

With a little help from your software, you can add dimension to your vinyl lettering

I remember the first job I ever worked on that used prismatic lettering. I was working for my friend and mentor, Burt Arthur, while working at his sign shop on Staten Island. We did this bright red semi with a three-color gray prismatic effect. The effect was so awesome that when you stepped back, the letters looked like pieces of stone carved out of the door! From that point on, I was hooked on the effect. It's one of the coolest effects you can add to lettering.

But hand lettering the prismatic effect takes time. Depending on how you letter, you may have to wait for each of the shades to dry. Then you add an outline or drop shadow. You're looking at serious time—especially on a pair of truck doors.

My own truck doors are lettered with my logo—which of course has prismatic lettering. They're painted—in four shades of yellow plus white highlights. It looks great and turns a lot of heads. But at close to ten hours a door, it's not exactly practical for most of my clients. So I had many clients give me the old, "How much for that!?" when they saw my truck. I'd politely tell them that it was very cost prohibitive to execute.

Do it in vinyl!

But, the more I thought about it, the more I wished I could do it affordably. But how? Paint seemed the only way to execute it. Cutting it out of vinyl didn't seem possible. And, then, lightning struck!

Okay, not exactly. When I designed my logo on the computer with an illustration program, I wanted it to be prismatic. But how do you get the lettering to be prismatic, and then get it printed? Well, with some patience, you create the effect using the drawing tools in an illustration program, and then fill them with the appropriate shades of color.

So, if you can create paths and fill them with shades of color, why can't you just export those paths and cut them out of shades of vinyl? Bingo! I'll use shades of yellow, or any other color, and create prismatic lettering out of vinyl.

Step-by-step: Creating prismatic vinyl lettering

by Dan Antonelli



This single letter in a logo was my first attempt at this effect.

When I first tried this technique, I was winging it. Conceptually, I knew it could work. But, creating the plot files was time consuming. The first time I used it on an actual sign, I tried it for just one letter—a script "C" for Centamore Landscaping, in two shades of yellow. I did some site signs for the client, and they came out great. At that point, I knew it was possible, but I still needed to sharpen some techniques with the drawing tools to make it practical.

Several jobs later, I've got this technique down pat, and can bang out most of the computer work in about an hour or so. The real



I simply connected and welded the letters before beginning to create the prismatic effect.

Step-by-step: Creating prismatic vinyl lettering

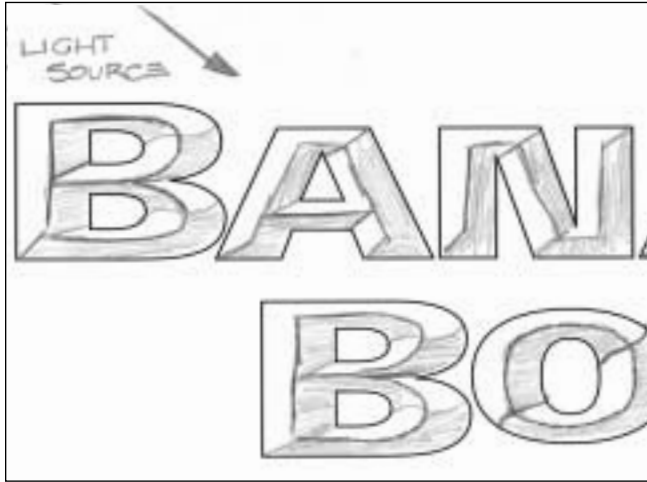


Figure 1. Printed drawing with prismatic effect sketched in



Figure 2. A duplicate of the graphic is positioned above the original.



Figure 3. Adding the horizontal and vertical guidelines

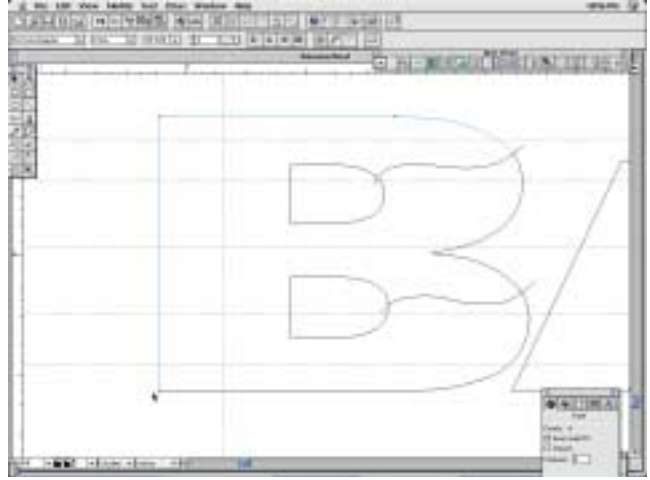


Figure 4. Rough in the curves on the right, then use the knife tool to cut the outline.

