# JOYSTICKS 'n SLIDERS

## Pose-based rigging in After Effects!

initial release V1.0 ©2016 Mike Overbeck

# Installation Guide:

Download Joysticks_n_Sliders.zip and extract it. You will see a file named Joysticks_n_Sliders.jsxbin and a folder named Joysticks_n_Sliders_assets. Move both .jsxbin file and the folder into the following location. If you already have After Effects open, you will need to restart the program after moving the file.

## Windows:

**Program Files\Adobe\Adobe After Effects <version>\Support Files\Scripts\ScriptUI Panels**
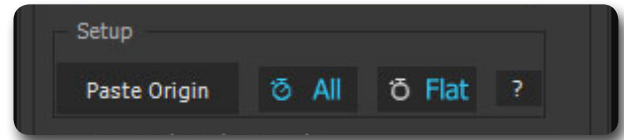
## Mac:

**Applications/Adobe After Effects <version>/Scripts/ScriptUI Panels**

To open Joysticks 'n Sliders within After Effects, select it from the bottom section of your Window menu. If this is your first time opening the tool, you will be asked if you want to use it in trial mode, or if you want to enter your registration key for the full version. You can dock the panel to your After Effects workspace wherever it's most most convenient for you.

The trial version is limited to 14 days, limits you to four sliders per Slider Null, and disables the ability to move controllers to parent comps.
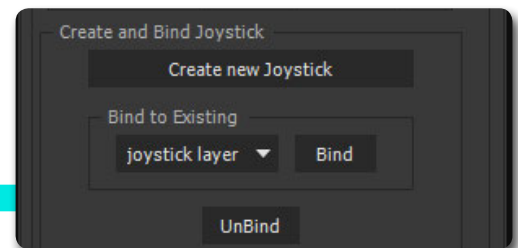
# Setup Tools:



These setup tools perform some automated key framing for the user to speed up the set-up process for Joysticks and Sliders.

Both Joysticks and Sliders require the user to set keyframes on the first frame of their timeline to represent their origin pose. The poses that you create on each successive frame will eventually be stored as a differentiation from your Origin pose.
The Paste Origin button will copy your origin pose to wherever your timeline cursor sits. This is to help you create new poses based on your Origin Pose. Holding (Alt) while clicking the button will paste your Origin Pose without overwriting any pre-existing keyframes.

The Key All button will place a keyframe on every property in your selected layers that may be rigged. This can be helpful if you aren't sure which properties you will need to animate to create your poses, and would like access to them all. This process will create many more keyframes than you will end up needing to use. For that reason, the UnKey Flat button can be used to analyze the keyframes in your selected layers and delete those on properties that do not change in value over time. This will streamline your setup so that Joysticks 'n Sliders connects only to the necessary properties.
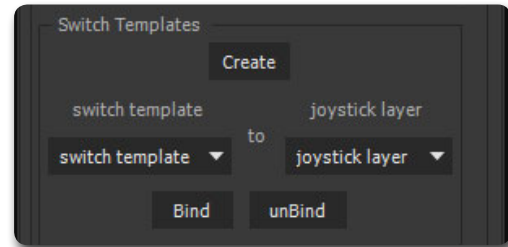
# Create and Bind Joystick:



With as many properties and layers as you want, set your center, right, left, top, and bottom extremes. It is important that any property that you wish to bind to a joystick has its origin pose at the first frame of your timeline, and each pose thereafter must live on the next frame. Every property you would like to bind must have a keyframe for every pose, whether it changes or not. Select all of your layers and Create new Joystick. A new joystick controller will appear that you can move to interpolate between your extremes. By default, the joystick controller is represented as a white solid inside a blue dotted square. If you would rather have a null as a controller, hold (Alt) while clicking the button.
You can change the range of the joystick controller by adjusting the JoystickLimit slider on your controller.
If you would like to revise your rig, you may select your joystick, and click "Unbind". This will spit your extreme keyframes back into your timeline. You can now adjust or add assets or properties as you wish. Then, by selecting your layers in the timeline, you can choose your joystick layer from the "Bind to Existing" drop down menu. Click "Bind" to rebind your properties to your joystick.

Bound properties may still be animated and offset by the user.

Joysticks 'n Sliders can bind numerical, spatial, and color properties. It cannot interpolate mask or shape path vertices, along with custom and text property types due to scripting limitations.
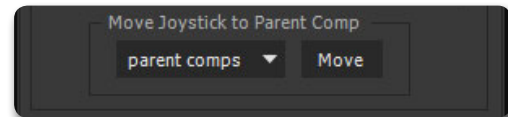
## Switch Templates:

If you wish to have a layer's visibility toggled by a joystick, like swapping mouth packs or noses at different angles, you can use a Switch Template.

Clicking "Create" makes a square composition. The composition represents the mapping of your joystick. bring in any assets that you would like to swap and position them in the composition near where you would like to toggle their visibility.

Back in your setup comp, make sure you have the same assets in your timeline with the same layer names. Select your switch template and joystick layer from the drop down menus and hit Bind. No timeline selection is necessary. Your assets' visibility will be toggled by whichever asset in your template the joystick controller is closest to. With your assets still bound, you can adjust their positions in the template, and their visibility will update dynamically.
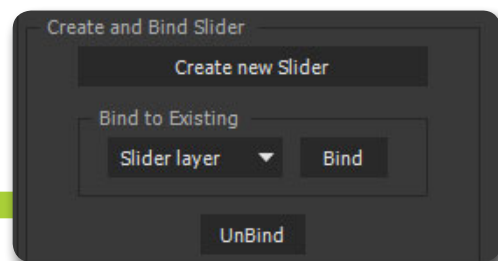
## Move Joystick to Parent Comp:

If the asset you are rigging is nested in a cleaner parent composition, you can move your joystick control to that composition.

