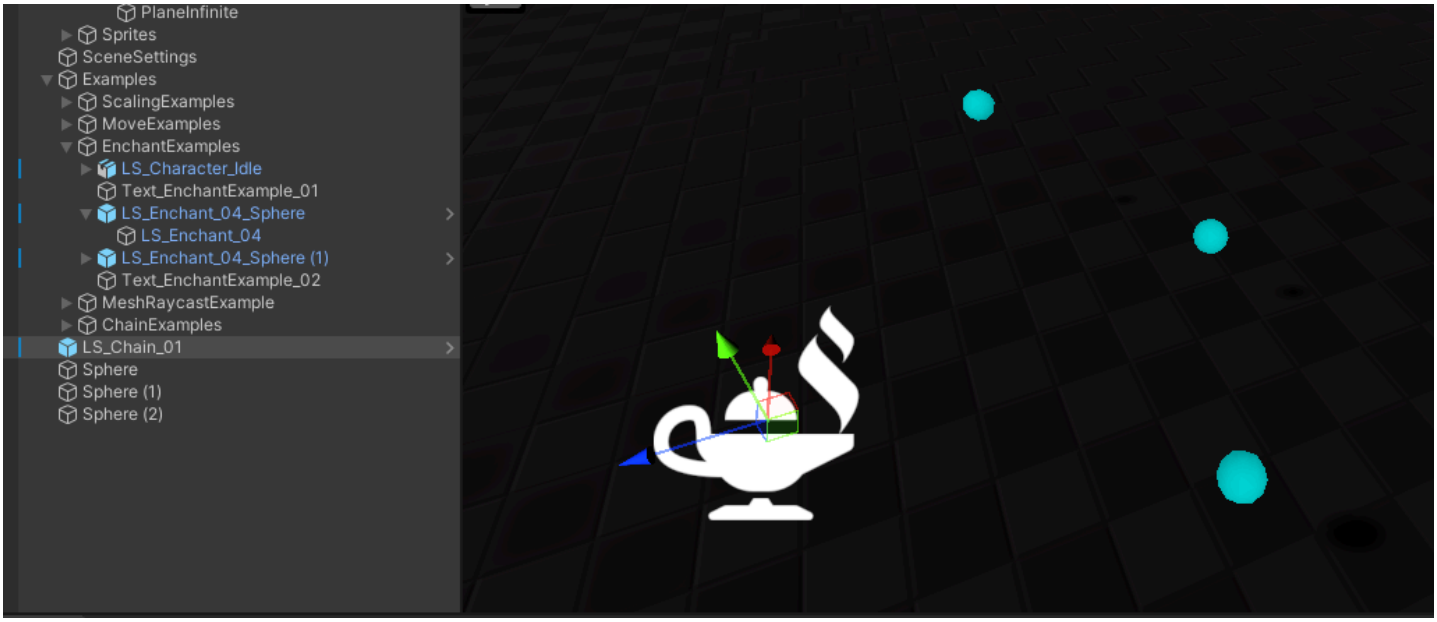
LightningSystemsDoc

Quick Start

- Drag And Drop VFX Prefab from the “CompleteEffectsPrefabs” folder into your scene.
- Locate the “Chain Points” array variable in the C# script and assign a minimum of 2 transforms.
- Assign an “Auto Scale Anchor” transform, this transform will be used for scaling the effects.
- It is recommended to make the VFX connecter to chain points, you can make each of these points a child of VFX, or vice versa.
- You can check where the points are by enabling the “Preview Chain Points In Editor” parameter.
- With Auto Scale Enabled you can adjust the “Auto Scale Mulriply” or “Master Scale” to scale the VFX Elements.
- After all the above, you can now freely move and scale your mesh.

