



## Introduction

This tutorial shows how easy it is possible to play with the **Build** effect to model a good looking lightning strike. As the **Build** effect enables the building of an object but not its disintegration, we will also see in this tutorial how to use the **Alpha** parameter in the **Ipo** section to make it disappear at the end of the desired lifetime. The material properties should be adjusted on the case by case basis by the practicer of this tutorial, and it will be function of the size and the distance of his/her lightning from the camera. Give a few minutes to different tries to achieve the desired effect.



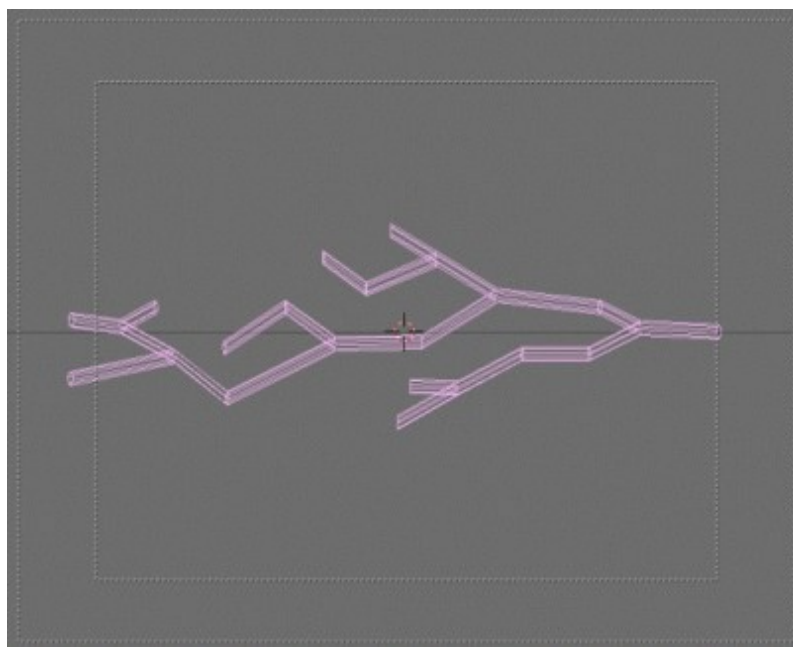
**Important note :** this tutorial requires you to have some basic skills with creation and edition of Ipo keys. Methods pertaining to these fields will only be rudimentarily discussed.


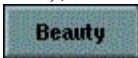


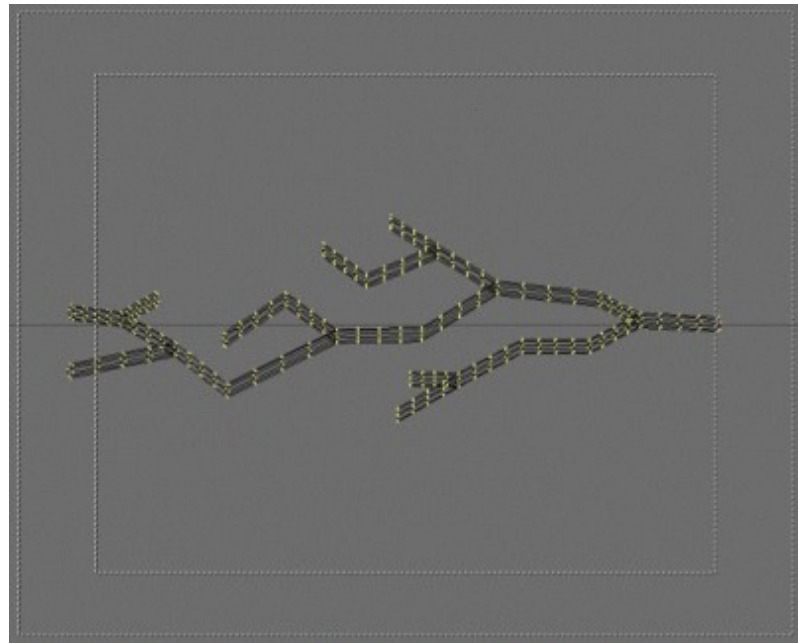
Introduction — 1 2 3 4 →

**Step 1:**

Start with a brand new Blender session (**CTRL+X**) and delete the default plane (**TOUCHE-X**). Toggle to side view (**NUM-3**) just before creating a six vertices circle (**ESPACE>ADD>MESH>Circle, Vertices: 6**) and resizing it to **SizeX: 0.100, SizeY: 0.100** and **SizeZ: 0.100** (**S-KEY** while holding **CTRL**). Toggle to front view (**NUM-1**) and extrude freely your basis circle (**E-KEY** and validate). Repeat many times this action in order to model a first brand of your lightning. Then deselect the last vertices created (**A-KEY**) and select other ones from the same circle anywhere on the branch (**B-KEY** once or two times, according to your preferences). Then model another branch and repeat as many times desired. Leave the edit mode (**TAB-KEY**) in order to save your work in the buffer memory. You should finally get something like this.







Enter again in the edit mode (**TAB-KEY**) and select all the vertices (**A-KEY**), which should be appearing un yellow then. Invoke the Edit buttons (**F9-KEY** or ) and activate the  button. You are now able to subdivide your mesh in the length direction only (**W-KEY**, validate **subdivide**) two or three times (or many more if the lightning is to be viewed from short range) according to your needs. If the result disappoint you, press the **U-KEY** to reload the original data saved in the buffer memory (all your changes since the last time you exited edit mode are discarded). You then can leave the edit mode (**TAB-KEY**) and enter the next step.








