V1.6.6 ©2016 Mike Overbeck

Installation Guide:

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

Windows:

Program Files\Adobe\Adobe After Effects <version>\Support Files\Scripts\ScriptUI Panels

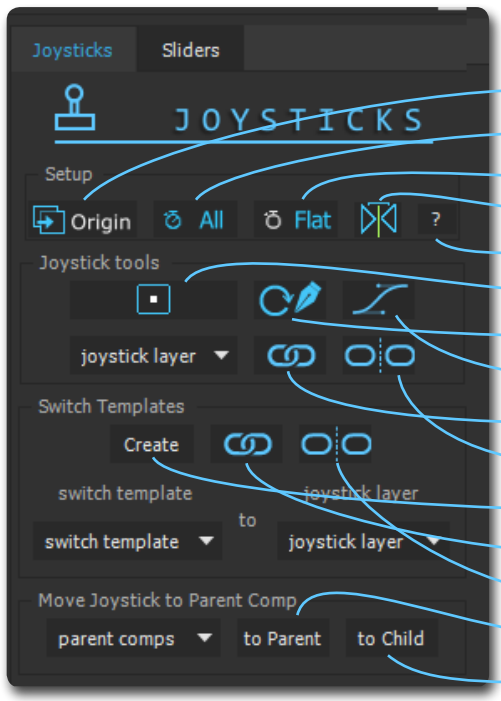
Mac:

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

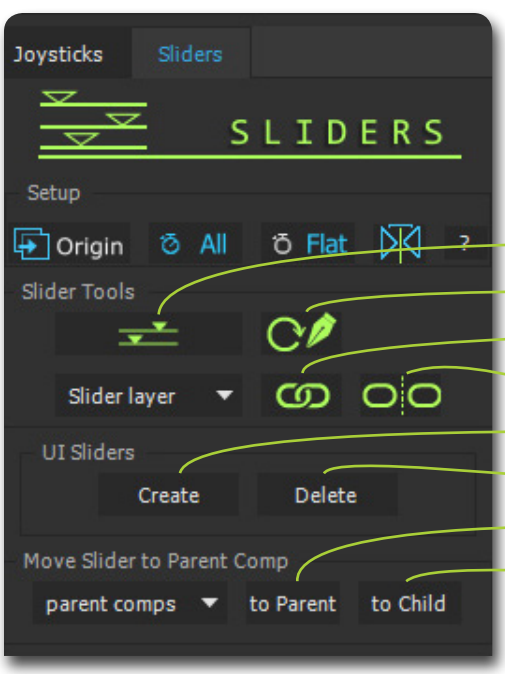
To open Joysticks 'n Sliders within After Effects, select it from the bottom section of your Window menu. If this is your first time opening the tool, you will be asked if you want to use it in trial mode, or if you want to enter your registration key for the full version. You can dock the panel to your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

The trial version is limited to 7 days, limits you to four sliders per Slider Null, and disables the ability to move controllers to parent comps.

The Joysticks n' Sliders UI

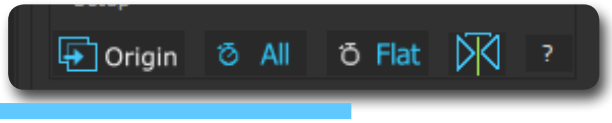


Paste Origin
Key All Properties
UnKey Flat
Path Flipper
Help/Info
New Joystick
Update PathShapes Deprecated in CC2018
Joystick EaseBias
Bind to Joystick
UnBind from Joystick
Create Switch Template Comp
Bind to Switch Template
UnBind from Switch Template
Move Joystick to Parent Comp
Move Joystick to Child Comp



New Slider Null
Update PathShapes Deprecated in CC2018
Bind to Slider Null
UnBind from Slider Null
Create UI Sliders
Delete UI Sliders
Move Slider Null to Parent Comp
Move Slider Null to Child Comp

Setup Tools:



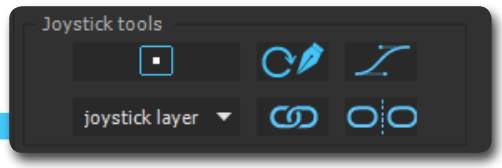
These setup tools perform some automated key framing for the user to speed up the set-up process for Joysticks and Sliders.

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.

The Path Flipper is very handy for setting up shape layers or masks, and great for head rigs when you want your right head shape to mirror your left and morph between predictably. Read more about path shape rigging on the next page. To flip a shape with good results, you path should have a symetrical topology. That is, equal number of vertices to the right of its center as to its left. Highlight a center vertex One to act as a central point for your shape to flip around, set it as the first vertex. Do this by right clicking on your path with that vertex selected, and select Mask and Shape Path/ Set First Vertex. Then click the path flipper. This will mirror your path horizonatlly. If you use the tool with (Alt) held, your shape will flip vertically.

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 each successive frame in the order of right, left, top, and bottom. 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 click the Joystick button.

