



## 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.

Set the X and Y density of the grid

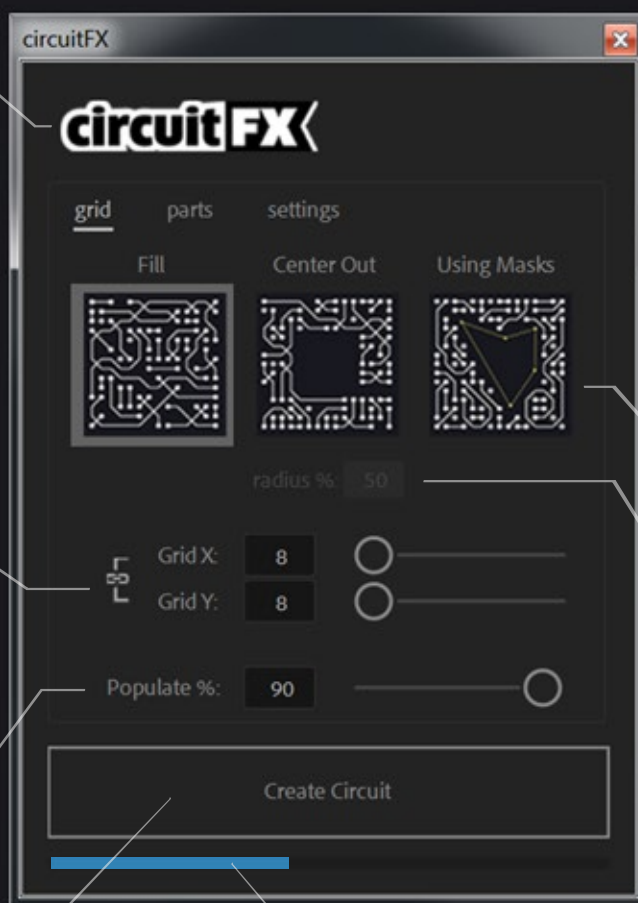
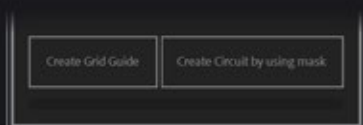
(the minimum value is 4 in Fill mode and 8 in Center-Out mode)

Adjusts the percentage of the grid that is going to be used to populate circuit parts

(minimum value is 10%)

Creates the circuit board!

(when the "Using Masks" mode is selected this button is replaced with two new buttons. The "Create Grid Guide Layer" and the "Create Circuit by Using Masks" buttons.



There are **three** modes of circuit generation:

\_ **Fill**: The whole composition is filled

\_ **Center Out**: The formation starts from the center, going outwards, leaving a center rectangle empty.

\_ **Using Masks**: Masks from the Grid Guide layer are used to mask in/out parts of the circuit

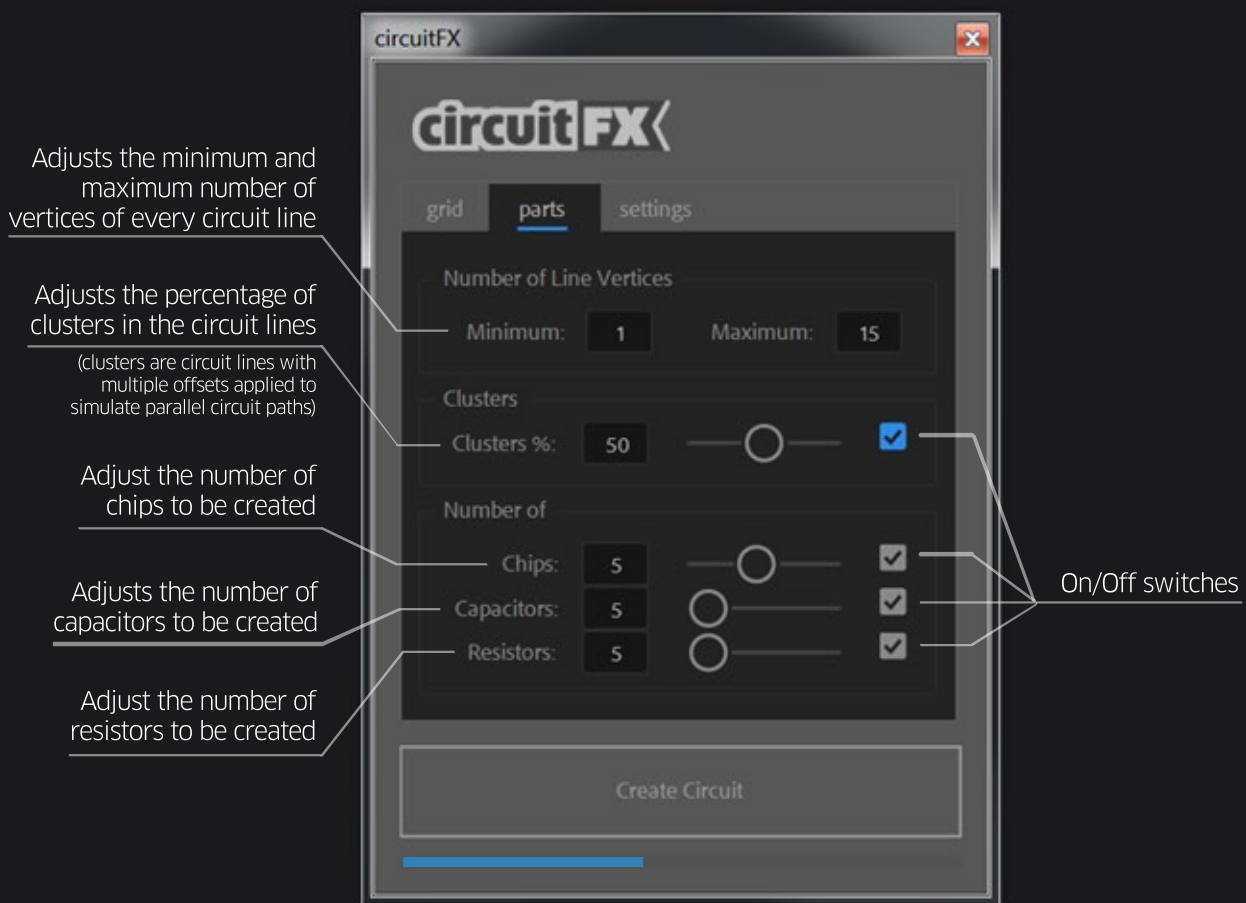
Adjusts how big the center empty rectangle would be.

