more frames you can slow or speed up the action in Premiere, though it will appear rough if the fps is too slow. (You can also speed up in Premiere later on.) There are options for repeating frames, moving or inserting frames in the sequence by using either the shot list (X-sheet) or image tray below the main window. Complete one Take at a time to avoid changing light.

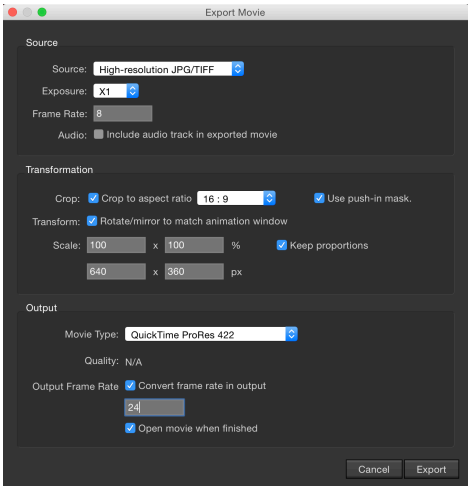
Timeline using Shot Tray
You can duplicate, rearrange or delete frames in this tray (as well as the X list). The deleted frames remain on the hard drive so you can replace them if needed. They can appear below the shot tray.
https://www.youtube.com/watch?v=afZHovVrTi4

Guide Layers:
You can use drawn lines, text, a photo or video to guide your animation. They do NOT appear in the final movie. Either floating or on the right https://www.youtube.com/watch?v=45LdmarH6io&t=270s

Saving
Dragon automatically saves after every shot. When you are done, you can close the program and all your work will still be there.

Exporting from Dragon *option one: as Quick Time movie*
To export your file, go to File / Export Movie.

UNDER SOURCE:
Source: High resolution tiff
Exposure x1 (if you make it 2x, it will record each frame 2x making your movie longer but rougher?)
Frame Rate: Your choice….Leave as you shot it (12-15 fps). If you change to 24 fps will be 2x faster.
You will probably not export audio, so leave this unchecked



UNDER TRANSFORMATION:
Crop: You can choose to crop here or later in Premiere. If you shot with the 16x9 mask on, then you know what it will look like when you export with that cropped choice with **push in** mask. This is the safest way for beginners as your final destination is likely an HD monitor or projector with that aspect ratio.

Choose Transform to rotate upon export if you have been shooting from a copy stand or upside down. Or you can rotate in Premiere.

Scale the video to fit 16x9 and change your resolution to 1920x1080, unless you have advanced plans (to move a larger image around in the post-production frame.)

OUTPUT:
Movie Type: Choose Quick Time ProRes 422 or 422 HQ for highest quality if you are going to edit afterward. H.264 is okay for immediate use and will work fine if your computer is getting full. (choose highest quality unless going to the web, then medium)

Export. It will take a moment to export your files.

Your movie will open in Quicktime, and you are done (for now)! You can bring it into Premiere Pro and add filters and edit sound. You can either put the files on Petra or a hard drive.

Dragonframe Tutorials by the company:

Xsheet
https://www.youtube.com/watch?v=YvrMVznqoAM&t=8s

Increment editor guide
https://www.youtube.com/watch?v=D4p0s5iqFqQ

test shots and reference images in cinematography view.
https://www.youtube.com/watch?v=z4o2xpYHJSM

camera controls…(aperture will not show on manual lens?
Don't worry about 3d exposures! This is advanced.
https://www.youtube.com/watch?v=5Q1UiSocItM'=

B6 stop motion (EASY Explainations)
Bouncing ball tutorial by
https://www.youtube.com/watch?v=BFWj_tyL6K0
extras
Using a Reference shot (lower opacity or reorder, scale)
https://www.youtube.com/watch?v=5wwG7lCcu0w

Camera settings. Lock
Color detection good for chromakey
Densitometer…match density of different shots
Conforming an edit and using the HQ settings.