

After Effects Expressions

Expressions in After Effects is basically in-line scripting (language = JavaScript) within an effect or transform. It's incredibly powerful and useful.

Expressions Resources

- Great resource: <http://www.motionscript.com/>
- Another great resource <https://ae-expressions.docsforadobe.dev/>
- "If Else" How To <https://www.premiumbeat.com/blog/use-ifelse-statements-effects/>
- Info on time expressions in After Effects <https://ae-expressions.docsforadobe.dev/time-conversion.html>
- How to parse comp names for things like lower 3rds: <https://lova.tt/split-sourcetext-from-comp-name>

Sample Expressions

This is where I dump some useful AE expressions that I use often.

Remember that you can copy and paste expressions by selecting the expression, then going to File→Copy Expression Only and then pasting it onto a layer that has the same variables - it will automatically paste that expression on the same property!

Layer Controls

Using another Layer's visibility (eye) to turn off/on another layer (apply to opacity)

```
target = thisComp.layer("MyComp") ;
o1 = [100] ;
o2 = [0] ;
if (target.active == true) {o1} else {o2} ;
```

Using a Checkbox Control to toggle an effect on or off

```
thisComp.layer("FX CONTROLS").effect("FX ON / OFF")("Checkbox")*100
```

Using a Checkbox Control to toggle a layer on or off

```
if (comp("CompName%%").layer("GRID CONTROL").effect("CheckboxName%%")("Checkbox") > 0 )
{100} else {0};
```

Text

Source text populates from timecode in current timecode format

(numbers or 0:00:00:00)

```
timeToCurrentFormat()
```

Source text populates in frame number format

```
timeToFrames()
```

Source text populates in frame number format with leading digits

```
frames = timeToFrames(time, 60); // Replace fps with your actual frames per second value
framesString = pad(frames, 5); // 5 is the desired # of digits, adjust as needed

function pad(num, size) {
  var s = num + "";
  while (s.length < size) s = "0" + s;
  return s;
}

framesString;
```

Source text populates frame number in number format with prefix

```
timeX = timeToFrames()
"frame: "+timeX
```

Source text for a text layer is comp name

```
compName = thisComp.name
```

Source Text Parses From Comp Name

(ie, if comp name = "FARTS//Jeff Bezos", it will populate "Jeff Bezos" in the text field).

Learned this from ukrmedia ([source](#))

```
compName = thisComp.name
thisComp.name.split("//")[1]
```

Position & Scale

This will automatically scale, and keep proportional, a layer to fit a comp based on width

```
scaleX = thisComp.width*(100/thisLayer.width);  
scaleY = thisComp.height*(100/thisLayer.height);  
  
[scaleX, scaleY]
```

This will automatically position a 200x200px box (shape layer) to fit into a 200x200 (per box) grid and place it in the third box from the closest corner. The "-1" multiplier determines which corner in polar terms (X,Y). -1, -1 for top left; 1, -1 for top right; -1, 1 for bottom left; 1, 1 for bottom right.

```
positionX = -1*[Math.floor(thisComp.width/2)-(Math.floor(thisComp.width/2)%200)-300];  
positionY = -1*[Math.floor(thisComp.height/2)-(Math.floor(thisComp.height/2)%200)-300];  
[positionX, positionY]
```

Using the size of an object to set the anchor point as the top left of that object

```
mathX = content("Rectangle 1").content("Rectangle Path 1").size[0];  
mathY = content("Rectangle 1").content("Rectangle Path 1").size[1];  
x=value[0]+mathX/2-mathX;  
y=value[1]+mathY/2-mathY;  
[x,y]
```

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