NodeKit User Guide

NodeKit is a script that performs a series of actions designed to create interconnected node-based animations. Its modular approach gives the user maximum flexibility to create a wide range of infographics, flowcharts and diagrams.

NodeKit use text or any acceptable layer or imported graphics files, such as layered Illustrator or Photoshop files, as a source for its Nodes.

NodeKit consists of five main sections, organized as tabbed panels: **Text, Shapes, Layout, Lines, and Motion.** The sections can be used individually or in combination.

Text

The **Text** panel is a simple letters/words/lines generator--a quick and easy way to create text to use for your nodes. It references the built-in After Effects Character panel to set the font, size, color and kerning to create text layers. The text can be split text into lines, words, or individual letters (which can be very useful for image-based fonts).

Alternatively, you can set your own type manually or import it as layers.

Shapes

The **Shapes** panel is where you turn your text or images into nodes. This is the only step in the process that is mandatory and it enables your nodes to be recognized by NodeKit for subsequent processing. This step enables the other actions to operate on the nodes.

Selected layers (or all eligible layers if none are selected) will be pre-comped into individual comps of approximately the same height or width as the layer itself, depending on the Geometry selected.

A control layer is created on top of the layer stack. Global effects are placed on the control layer to transform the images and shapes in that specific build. Each build creates its own control layer.

All Node Shape comps are placed in a NodeKit Precomps folder in the Project panel.

You can create Multiple Builds by selecting different layers in your comp, which is a good way to build different groupings of related nodes.

If you select the square or rectangle shapes, they will also have additional roundness controls.

Additional effects are also placed on each node layer for local controls of each individual shape.

Geometry sets the basic shape of the nodes. Choose 'None' if you already have nodes that need no modification but need to be identified as NodeKit nodes.

Treatment determines how the shape looks. Options include Fill, Stroke or both.

Stroke Width controls the width of the stroke.

Consistent Size uses the size of the largest layer as reference and scales all shapes accordingly. It will not resize the image layers inside the shapes. This is the most common setting for text-based nodes. If unchecked, NodeKit will place each image in a custom sized shape based on the largest dimension of that layer. For example, if you have words of varying lengths, you will have a variety of different sized nodes.

Images are scaled to 90% of its original size to allow for breathing room within a shape. You can adjust this later with the effect controls on individual layers.

Crop Image takes the shortest dimension of an image and creates the selected geometry sized to fit that dimension. The result is an image that will fit neatly within a shape, with some cropping of the longer dimension. This is ideal for image-based nodes. Additional refining of image position can be done within the effects panels of certain layers.

Fill and Stroke assign colors in a round robin sequence. Up to five colors are possible for each, which will appear in the order of the color boxes.

Nodes are parented to the control layer created during that build. The control layer will have its video switch off, so any transformation would require either turning it back on, or adjusting its controls manually. Keep in mind that there may be multiple builds within a single comp, so make sure to select the appropriate control layer to adjust.

If you make a copy of your NodeKit build, the shapes will always be adjusted by the effects in the original comp but not in the duplicate.

The global effects on the control layer provide image and geometry controls that influence all the nodes associated with that build. Keep in mind that there may be multiple builds in one comp, and that only the nodes created during the same build are controlled by those effects.

The individual effects on each node control the transformation and look of that specific node. You will also find individual Fill and Stroke controls for that node.

Layout

After you've generated your shapes, the **Layout** panel can be used to design the overall look of your diagram. Technically, you don't have to use this section at all, especially if you're importing art that's already laid out. You may also want to move the shapes around manually. This can be done at any point in the build. You also may be able to use a third-party layout script that does something different than NodeKit, as long as it doesn't interfere with NodeKit and it's not 3D.

Layout has three main options, **Random, Radial, and Linear,** each located in its own tab. You can also disable the distribution (by unchecking the **Distribute** checkbox) and just use the Scale feature.

For purposes of this discussion, the anchor node is the shape around which all other nodes will be distributed. If no nodes are selected, Layout will treat the first node in the stack as the anchor. If you

manually select layers, the first selected node will be the anchor. When you click Do It – the anchor will remain in place and the other nodes will be distributed in relation to it.

Keep in mind that in some cases, you might use an anchor in the Lines section, that is different than the one you use in Layout. This is part of the flexible nature of NodeKit.

The units of distance used the Layout section are relative to the size of the comp. So Large, for example, will represent a greater distance in a larger comp.

If for some reason you want your nodes to be distributed in a larger or smaller space than you can achieve with NodeKit's predefined choices, one way to work around that is to temporarily increase or decrease the size of your comp.

Random

Generally, **Random** gives you a random arrangement of nodes. If you're not happy with the random result, it's easy to get a different one by just undoing (Ctrl/Cmd + Z) and clicking Do It! again.

