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Digitizing Neon

Communicating the alluring look of neon in a new electric sign design is not an easy proposition.

The lucid linear light that neon exudes continues to maintain an allure undiminished much since its inception as an advertising medium. Communicating that look, however, in a new electric sign design, is not a very easy proposition. Color books that show the available color of neon tubes, as illustrations, have been surpassed by illuminated photos, back lit slides, and real working plug-in samples. This is all in an effort to convey the unique illuminated look of neon to the customer. Promoting the use of computer illustrations may appear as a contradiction. Here are some ideas to help facilitate the process.

Illustration software has grown to such a point that creating simple shapes is a small segment of the process. Combinations of vector shapes and bitmapped finesse allows the designer to image a neon sign design. With subtle shadows and highlights, the shape of the neon tube is drawn. The circular exterior can be a filled polygon with rounded ends (Illustration 1). This extended hot dog shape alone fails the test of scrutiny. The human eye detects shadows as a readable guide of a round or cylindrical object. It is dark to one side, away from the light, and lighter to the other. Blending can aid the deception of creating illustrated neon tube. This type of blend or shading typically takes on a darkening appearance. If the neon tube is filled with a red color, then the curve is defined as a blend or shading that fades towards dark red (Illustration 2).

Illustration #1
Rounded rectangular shapes that mimic the exterior of the neon tube.

With the computer, the line becomes a device to work with, to mold, to stretch, and to color. The neon tube could be portrayed as a simple combination of lines with rounded ends and sufficient stroke (Illustration 3). The lack of a true polygon may not be immediately apparent to some. In the tweaking stages, often an essential part to any design in progress, the simplicity of objects created from lines, as opposed to those created from polygons, rings true. In the long run most shapes can be transformed from thick lines to polygons as needed. This is true in most design applications as the variations between printing what is on the computer screen and utilizing the file in other dimensional ways need such a transition.

If the digital artist is aware of the simplicity, the creation of a glowing tubular shape can be accomplished with a few additional strategically placed lines. Additional lines are merely duplicates superimposed over the fundamental line. Each successive copy is placed in front of the last, given a brighter shade of the original color, and its stroke width is set to be smaller than the line just below it (Illustration 4).

The intensity of a real neon tube may not reach a white hot stage, yet a color almost set to white helps create the hot original glow associated with a neon tube. A pinch of experimentation is likely to be required when faking

Illustration #3
Tubular look created only with lines vs. a more complex polygon.

Illustration #4
Tubular look created only with superimposed lines of progressively brighter color and thinner width.

Illustration #5
Break the tubular look as a real neon tube installation would (A vs. B).

Illustration #2
Polygon with shading lines mimic the tubular exterior of the neon tube.

the glow of a real tube and attempting to please the eye of the beholder (hint: make sure to print proof prints along the way, if print is the final desired output. This will confirm the choice and intensity of colors). It is amazing how bright and vibrant colors tend to look when portrayed on a computer monitor. Especially, one that has the brightness turned up a bit.

Note that the view of a real, illuminated neon tube has an intense center line of color and a orbital fade from that point. This orbital face runs along the length of the tube. Remember, that, If the neon tube is clear glass, the appearance is subtly different than a coated tube of the same diameter. This is a fine line to bridge, and it should not create an insurmountable variation in designs. All of these ingredients can combine to create a complex visual situation. Keep in mind the overall presentation will more than likely have the neon as a portion of the look.

Keep it Simple

So far, the intent of this methodology is to be efficient and to capitalize on the techniques of a traditional pen-and-paper sketch. Create a design that shows the end user the overall feel rather than show how good one can be at drawing the smallest of details. Some attention to detail can give a life-like feeling. Look at the difference in a tube that is continuous and one that has a distinct break (Illustration 5). Note that the glass housings are simple circles of light gray. On the

Neon Wizard

It almost appears impossible that the production of neon can be radically automated. The hands-on crafted nature of the neon product has resisted the advance of technology so well that the classic photo of neon being created in the forties looks very similar today. The ability to easily create an accurate neon tube pattern, however, now that is a very different matter.

There exists an unparalleled CAS application that directly targets the expanding neon sign segment of the market. Neon Wizard, from Aries Graphics Software, hits the nail on the head for the design and production of full sized neon tube patterns. At this point in time, the application is not directly intended for the visual designer, although that is a proposed feature for the upcoming release. Accuracy is the hallmark of Neon Wizard. Exporting from Neon Wizard to a drawing application translates into a design proposal that is visually accurate and easy to estimate. Preferences what they may be, design for production has become a key to both profitability and customer satisfaction.

