



circuitFX v1.75 - user guide

## description

**circuitFX** is a script for Adobe After Effects, specifically designed to create graphical circuit boards. The circuit pattern is generated randomly with every press of the create button. Apart from the circuit lines and circles, circuitFX also creates, chips, resistors and capacitors. It has the ability to put all of the needed parts in one shape layer or create separate shape layers for each part of the board.

## installation

**circuitFX** can be run as a dockable panel or as a window.

To install and run as a dockable panel (will be visible in the "Window" menu):

1. Copy the file **circuitFX.jsxbin** into the folder:

"..Support Files/Scripts/Script UI Panels" (on Windows)

or "..Scripts/Script UI Panels" (on MacOS) of your After Effects installation.

2. Restart After Effects

To install and run as a window (will be visible in the File -> Scripts Menu):

1. Copy the file **circuitFX.jsxbin** into the folder:

"..Support Files/Scripts/" (on Windows)

or "..Scripts/" (on OS X) of your After Effects installation.

2. Restart After Effects

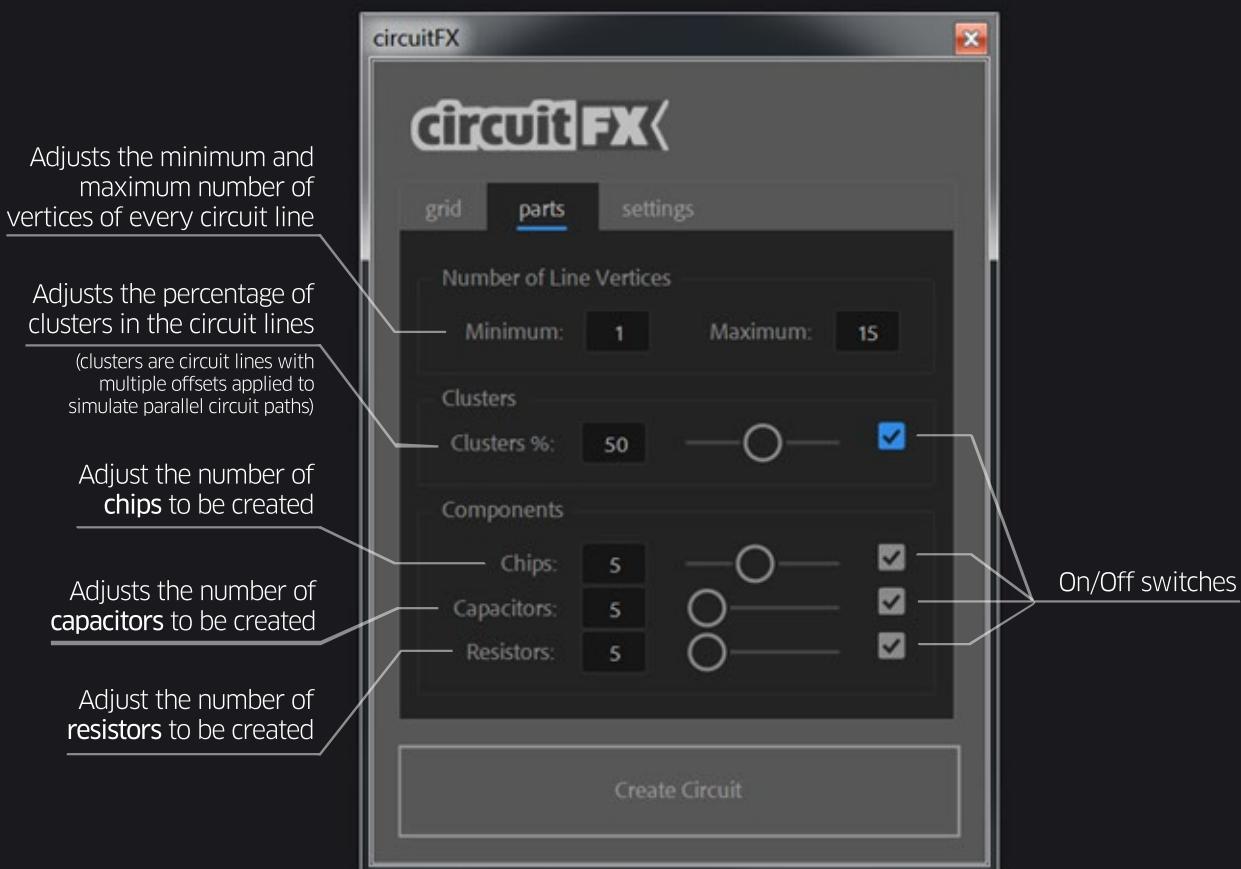
# interface 1/3

The script can be run as a dockable panel (will be visible and run from the "Window" menu of After Effects) or in "window mode" (visible and run from the File -> Scripts menu). The mode depends on which folder you install the script in (see instructions on page 2)

Clicking on the logo brings up a window with small help tips.