NodeKit will attempt to avoid overlapping nodes, but if there are too many of them, or they fill up too much of the available space, you will get overlap, which you can easily fix by moving them around manually. Other options include scaling down your nodes, increasing the distribution settings or temporarily increasing the size of your comp then scaling down the build using the master control.

Direction: This control assigns a random position in relation to the anchor. If Left is selected, for example, all the other nodes will be distributed to the left of the anchor.

Distribute X, Distribute Y: These controls set the percentage of the comp's width or height that will be used for the random node distribution:
Small: 30%
Medium: 60%
Large: 90%

Radial

Radial will arrange your nodes in a circular shape, with the anchor node at the center.

Algorithm: This control lets you select between circular and semicircular layouts.

Circle: All nodes will be evenly spaced over 360 degrees.

Semicircle: All shapes will be evenly spaced based on the **Slice Angle**, which is the angle formed by the anchor and the first and last shape distributed along the perimeter of the arc. This control is only active when Semicircle is the selected Algorithm.

Direction: This control dictates where the second node will be placed on the perimeter of the circle. If, for example, you choose Top, it will place the second shape at 12:00, Right will place it at 3:00, and so on.

Diameter: This control sets the percentage of the comp's width or height that will be used for the diameter of the layout circle:
Very Small: 10%

Small: 25%
Medium: 50%
Large: 75%
Very Large: 90%
Huge: 150%
Massive: 250%

Linear

Linear will place all the nodes in a line and move them in the direction you've selected in relation to the Anchor node.

Spacing: This control sets to the distance between shapes (and is based on a percentage of the comp's width or height):
Very Tight: 20%
Tight: 40%
Medium: 60%
Loose: 90%
Very Loose: 150%

Distance: This control sets the distance between the Anchor Node and the line (and is based on a percentage of the comp's width or height):
Very Short: 20%
Short: 40%
Medium: 60%
Long: 90%
Very Long: 150%

Order and Scale

The **Order** and **Scale** controls are common to all Layout options.

Note that Order only applies to the nodes other than the anchor.

The Scale dropdown has three options:

1) **Constant** scales all shapes the same amount based on the Max setting.
2) **Random** scales all shapes randomly between the Min and Max settings.
3) **First Layer Max** scales the anchor node the Max amount and the other nodes the Min amount.

Lines

NodeKit's lines are shape layers that connect one node to another. The shape layer consists of a single open path, which is defined by an expression. This allows the lines to remained attached to their nodes, even when you move or animate the nodes, but it is also the reason that NodeKit doesn't work with any version of After Effects earlier than CC 2018.
By default, if no nodes are selected when you click Do It!, Lines will connect all nodes in the layer stack. But if specific layers are selected, then only those will be connected.

Once a Line build is complete, a Line Control layer and a series of line shape layers will be created and hidden.

The Line naming structure is based on the Node Layers they connect. For example, Line 23-42 means it connects Node 23 with Node 42.

The **Connections** dropdown controls the relationships between the nodes. The following options are available:
Sequential
Radial
Random
Manual

The **Mode** control defines the look or style of the Line. A wide selection is offered, from hard 90-degree angles to soft curves. See the Product Page for reference.

The **Animation** control lets you choose how the Lines will transition on.

Important: At this point, the Lines animation will be defined, but they will not actually animate on until after the Animate Section has been run.

Line Effect Controls:

The **Line Control** layer has Dash, Roundness and Twist controls that affect all Lines associated with that specific build.

Each Line layer has multiple Effect Controls associated with it, including:
1) **Start Node** and **End Node** dropdowns control which Node the line begins and ends with. To switch either, select a different layer in the dropdown.
2) **Style:** This dictates the general design of the lines. In combination with the **Curve Tension** you can tweak the look of any line.
3) **Invert Curve** will reverse the angle of the line curve
4) **Trim Start/End**: Allows you to crop your line at the beginning and/or the end
5) **Animation:** These controls allow you to change your line animation choice.

Animate

NodeKit's **Animate** section is where you define how your Nodes will animate on. Also, this section creates the timing markers that allow the Line animation (defined in the Lines section of the script) to activate.

Node Motion: This control lets you select the style of animation for the nodes.

Speed: This control lets you set the duration of the Node animation. NodeKit will create split markers on each Node layer, which you can use to adjust the timing after the build. Click and drag the left half of the marker to slide the entire timing of the animation, or click and drag the right half of the marker to adjust the duration of the animation. Note that the timing of the Line animations is also determined by the relative timing of the markers for the two Nodes connected by the Line.

Offset: This control determines how much the successive Node animations overlap each other.