Out for almost five years, Neon Wizard makes a great neon tube pattern the smart way. This Windows based software is great for the sign fabricator who wants to retain control, relies on several neon producers, and has variations in the sources of neon even if the benders are in house. In looking for diverse ways to use a computer in neon design, there appears not to be another package like Neon Wizard.

The trick to the process is no trick at all. Aries Graphics has given the Neon Wizard user a set of tools that specifically work with the parameters of neon. Housings, blockout, tube diameters all ready with a mouse click. It is tailored to think like a tube bender. While the shape being created is a line, the matching tube has dimension, and uniform dimension. Case in point: if a design is drawn, then enlarged in the editing process, every aspect is enlarged. A customer logo can be entered and a set of tubes for a small sign is laid out. Just like other CAS / CAD programs, the small pattern can become a larger one. Every one in the neon sign business knows that a bigger neon sign still might have the same diameter neon tube. Neon Wizard takes this into account. Something that would not be available in tradition drawing applications, if you send out for your neon, need accuracy in multiple sets of patterns, need accuracy in the same patterns six months from now, and if you need to provide accurate patterns for repair at remote locations.

Neon Wizard, companion application to the Sign Wizard, has another unique distinction—a great web site. It is awkward, at best, to convey moving visual information in the printed form, but the web allows for a variety of information formats. Even if you are not in the need of neon patterns from Neon Wizard, check out the animated tutorials at neonwizard.com. This is an excellent way to convey the ability of the software.

Recap

Are you trying to draw a neon sign design in a traditional drawing program? It's easy to do, but you may be better off to locate a plug-in for an equally satisfactory look and extended ease of operation. If you have CAD / CAS in house, you have double duty design and production. If you have lots of neon tube patterns, look at the Neon Wizard. If you need to go for the third dimension where the look is neon realism.

Sources and Resources	Web sites
Tutorial Info	
	Eye Wire imageclub.com
Photoshop tips	
	photoshoptips.i-us.com/photoshop10.html
	pixelfoundry.com
Commercial:	
	Extensis extensis.com
	Metacreations metacreations.com
	Alien Skin alienskin.com

other hand the computer has given speed to the creation of small details, and proficiency at an application may be the plus to attaining realism in a proposal drawing. If it can be done efficiently and in a detailed manner, more power to the process. This is also dependent on the particular application being used.

Drawing or illustration programs have evolved greatly in the past decade. Some of these computer design programs include or facilitate the addition of unique plug-ins. The term plug-in has become synonymous with added capabilities. This original package is like that basic Craftsman tool box that is on sale at Sears in the Sunday circular. It comes with a complete set of nice tools but there is a lot of empty space available for those specialty items they just hope you are going to buy. In many cases it may be another manufacturer's tool that works best! This plug-in capability gives rise to the creativity of other computer programmers.

Plug-ins often emanate from the need for a small bit of creativity in a specific segment of the market. Smaller players come up with the possibilities that then make the big software vendors product more viable. Keeping an open architecture (i.e., allowing a particular computer application to be expanded by third party vendors) is a plus in software technology.

Some plug-ins are the result of raw experimentation of a few dedicated people. One such person is Kai Krause. While the name Kai has become synonymous with plug-ins for power users, the simplicity of some diversions hold a great deal of potential. Case in point: the same line(s) that needed a dozen additional steps above to gain a neonized result, will look magical in one click of a Kai Krause vector-based neon plug-in (Illustration 6).

Basically, the -in is taking the work out of creating and editing the same number of components. Since there are variables, even with a plug-in, experimentation is again needed. Depending on the application, the look achieved with some plug-ins can be intended for print, the web, or some non electric sign design.

Neon has become a look, a craze, a fad, a color, as well as being a real entity. It may be likely that a design with a neon look will merely have a glow or halation around the text (Illustration 7). This is more like a set of halo glow let-

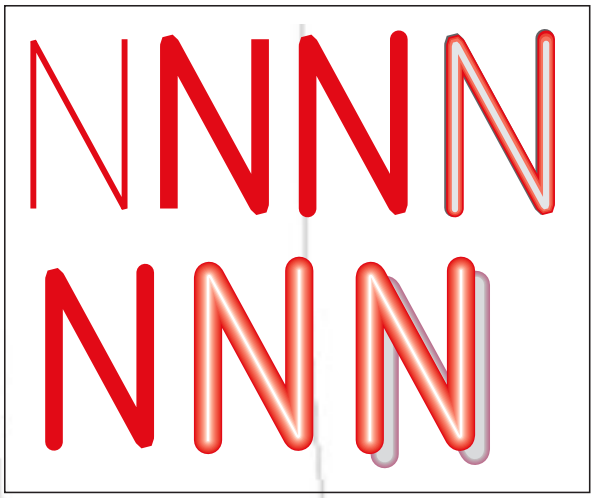

Illustration #6
Kai Neon plug-in drawn in Illustrator.