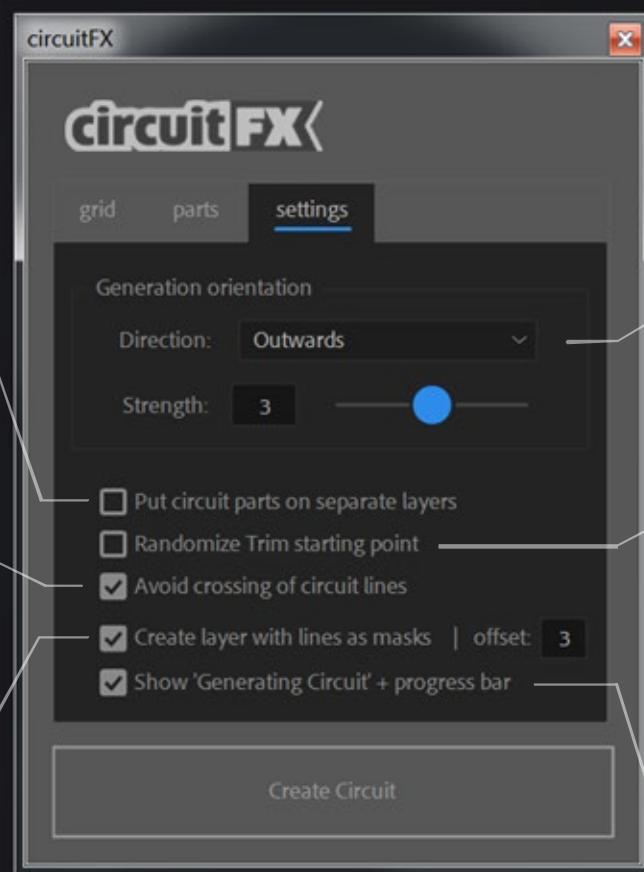


## interface 2/3



The number of Chips, Capacitors and Resistors is automatically adjusted during the generation process. For example, if you set the "Populate" and "GridX" and "GridY" to very low values and set the number of Chips to 50, there will not be enough available vertices (positions on the grid) to create all 50 Chips. In this case the number of Chips will be automatically reduced (when you hit the "Create Circuit" button) to the maximum number of calculated available vertices.

# interface 3/3



Example of a circuitFX solid layer, used as a source in Element 3D.

# effect controls

Once the bar has been created, you will find a number of the following effect controls in the effect panel of the shape layer of circuitFX.

The screenshot shows the 'Effect Controls' panel for a composition named 'Comp 1 - circuitFX1'. The panel lists numerous parameters for different shape types, each with a slider or color picker and a 'Reset' button. The parameters are grouped by shape type, with some having sub-categories. Lines from the left side of the image point to specific parameters in the panel.

Parameter	Description	Type	Value	Reset
fx [ CHIPS ]: size	adjust the size of the chips	Slider	75,00	Reset
fx [ CHIPS ]: size randomness	adjusts the size randomness of the chips	Slider	0,00	Reset
fx [ CHIPS ]: color	set the color of the chips	Color	[Color Swatch]	Reset
fx [ CAPACITORS ]: size	adjust the size of the capacitors	Slider	70,00	Reset
fx [ CAPACITORS ]: size randomness	adjusts the size randomness of the capacitors	Slider	0,00	Reset
fx [ CAPACITORS ]: inner color	set the inner color of the capacitors	Color	[Color Swatch]	Reset
fx [ CAPACITORS ]: outer color	set the outer color of the capacitors	Color	[Color Swatch]	Reset
fx [ RESISTORS ]: size	adjust the size of the resistors	Slider	150,00	Reset
fx [ RESISTORS ]: size randomness	adjusts the size randomness of the resistors	Slider	0,00	Reset
fx [ RESISTORS ]: color	set the color of the resistors	Color	[Color Swatch]	Reset
fx [ LINES ]: trim Start	adjusts the trim starting point of the lines	Slider	0,00	Reset
fx [ LINES ]: trim End	adjusts the trim ending point of the lines	Slider	100,00	Reset
fx [ LINES ]: trim Offset	adjusts the trim offset of the lines	Angle	0 x+0,0°	Reset
fx [ LINES ]: trim individually	if checked, the lines are trimmed one by one	Checkbox	<input checked="" type="checkbox"/>	Reset
fx [ LINES ]: width	adjusts the width of the lines	Slider	2,00	Reset
fx [ LINES ]: round corners	adjusts the corner roundness of the lines	Slider	3,00	Reset
fx [ LINES ]: color	sets the color of the lines	Color	[Color Swatch]	Reset
fx [ LINES ]: opacity	adjusts the opacity of the lines	Slider	100,00	Reset
fx [ LINES ]: cluster offset	adjusts the distance between the cluster lines	Slider	3,00	Reset
fx [ LINES ]: cluster offset randomness	adjusts the distance randomness between the cluster lines	Slider	0,00	Reset
fx [ CIRCLES ]: size	adjusts the size of the circles	Slider	15,00	Reset
fx [ CIRCLES ]: fill color	adjusts the fill color of the circles	Color	[Color Swatch]	Reset
fx [ CIRCLES ]: fill opacity	adjusts the fill opacity of the circles	Slider	10,00	Reset
fx [ CIRCLES ]: stroke color	adjusts the stroke color of the circles	Color	[Color Swatch]	Reset
fx [ CIRCLES ]: stroke width	adjusts the stroke width of the circles	Slider	5,00	Reset
fx [ CIRCLES ]: opacity	adjusts the overall opacity of the circles	Slider	100,00	Reset
fx [ BACKPLATE ]: color	adjusts the circuit backplate color	Color	[Color Swatch]	Reset
fx [ BACKPLATE ]: opacity	adjusts the circuit backplate opacity	Slider	100,00	Reset