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 from the dropdown list, and click the "Unbind" button. This will spit your extreme keyframes back onto your timeline, and remove any expressions from your rigged layers. If you would prefer not to unbind all rigged layers from your joystick, you can select the ones you want, and hold (Alt) while clicking "Unbind". You can now adjust or add assets or properties as you wish. Then, by selecting your layers in the timeline, confirm your joystick controller drom the dropdown list, and click "Bind" to rebind your roperties to your joystick.

Joysticks and Sliders can bind any property that can be interpolated, except custom property types. These generally are effects that have their own UI, like Mesh warp, Curves, Liquify, etc.

Joystick EaseBias:

If you have a layer rigged to a joystick, you can select it and click the EaseBias button. This creates a pseudo effect that communicates with the expressions on your rigged properties. You can slide the influence of each direction between 100% and -100%.

Use this to adjust how your elements distribute themselves as you animate between extremes. Subtle use of this feature can push the illusion of depth and parallax in your 2D head rigs.

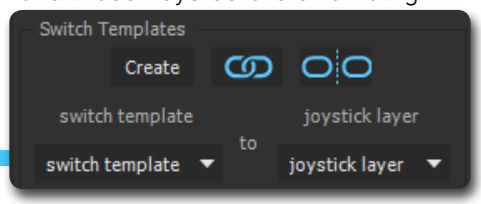
Rigging PathShapes:

If you are using CC2018, Path Shapes will update real-time like any other property! There is no need to bake keyframes. However, if it speeds your rendering times, you may still opt to bake keyframes. If your rigged paths have keyframes on them, JnS will defer to them.

Masks and bezier/rotobezier shape layers can be rigged with Joysticks 'n Sliders. However, these properties don't update in real-time as you adjust your controller. Don't worry, it's not broken. With your joystick selected from the dropdown list, click on Update PathShapes. Depending on how many paths you have bound, and how long your work area is, you may need to wait a couple seconds. Joysticks 'n Sliders bakes keyframes on every frame of your path properties within your work area that follow your controllers. Paths will even update if your controllers have been moved to a parent layer. Your pathShapes also update if they're indirectly controlled by your selected controller. For example, if you have a path shape which is controlled by a Slider Null, which is in turn controlled by a joystick, you can update that path shape by selecting the joystick and clicking "Update PathShapes". If you hold (Alt) while clicking "Update Pathshapes" you will update all rigged path shapes in your scene. Rigged PathShapes also work with the EaseBias pseudo effect. PathShapes work equally well with Sliders as with Joysticks. Keep in mind that if you're building rigs for other animators and you're binding path shapes, they will need Joysticks 'n Sliders to animate those rigs.

Tip: When unbinding PathShapes, Joysticks 'n Sliders must first remove all of the baked keyframes from your rigged properties before unbinding them. This can take a long time if you have many rigged layers and a long timeline work area. You can speed up the process by clicking the stopwatch next to those properties to quickly remove those keys before unbinding.

Switch Templates:

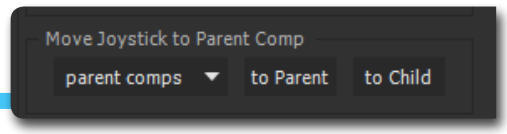


If you wish to have a layer's visibility toggled by a joystick, like swapping mouth packs or noses at different angles, you can use a Switch Template.

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:



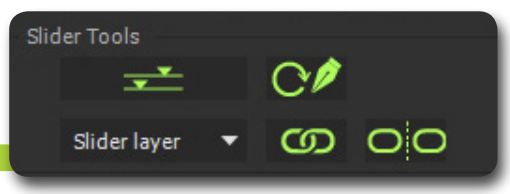
If the asset you are rigging is nested in a cleaner parent composition, you can move your joystick control to that composition.

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.

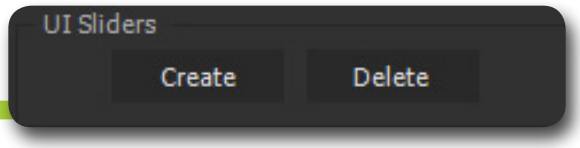
Conversely, you can remove the controller in the parent layer and return control to its original child comp, by clicking "to Child".

Sliders:



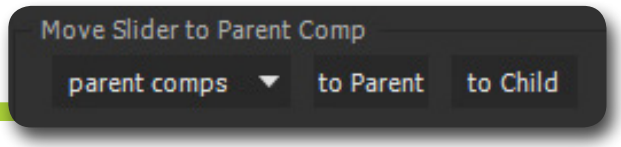
If you've gotten the hang of setting up Joysticks, Sliders are a different take on the same concept. Imagine converting each joystick direction into a slider controller. With sliders, there is no limit to how many sliders you create, and you can mix them together in any way you wish. Create your Origin pose on the first frame on your timeline. Every frame thereafter, key in your extreme 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. You can also bring your sliders to negative values to invert your poses. Just like Joysticks, you can unbind and rebind to the controller in your dropdown list. This can be very powerful if your poses are planned and set carefully. It is also very handy in creating complex baked PathShape animations, controlling vertices independently of one another.

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 and 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 any 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. You can also remove your slider null from the parent comp and resume control to the child comp by clicking "to Child".

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 'n 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.

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/joystick-n-sliders/

-Mike Overbeck