

# IG Neon Lights User Guide

## Overview

The IG Neon Lights characters have been designed to interlock together into one single length of neon tubing when placed next to each other. You don't have to use them this way. You can put them up in any order or position you want with no regard to the interlocking continuous tube design, if that is the look you want. If a more realistic look is desired there are several bases included that will help complete the illusion of real neon signs. These bases can give you the look of a wall mounted sign or a stand-alone upright sign or tubes attached to a frame so that they can be hung in a window.

## Character Width

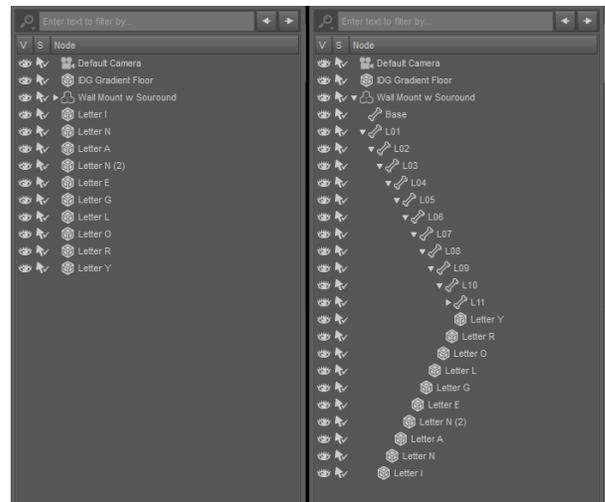
In designing this character set I tried to standardize the width of each character so that it would be easier to line up the letters but having all the letters the same width wasn't visually appealing so there are a couple of letters that are wider (or narrower) than the standard. The table at the end of this document shows the width of each character (in Daz Studio units)

## Neon Sign Bases

The bases have been designed to help you complete the look of a real neon sign. Each one has been designed to hold up to 20 characters in any order you choose. All the bases are designed to line up with the default loading position for all the characters. The bases have been made to be as flexible as possible, so you can put any characters together in any order and still be just as simple to use. The bases work like an extending ladder, completely collapsed down when loaded into your scene, but able to extend to the length of the characters you used. Each base has a series of bones labeled L01 to L20 that you parent your characters to so that you can easily extend them into place instead of moving each character prop into place and so the whole group can be moved around your scene as a single unit.

## Using the Bases

To use one of the bases, load one into your scene and then load up the letters you want to use, leaving all of them in their default positions. At first look this creates kind of a jumbled mess, but we are going to fix that up right away. First, we need to parent each of the letters to the correct bone of the base. Once that is done we can extend the sign to the correct length. To extend the sign we adjust each bone's 'X Translate' based on the width of the preceding letter. I know that sounds a little complicated but really it is pretty easy to do once you have done it. To help you get a feel for it here are a couple examples you can walk through doing.