## compatibility

The script is compatible and has been successfully tested on:

- After Effects CS6
- After Effects CC
- After Effects CC 2014
- After Effects CC 2015
- After Effects CC 2015.3
- After Effects CC 2017
- After Effects CC 2018
- After Effects CC 2019
- After Effects CC 2020

on both Windows and Mac OS platforms.

## trial limitations

You can test circuitFX free for 7 days. In trial mode these limitations apply:

- Grid X and Y values go only up to 15.

# version history

1.75 November 18, 2019

- **Added:** support for After Effects CC2020
- **Added:** support for MacOS Catalina

1.74 August 18, 2019

- **Fixed:** a bug where capacitors weren't generated in the "Center-out" mode and when "Put circuit parts on separate layers" was enabled
- **Optimized:** when the number of chips, capacitors or resistors is automatically reduced by circuitFX (due to small grid sizes or very large numbers of chips/capacitors/resistors) the user is informed with a detailed message on why and what was changed
- **Optimized:** more efficient generation of chips/capacitors/resistors in all modes
- **Optimized:** better labeling, coloring, naming, numbering and handling of generated layers

1.70 July 10, 2019

- **Added:** ten (10) more circuit direction options
- **Added:** option to generate only the lines coming from the center-out rectangle
- **Optimized:** the center-out generation algorithm has been improved and is now significantly faster (+30%)
- **Added:** option to create a layer with the circuit lines as masks to be used with 3rd-party plug-ins (such as Element3D)
- **Optimized:** redesigned progress bar that is more accurate, more informative, and works both in window and in dockable panel mode
- **Fixed:** fixed a bug where the circuitFX window would freeze, if very small grid sizes were set

1.60 April 30, 2019

- **Added:** support for bezier masks. circuitFX can (finally!) use masks with bezier vertices
- **Optimized:** more compact UI
- **Optimized:** more validation checks on UI text fields and sliders
- **Optimized:** significantly faster generation of chips, resistors and capacitors
- **Optimized:** better compatibility with non-english versions of After Effects
- **Optimized:** slightly faster circuit generation algorithm

1.52 March 20, 2019

- **Fixed:** some licensing issues
- **Optimized:** faster circuit generating algorithm

1.50 April 15, 2018

- **Optimized:** significantly faster generation of circuits (by invoking a temporary composition) in CC2017 and newer versions
- **Fixed:** a couple of issues in the UI
- **Added:** "Cluster" option

1.40 October 5, 2017

- **Added:** size of the grid dots of the guide layer, remain the same, no matter the size of the grid or the size of the comp.  
Also, an effect control slider has been added to further adjust the size if needed
- **Added:** generation orientation direction and strength options
- **Fixed:** pasting masks on the guide layer now positions them correctly, rather than putting them on the top left corner (0,0)
- **Optimized:** the 'Avoid crossing of circuit lines' option is now checked by default on tool startup
- **Optimized:** circles size, circles stroke width, lines width as well as chips, capacitors and resistors initial size is now relative to the size of the grid
- **Optimized:** optimization of the circuit generation algorithm with noticeable speed improvements on all modes

1.31 May 16, 2017

- **Fixed:** "Using Masks" mode now properly works even after you close and re-open a project
- **Optimized:** faster creation of the grid guide layer

1.3 May 1, 2017

- **Fixed:** code optimizations - overall faster circuit generation
- **Fixed:** rounding of line corners and trimming, now works properly
- **Added:** new circuit generation mode "Using Masks"
- **Added:** ability to set min and max number of line vertices
- **Added:** After Effects Info Panel now shows detailed info of the circuit generation process in real-time

1.02 March 2, 2017

- **Added:** option to prevent circuit lines from crossing
- **Optimized:** you can now adjust the outer as well as the inner color of the capacitors

1.0 February 15, 2017

- initial release

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This script is provided "as is," without warranty of any kind, expressed or implied. In no event shall the author be held liable for any damages arising in any way from the use of circuitFX.