Select your joystick in the timeline, then find the parent composition from the drop down, and click "Move".
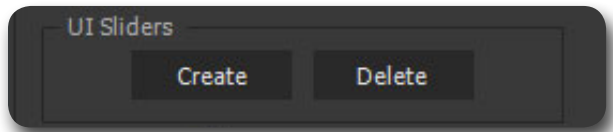
Your current joystick controller will turn red, indicating that it is being controlled from a parent layer. Do not delete this joystick, since it is still controlling your bound properties. Your joystick is now controlled by an identical joystick in your parent layer. Use this to control your rig. If you want to unbind and re-rig your assets, you must select the red joystick to bind and unbind your assets, not the one in the parent layer.
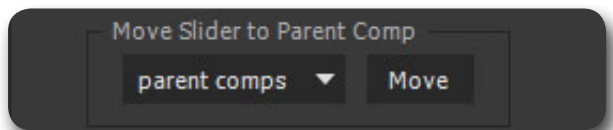
## Sliders:

If you've gotten the hang of setting up Joysticks, Sliders are a different take on the same concept. Imagine converting each joystick direction into a slider controller. With sliders, there is no limit to how many sliders you create, and you can mix them together in any way you wish. Create your Origin pose on the first frame on your timeline. Every frame thereafter, key in your additional poses. Make sure all properties have keyframes for all poses whether they change or not. Select those layers and Create New Slider. This creates a null with Expression control sliders which you can use to dial your poses in and out. Just like Joysticks, you can unbind and bind to existing. If you hold (Alt) while binding, your sliders can slide to negative values and invert your poses. This can be very powerful if your poses are planned and set carefully.

# UI Sliders:

Unlike Joysticks, Sliders live in the Effects panel of your Slider Null. If you prefer to have a UI representation of your sliders on your stage, you can Create UI Sliders. With individual Slider properties or the Slider Null itself selected, you can create a visual representation of your Sliders with any animation transferred to them. You can adjust the horizontal/vertical orientation of your sliders, their size, limit, and adjust clamping. If you decide to go back to using the sliders in the Effects Panel, you can select your slider arrows and Delete UI Sliders. This will remove the UI Sliders from your stage, but transfer their animation back to the sliders in your Effects Panel.

# Move Slider to Parent Comp:

Much like moving Joysticks to their Parent Comps, you may do the same to your Slider Null. However, if you have created and UI Sliders, they will need to be deleted before you can move your Slider Null to its parent composition. Once you do move your Slider Null to a parent composition, you can make UI sliders from that one. If you do need to unbind your Sliders to reconfigure your slider poses, select the original Slider Null, as opposed to the Slider null in the parent comp, and Unbind.

# Good general practices to keep from breaking your rigs:

Make sure every layer in a Composition and every Composition in your project has a unique name.

Joysticks and Sliders adds some information to your layer comments and composition comments. This information is needed for Joysticks and Sliders to work properly, so please don't remove them.
The dropdown lists are designed to refresh when the user accesses a list, so please confirm your selection with the dropdown list before clicking its associated button.
Version 12 of AE (CC) has a bug that doesn't refresh lists when they're accessed. If you're using that version, there will be a reload button in the upper-right of your UI. Click this to update all dropdown lists in your active tabbed panel.

# Mask Shape interpolation workarounds:

While I would love to be able to bind and interpolate bezier shape information to joysticks and sliders, Adobe does not give access to bezier vertices through expressions. Here are some clever workarounds to give you maximum control over your character's look.

- BAO Mask Avenger works well with Joysticks and Sliders. You can convert your vertices to nulls and use those to create your key poses. If you do end up moving your controller to a parent composition, your Mask keys will not automatically update as you animate. You will have to go to your Mask Avenger settings and manually update them to see any animation revisions.

- Joysticks 'n Sliders works well with most effects in the Deform category. Useful deformation tools for Joysticks 'n Sliders include Puppet Pins and Reshape. By creating a stack of Reshape Effects targeted to different mask shapes and binding the effect percentages to Joysticks 'n Sliders, you can get lots of control over your shape. There are a couple downsides to this approach. Sometimes rough edges on your shapes may appear and processing time can get rather high.

- While you can't interpolate beziers, you can interpolate time remapping. By precomposing your shape and animating its path from left, to center, to right orientation, you can animate the time remapping of that precomposition and connect it to a joystick or slider. This process is speedy, however since time only moves forward and backward, it cannot be mixed with other path deformations. For example, you can use this method to interpolate a character's headshape from left to right, but you would need to use other methods to set its up/down extremes.

I'm excited to be able to share this powerful tool with you. If you'd like to check out some more of my tools available, go to my author page at aescripts.com.
aescripts.com/authors/m-p/mike-overbeck/

Go to the Joysticks 'n Sliders product page for tutorial videos or to report bugs and give feedback.
aescripts.com/joysticks_n_sliders/

-Mike Overbeck