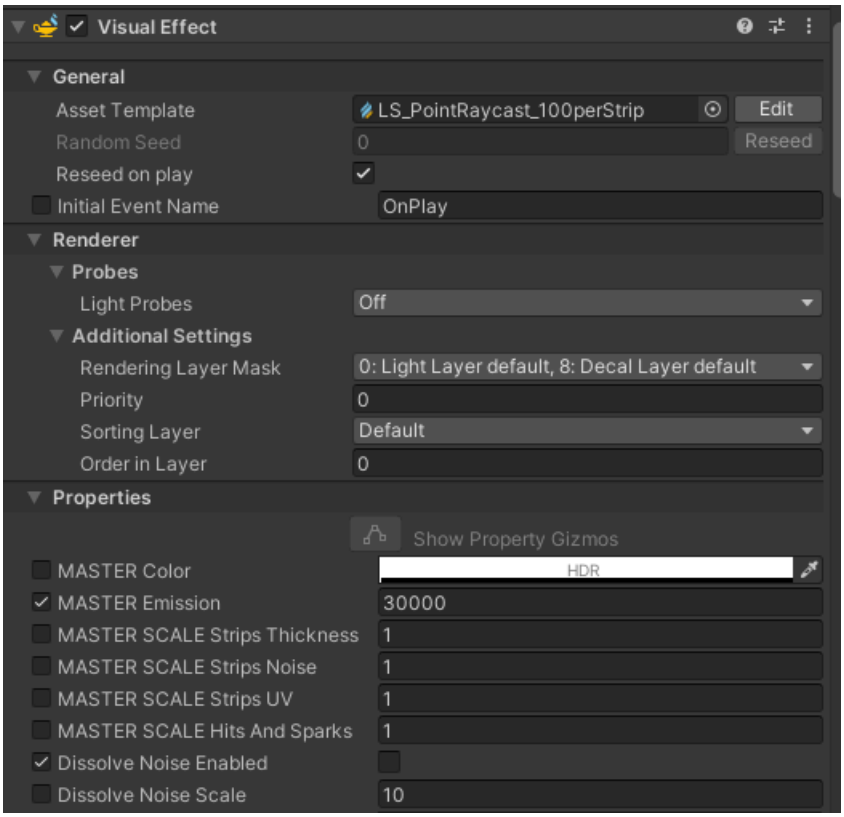


Most of the additional adjustments come from the Visual Effects Graph parameters and C# script. Many parameters can be changed, you can control the color, speed, overall shape of the strips, noise scale, etc.

Common Adjustments

- **(Scale)** If AutoScale is enabled, the way you can scale the VFX elements is to just scale the Anchor. The other way is to adjust the “Master Scale” parameter.
- **(Color)** Color can be changed in the Visual Effects Graph parameters. It is separated between each effect element. There is also a master color, so you can set all the element color parameters to white and change the master color to find the right hue.
- **(Speed)** The Speed at which the effect is triggered can be controlled in the C# script, check the “Speed” parameter.

List Of VFX Graph Parameters



- **Sparks Local Enabled** - Makes the sparks to be spawned in each point Local Space.
- **MASTER** - These parameters serve as a final layer of adjustments, they just multiply existing parameters by themselves.
- **Dissolve Noise** - Use Dissolve instead of a regular alpha decay for lightning strips.
- **Lightning** - This set of parameters controls the color, gradient transitions, and emission power of VFX elements.
- **Ramp** - Uses the gradient Ramp texture for coloring.

Strips:

- **Strips Texture** - Main texture for lightning strips.
- **Strips EoL** - Emission Over Lifetime.
- **Strips SAoL** - Size and Alpha Over Lifetime.
- **Strips UV Stretch and Center UV** - Stretching the UV, and the other parameter is used to center the lightning strips at the Start and the End points.
- **Strips To Center** - Using the “Center UV” helps texture to adjust the UV of the lightning strip, making it more visually pleasing.
- **Strips Noise** - Controls the Offset Noise that makes lightning look like lightning.
- **Strips Noise PoL** - Noise Power (Offset Intensity) over Lifetime.
- **Strips NPoL** - Noise Position over Lifetime.
- **Strips V Mask** - Procedural Mask, used when the Strips Texture is empty to smoothen the edges.

Hit:

- **Hit Texture** - Main texture used for hit effects.
- **Hit SoL** - Size over Lifetime.
- **Hit EoL** - Emission over Lifetime.

- **Hit Move To Camera Fix** - Moves the hit quad sprite in the direction of a Camera. Useful to adjust the world geometry intersection of screen space quads.

Hi3 is a spherical explosion, I apologize for the inconsistent naming:

- **Hit3 SoL** - Size over Lifetime.
- **Hit3 OoL** - Opacity over Lifetime.
- **Hit3 EoL** - Emission over Lifetime.

Main Strip:

- **Main Strip Lifetime and Hit Lifetime** - Lifetime in seconds of the Main Strip and Main Strip Hit effects.
- **Main Strip Profile** - Thickness profile of a lightning strip.
- **Main Strip Noise Mask Profile** - Profile that controls the amount of Offset Noise applied to a lightning strip.
- **Main Strip EoL** - Emission over Lifetime.
- **Main Strip AoL** - Alpha over Lifetime.
- **Main Strip B** - Parameters that control the overall shape and emission of the second and third Main Strips. The amount of Main Strips can be changed in a C# script, check the “Min and Max Numbers Of Main Strips” parameters.

Branched Strip:

- **Branched Lifetime and Hit Lifetime** - Lifetime in seconds of the Branched Strip and Branched Strip Hit effects.
- **Branched Profile** - Thickness profile of a lightning strip.
- **Branched EoL** - Emission over Lifetime.
- **Branched AoL** - Alpha over Lifetime.
- **Branched Start Min and Max** - Adjust the initial point from which the Branched Strip can be branched.
- **Branched Noise Blend** - Blends between Main and Branched Offset Noises, don’t change too much.