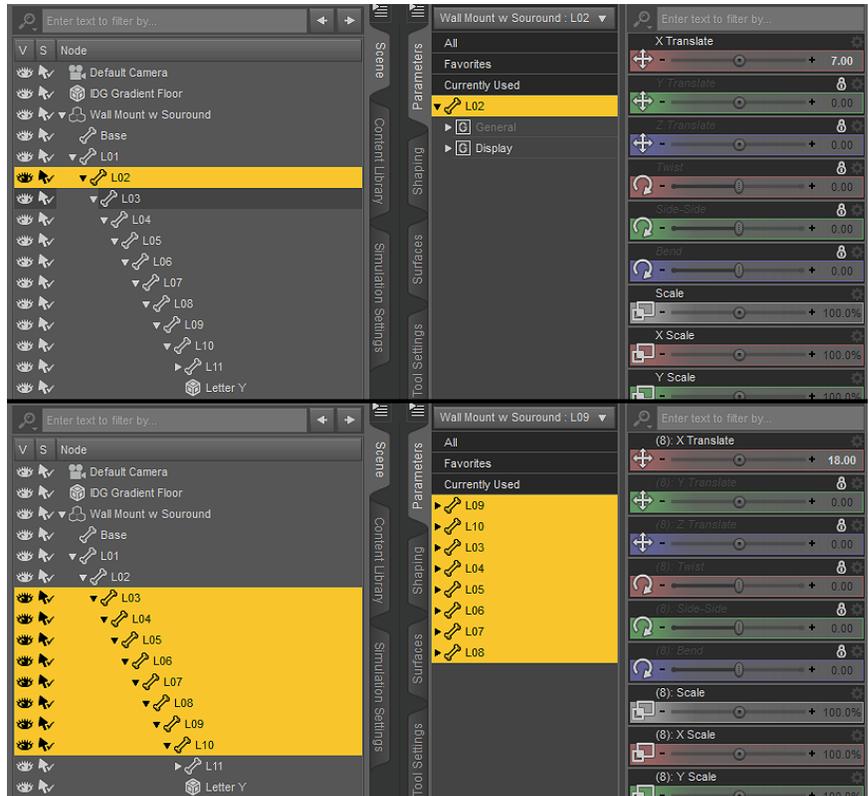
### Example #1

We are going to start with the simple and very common sign: an OPEN sign. This sign is short sweet and easy to do. So, we need to load up a base (any will do, the picture shows the window base with surround) and the characters O, P, E and N. Parent the O to bone L01, the P to L02, O to L03 and N to L04. Now all we need to do is adjust the position of the bones. Bone L01 is the first letter and never needs adjusting. Since all the characters in OPEN are the standard width and according to the table below the standard width is 18 so we can set the X Translate for L02, L03 and L04 to 18. And that it, we have created our 1<sup>st</sup> sign.



### Example #2

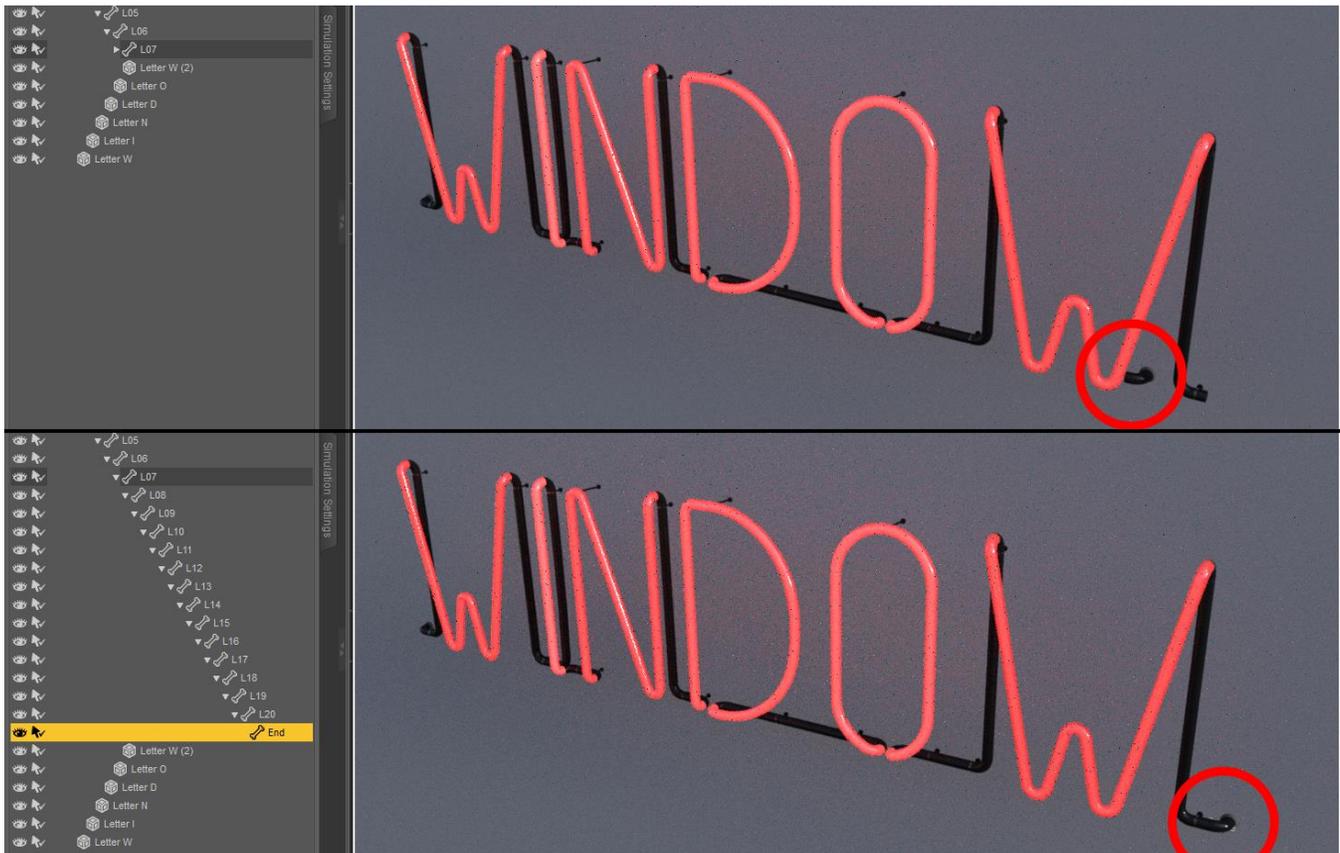
#2 is my vendor name. It is longer but also pretty simple and includes a non-standard width letter. So, we need to load up a base (any will do, the picture shows the wall mount with surround) and the characters I, N, A, N, E, G, L, O, R and Y. Parent the I to bone L01, the N to L02, A to L03, the 2nd N to L04, E to L05, G to L06, L to L07, O to L08, R to L09 and Y to L10. As always, bone L01, being the 1<sup>st</sup> letter doesn't need to be adjusted. We need to adjust L02 for the first letter (I). According to the table below the width of the character I is 7 so we set the X Translate for L02 to 7. Since the width of each of the remaining letters is the standard 18 all we need to do is set the X Translate for L03 through L10 to 18. Pretty much the key to the whole thing is that you are adjusting for the width of the preceding letter, not for the width of the current letter.