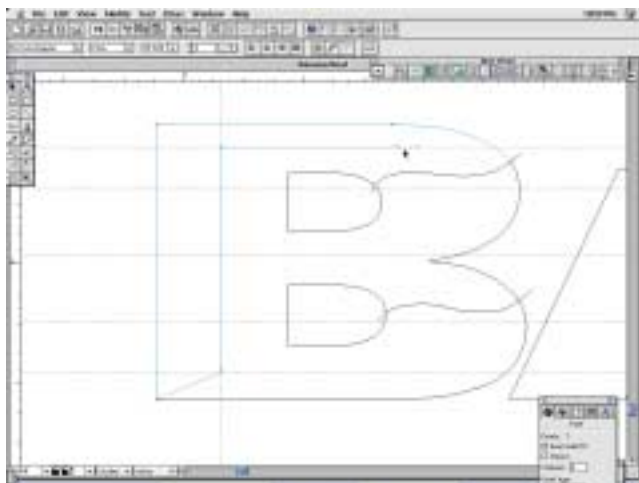


Figure 5. Creating the closed path for the highlight

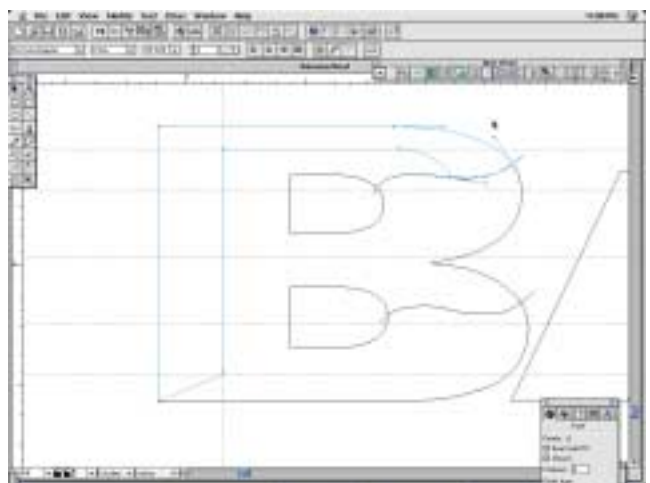


Figure 6. The completed top highlight

secret here is being good with the drawing tools used to create bezier curves. The straight lines are easy—obviously. It's the curved letters that make this technique a challenge.

To illustrate this technique for this article, I had a “perfect” client—my dad. He just retired and bought a boat which he named “Banana Boat.” Five sketches later, he finally approved my layout, and I “sold” him on using prismatic lettering in two shades of yellow with a black drop shadow.

For this job, I'm laying down three layers of vinyl: a black shade and outline, a full letter in the darker yellow, and then the highlight lemon yellow on top of the other shades. The biggest problem with laying yellow over black is the opacity issue. I use Airmark's #7237 yellow high-performance vinyl [Airmark Corporation, 10001 Lake City Way NE, Seattle, WA 98125; 800-527-7778, 206-527-1050]. It has a white underlay, and provides great opacity—even over darker colors.

The highlight color is #1616 lemon yellow high-performance vinyl from SparCal [Spartan International Inc., 1845 Cedar St.,



This client wanted the lettering to have a little more punch, so the highlight color is ivory vinyl on yellow. Drop shadow is Impulse Blue vinyl.

Holt, MI 48842; 800-248-7800, 517-694-3911]. You could go even lighter for the highlight, depending on how much contrast you'd like between the two colors.

Getting started

This technique should work with any illustration program that supports bezier curves, and contains a “knife” tool to cut your paths. I'm using Macromedia Freehand 7.0 on a Macintosh. Corel-Draw and some of the higher end sign layout programs support bezier curves, and those will work fine.

The knife tool is used to “cut” a path—in our case, a section of the edge of the letter—so that you can work with it.

If the lettering will be italicized or skewed, this must be your last step. It's much easier to create your prismatic effect on upright lettering than distort it later.

I began by printing out the layout, showing just the letters outlined and the shadow. Then, using a pencil, I sketched in the prismatic highlight (Figure 1). Don't spend too much time on this—it's just for reference when you're creating the plot outlines. You could scan this in and then try and trace it, but I've found that gets more confusing. In addition, you'll be creating these plot files in the preview mode of your illustration program, which won't show scans anyway.

Next, I made a duplicate of just the letters and pushed it above the original design (Figure 2). *Don't erase or resize it!* The original is going to be cut to shreds, and the duplicate will wind up being the actual *full* letter that gets cut and applied.