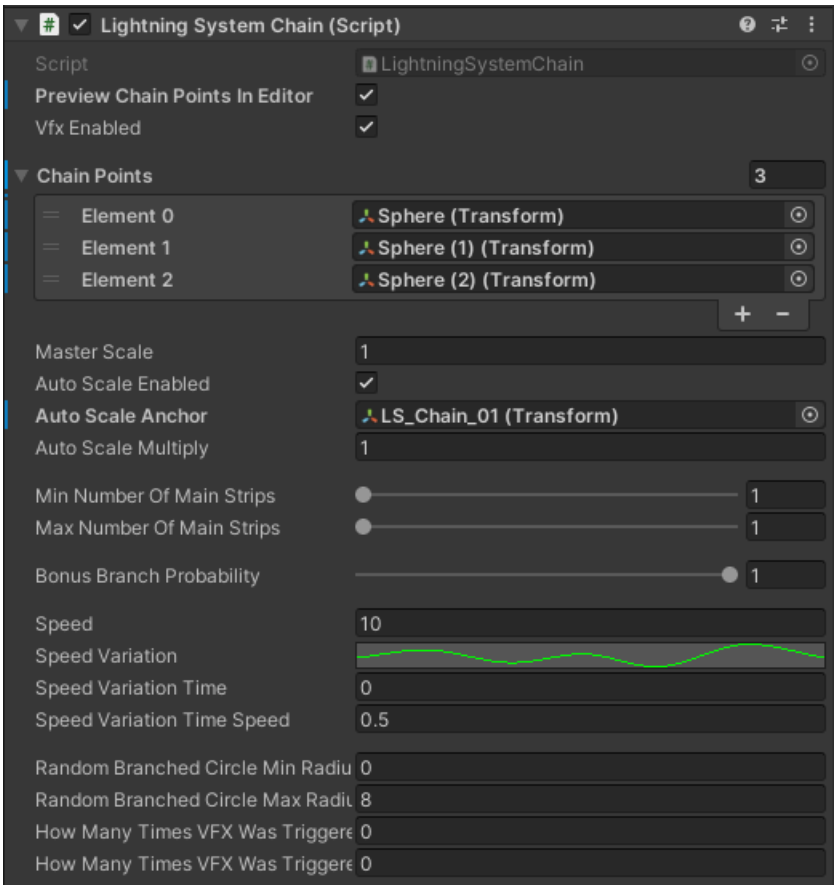
Branched Arc:

- **Branched Arc Offset** - Set of parameters, controlling the vertex offset of lightning arc effect
- **Branched Arc Probability** - Probability for spawning lightning arc for each tick.
- **Branched Arc Noise And Transparency Masks** - Masks used to control noise intensity and transparency along the strip length.

Other Parameters:

- **Sparks2** - Various parameters to control the size and physical properties of Spark effects. Most parameter names are self-explanatory.
- **Transition** - Add a small touch to a lightning strip, making it appear more solid at the start and end points.
- **Disable Parameters** - These are used to disable some parts of VFX, that are not needed.
- **HIDDEN Parameters** - VFX Graph Won’t allow hidden parameters to be changed from outside, so these are currently visible, don’t change them.

List Of C# Script Parameters



- **Preview Chain Points In Editor** - Use this to preview the Cell Gizmos in the Editor to adjust the Cell Sizes.
- **VFX Enabled** - This System may be smoothly turned on or off, instead of setting speed to 0, you can just change this bool.
- **Chain Points** - Array of transforms, used to generate chain point positions.
- **Master Scale** - Act like the previous parameter, it scales the VFX elements, I just separated these two for visual clarity.
- **Auto Scale Enabled** - Enabled the AutoScale mode, it is recommended to turn this on at all times.
- **Auto Scale Anchor** - Anchor used to drive the AutoScale of the VFX.
- **Auto Scale Multiply** - Multiply the Auto Scale but this value.
- **Min Number Of Main Strips** - Set the min and max count of spawned Lightning Strips.
- **Man Number Of Main Strips** - Set the min and max count of spawned Lightning Strips.
- **Bonus Branch Probability** - Probability to spawn an additional lightning strip.
- **Speed** - Speed in which the VFX and Raycast are triggered.
- **Speed Variation** - Speed variation curve, to make the VFX appear more natural.
- **Speed Variation Time** - Displayed Variation Time, useful for very dynamic Variation Time curves.
- **Speed Variation Time Speed** - Speed in which Time Variation is changing.
- **Random Branched Circle Min Radius** - Branched strips are triggered using Sphere Raycast, these parameters control min and max radius.
- **Random Branched Circle Max Radius** - Branched strips are triggered using Sphere Raycast, these parameters control min and max radius.

Support email: sinevfx@gmail.com