### Example #3

Hopefully at this point you are starting to feel more comfortable with how this works so example #3 is going to be a mix of various letter widths plus it deals with what you do when your last character is not a standard width character. Our word this time is WINDOW. So, we need to load up a base plus the characters W, I, N, D, O and W, parenting them in order to L01-L06. Looking at the table below you can see that we have a variety of widths,

The I is 7, the N and O are 18, D is 20 and W is 26. As always L01 doesn't need any adjusting as it is the 1<sup>st</sup> letter. L02 needs to be set for the width of the 1<sup>st</sup> letter (W) so set the X Translate for L02 to 26. The second letter is an I so L03 gets set to 7. The next three letters are N, D and O so we want to set L04 to 18, L05 to 20 and L06 to 18.



The last W needs to be handled in a slightly different way. As you can see in the above picture the end cap for the sign is in the wrong place. That is because it is wider than a standard letter, so we need to account for that to get the end cap to line up in the right place. You need to totally expand the base figure and select the very last bone, named 'End'. With it selected, check the table below and apply the number in the End Adj. column to the X Translate (an 8 in this case, if it was an I or an ! you would put in a -7 while standard letters are the default zero).

## Neon Letter Materials

These characters have been designed to look like real world neon letters. Accomplishing that look required more than just making an object emissive. What you see is a refractive glass tube wrapped around an emissive core, with volumetric effects added in to complete the look. This set includes a wide variety of color presets that will, in one click, change the color of each character. There are also more advanced presets that one change one setting at a time allowing you to create your own unique color blends when needed. These presets change (in order of importance) the Transmitted, Emissive and Refractive colors.

### Applying Materials

To apply any of these materials you need to have the character prop selected in your scene. If you use one of the bases with a neon surround or the stand-up base you can also use these presets on them, but they will not apply to the character props that are parented to that base at the same time.

## Letter Sizes (Scaling)

By default, the letters are about 29CM tall or a little less than 12 inches. Because they are emissive objects, and Iray emissives and volumes are dependent on the size of an object (especially the default size of an object) it is not recommended to enlarge the letters past 100% or less than 50% because the interaction of the various layers of materials in the characters begins to break down when scaled outside that range. In the real-world, standard neon sign lettering usually ranges from 12 inches tall on the large size to 6 inches on the small because of the real-world diameter of the glass tubes involved.

## Bright vs. Saturated Materials

There are two basic material presets that control the overall look of the neon characters. The default is a saturated look that, to me, represents what a neon light looks like when viewed by your own eyes. The Bright materials are more like what a neon sign looks like in a photograph. These presets are dependent on the size/scale of the letters being used. Material presets for both types have been included for 50%, 75% and 100%. These presets only effect the materials, not the actual size of the Letters.

## Surround Size and Brightness

Because of how Iray handles emissive materials, the more characters you have in a sign with a surround, the larger that surround becomes, the less bright that surround ends up being. You can compensate for this by adjusting the Luminance Value for the Light Surface of that figure. The default (1000 Lumen) is good for matching the intensity of the characters if the sign is one or two letters long. The size of all the letters plus the color of the surround will affect how bright the surround will be but you can roughly add an extra 500 Lumen per additional letter (10 letters= 5000 Lumen, 20 letters=10000 Lumen).

## Design Notes

This set was designed to be as versatile as possible while keeping the number of characters (no duplicate versions of the same letter) and presets (no set of convoluted presets to line up the characters) down. The original thought was that you just line the characters up be keeping track of the sum of the width of all the letters but that required you to do math. The expanding system was simpler (you only needed to know the width of one character at a time) and worked better, even though it takes a bit more to explain it. When originally designed, there was a lot more variety in letter width but for simplicity I cut that down to the bare minimum. Further additions are pending, adding the clearly missing additional basic characters like - , / & and maybe some more not standard characters plus more exotic surrounds and flourishes to customize your generic looking signs.

Letter	Width	End Adj.
I, l, !	7	-11
Space	14	-4
B, D, M	20	2
W	26	8
All Others	18	0