Introduction — **1** **2** **3** **4** →


**Step 2:**

Call the Material buttons (**F4**–KEY or ) . With your lightning selected, add a new material (**ADD NEW**) by clicking on the  button. Turn your mesh into a luminous system by activating the  **Halo** button. Different parameter buttons appear. Activate the new  **HaloTex** button. The **R**, **G** and **B** colours to be set are a matter of personal taste and depends heavily on the effects your are looking for. For a fairly realist lightning, I choose **R 0.800**, **G 0.900** and **B 1.000**. Set **Hard 20**. HaloSize depends on your mesh density (the number of times you applied a **subdivide** while the **Beauty** button was activated) and will need that you render many pictures before finding the light quality you are after. Try with values between **0.10** and **0.50** for a good start.



Now you can call the Texture buttons (**F6**–KEY or ) and add a new texture (**ADD NEW**) by clicking on the  button. A row of texture types should appear. Please pick  **Marble** to access the parameters of a marble procedural texture. Try the following values : **NoiseSize : 0.250**, **NoiseDepth : 2** and **Turbulence : 12.00**. Perfect ! Activate the **Hard Noise** and **Sharper** buttons like in the following picture. In fact, you can do almost anything you want at this stage, the result will surely be a intersting one, so feel free to experiment various parameters.




Let's get back to the Material buttons (**F4-KEY** or ) to tune our settings. The newly created texture appears with those hideous pink stripes which is Blender's default secondary color. Our first move will be to modify this colour with the R, G and B sliders in the area devoted to the texture parameters, on the right. Choose **R: 1.000**, **G: 1.000** and **B: 1.000** in order to get a perfect white that will sharpen the light blue of the lightning. **Activate** the **Alpha** and **Mul** buttons from the texture parameters buttons. On the second line of texture direction display, click on **X** instead of **Y**. The look of your texture should change drastically. Our lightning is now ready for animation !






### Step 3:

You can now invoke the Animation buttons (**F7-KEY** or ). Click on the **NEW Effect** button. By default, you are in the Build parameters window. Don't change anything. Set **Len: 5.00** and **Sfra: 50.00**. This means that your lightning will build over 5 **Frames (Len)** and that the building process will start only at **Frame 50 (SFra)**. Don't try to get more complex, this is all you can do ! It barely worths a full step, I know, but it is a tutorial dedicated to the **Build** effect, so I really had to... :o)



You can check the wiremode animation by pressing **ALT+A** (**ESC** to stop the animation) and see the building process of the lightning (beware, if you stayed close to my own parameters, you will certainly get bored during the 50 **Frames** frames...). You can also render the animation itself. If you only want to previsualize your effet, go into the Display buttons (**F10-KEY** or ), set **Sta: 50** and **End: 55** before clicking

on








Now, let's go to real fun part of this tutorial : making sure the lightning will disappear after **Frame 55** !



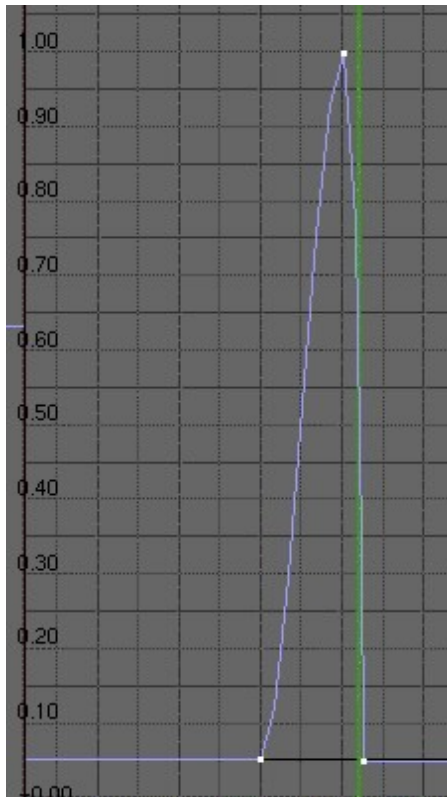
Introduction — 1 2 3 4 →

### Step 4:

With your lightning mesh selected, go into the **lpo** control window (click many times on  until you get , or **SHIFT+F6**). Activate the control keys for the material properties (). In the vertical menu on the right end of the screen, choose the parameter we are going to modify along Time : **Alpha**. Activate the edit mode for the lpo control curves ( or **K-KEY**). The graph presents the frames as abscissa and the value of the parameter (**Alpha** in our case) on the other vertical axis (sorry, I haven't found the english name). While pressing **CTRL** and left-clicking, create a first point with the following coordinates (Frame: 50, Val: 1.00), another with the coordinates (Frame: 55, Val: 1.00) and a last one with the coordinates (Frame: 56, Val: 1.00). You can use the same key strokes in the graph window than in the 3D window in order to move the view (**SHIFT** and middle mouse button) or to zoom in or out (**CTRL** and middle mouse button). If you want to locate with precision your three keys, you can use the **S-KEY** and validate Horizontal, for example. By leaving the edit mode for control lpo curves ( or **K-KEY** again) and by editing the curve (**TAB**), you can select any key you have just created, and adjust exactly its parameters with the **N-KEY**.



**Note :** For those of you curious enough to ask themselves what is the purpose of the first key, apparently useless, just think that it enables you to make the lightning appearing even more smoothly, if you give it the following parameters : Frame: 50 and Val: 0.00. See the following curve for a glimpse on the result.





Here we are with our lightning strike ! You still have to render the animation and see that the lightning disappear just after having been built by the **Build** function, which was our purpose ! You now have the skill to simulate many marvellous lightning effect...