Illustration #7
Letters with a halation around them.

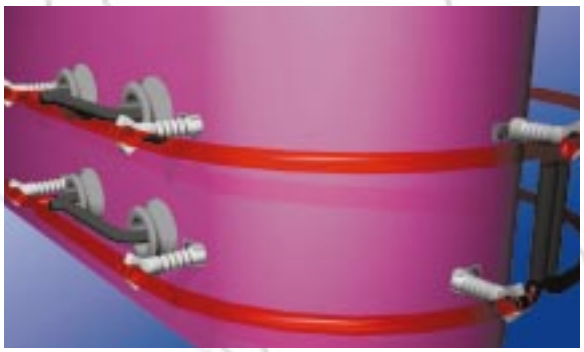

Illustration #8

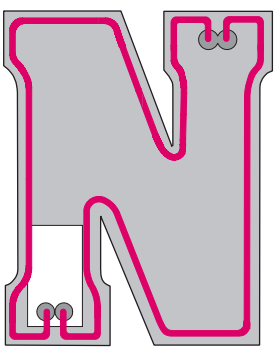

Illustration #9
Simple tube pattern plotted from a CAD/CAS program.

ters, than the actual glow or tubular appearance of a neon tube. If there is a desire to be experimental, take a look at what is available on the web. In addition to several commercial packages, like Alien Skin/Eye Candy, Extensis/ Vectortools, or Metacreations/Kai's Power Tools collections of plug-ins, there is a spectrum of tutorials on how to visually achieve a neon effect in a number of major and minor computer design programs. Further uniqueness must be the Digarts Software Neon hose for MetaCreations Painter. Painter is a very distinct application that has taken on a life of its own, again, due to the open architecture and third party vendors that make plug-ins.

Remember, there are different types of plug-ins. Many are pixel-based and some are vector-based. Support for Photoshop 3.0 plug-ins is a common way of noting the ability of a software application to utilize third party plug-ins. Note the term third party. Software vendors might write their own plug-ins that conform to a proprietary standard, even though they are listed as a plug-in. Used with a different application they may not garner the desired results. The neon effect is available, with plug-ins, from several sources. Some plug-in filters create the neon effect, but it is a result of specific settings versus the neon look being the only option. As always, the variety of computer platforms, operating systems, applications and designs may require a degree of experimentation to succeed. If you are not sure that your drawing, illustration, paint, CAD, or CAS already supports a plug-in architecture, contact the publisher.

Third Dimension

The reality of neon tubes can be seen as some astonishing painting by numbers. If you get the chance to see one of these remarkable cityscapes you will understand the complexity of portraying the realism of neon tubes. While these paintings and designs are two-dimensional, the real world has a third dimension. With three-dimensional CAD rendering software, it is possible to convey a sense of neon sign design that differs greatly from that available with CAS, illustration, drawing, or paint packages where the intended

result is a two-dimensional printed image. Three-dimensional CAD is no longer complex and expensive, as some people may still think. In several past issues of SBI, the specific visualization of electric neon signs has been performed with three-dimensional rendering software. This has enhanced the educational intent of the publication by focusing on the function of a component in discussion rather that a specific advertiser or sign manufacturer. Finding that one special sign, out in the field, and photographing it in the optimum light, can be a genuine crap shoot. Creating the look and feel can be easy. Three-dimensional rendering is credibly accentuated in the glowing transparent look that the glass tube obtains (Illustration 8).

Creating anything in three-dimension takes planning and expertise. The tubular nature of neon is a downfall to some CAD packages. More often, it is a downfall to the operator skill and emulating the look versus exactly creating the component. Remember, that the intent here is to create a design proposal, not create the tube. Three-dimensional rendered designs would probably result in a great rendition, but the effort may be best utilized for the bigger customers or sophisticated projects.

Neon Plotting

CAD / CAS software is a good bet for the creation of layouts and patterns in two dimensions. As designs are printed for presentation, CAD / CAS can also be plotted for production purposes. The commands used to draw a multi-line polygon can double as a simple tube layout tool (Illustration 9). Care must be taken to account for the bendbacks, electrode housings, and the minimum radius to which a particular diameter tube can be formed. This said, there may be an adequate layout tool already in house. If the application has the ability to store components for reference, a library of symbol parts could be built up for future or repetitious work. These library parts could be specific that match the way a particular company or sub-contractor works. SBI