(the percentage is calculated automatically and depends on the GridX and GridY values. This parameter is only available when the "Center-Out" mode is selected)

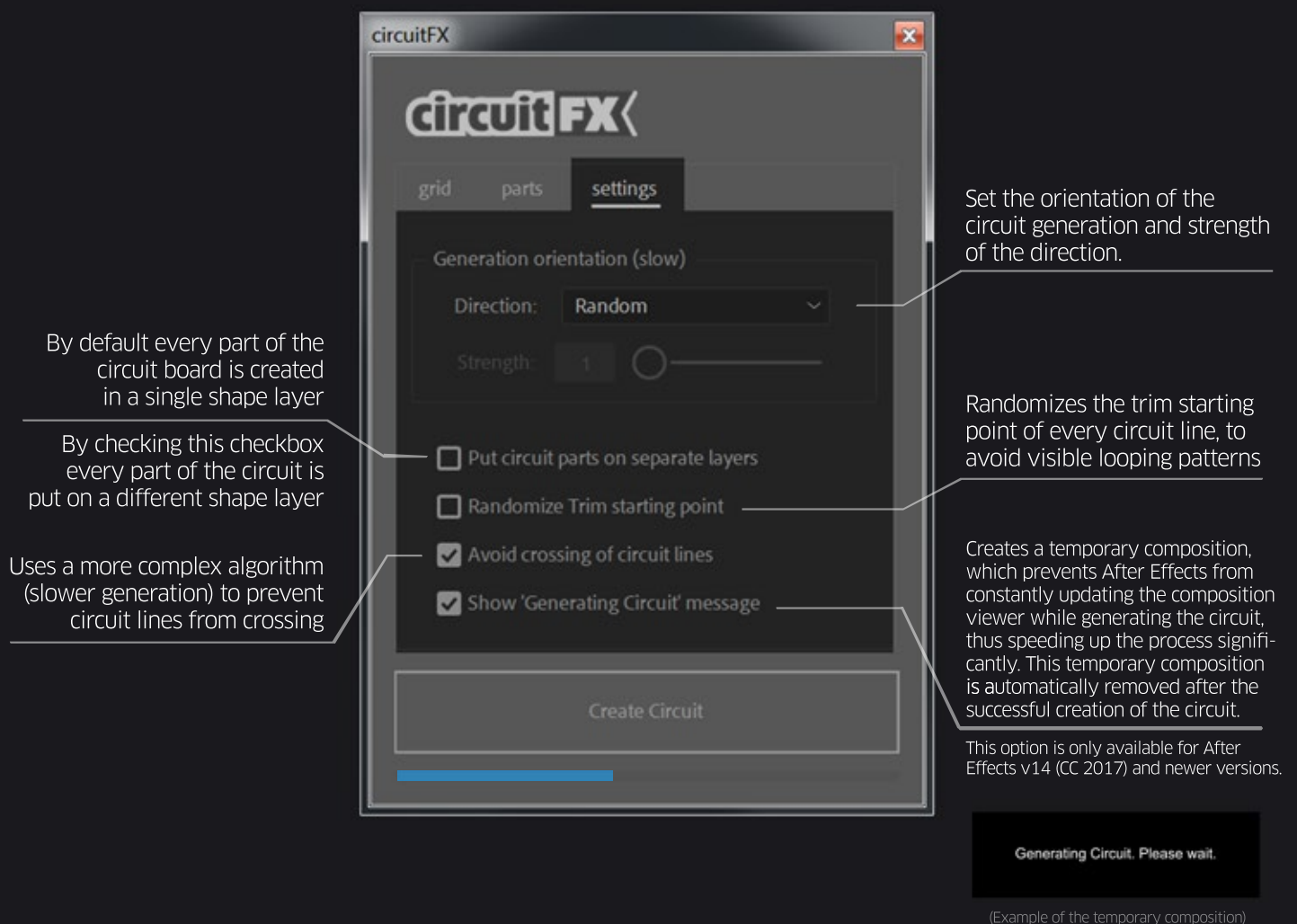
Progress bar

(only visible when the script is run in "Window" mode)

## 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.



# 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.

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

## 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

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

## 1.60 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, is now always 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.