I then set up guidelines to make sure I was consistent with the prismatic effect—where the edges

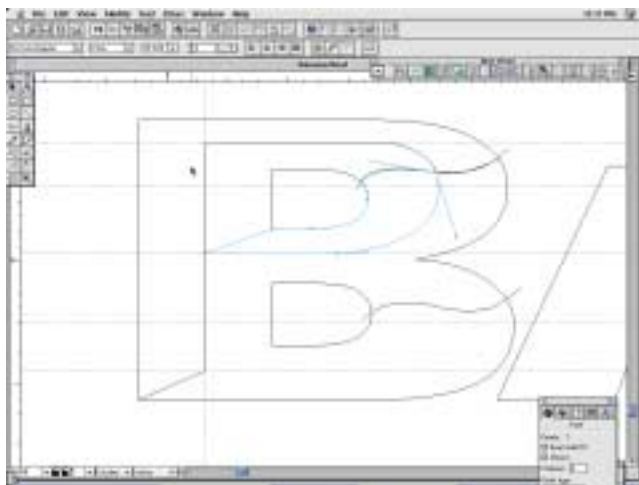


Figure 7. Next, the prism is created for the rest of the top section.

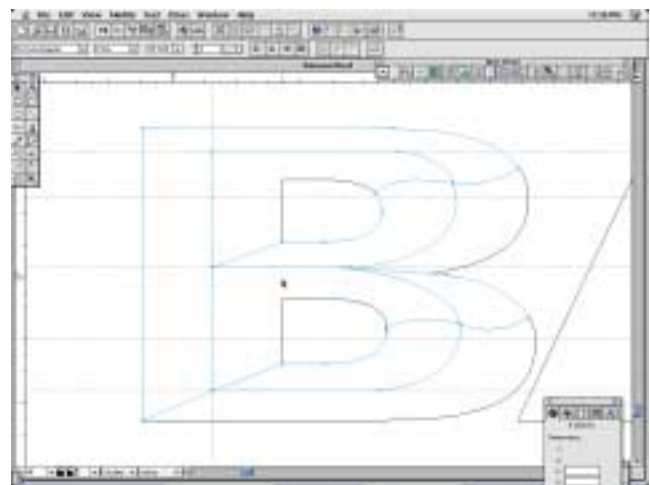


Figure 8. Repeat this process for the bottom portion and the letter is complete.

Step-by-step: Creating prismatic vinyl lettering

meet, and the depth of the prism itself. Use the guides for the horizontal and vertical lines on the straight letters—they're the easy ones (Figure 3).

Creating curved cuts

Now, I'll zoom in real tight on the "B." First, using the freehand drawing tool, I roughed in the curved section of the prism. This serves as a guide on where to "knife" the path for the start of the highlight prism color.

Using the knife tool, I cut the outline so that I'm assured that

the outside prism is a perfect replica of the vinyl it will be lying on top of. Start by cutting the right-hand top corner of the path, then cut the bottom left of the letter (Figure 4).

Now, I begin plotting the middle portion of the letter. Clicking on the bottom end point, and using the pen tool, I began to create the closed path for the highlight (Figure 5). When using the pen tool in some programs you can hold the shift key while drawing, and it will draw a perfectly straight vertical or horizontal path between

two points.

At the end of this path, I must begin the curve. Now comes the tricky part. Using the bezier curves (they have "handles" on each side of the point which must be manipulated to create the curve), I created the middle curve of the prism, and finished it by connecting it to end of the path (Figure 6).

I've now closed the path, and created the top left highlight color for the prism. Notice that there's only one point in the curve—don't add too many points or your curves won't flow properly. If you

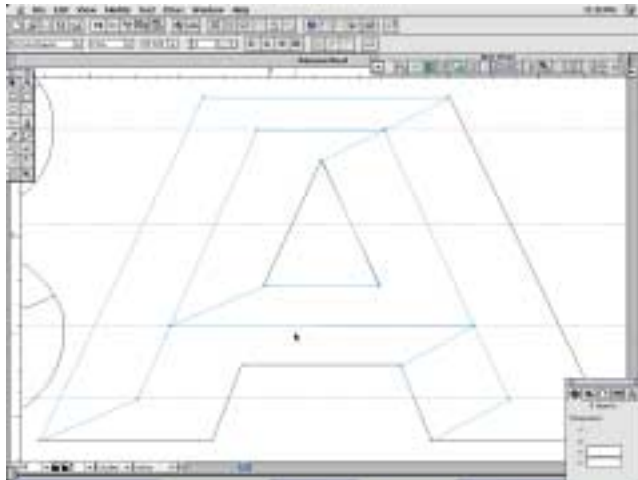


Figure 9. Straight strokes are easier.

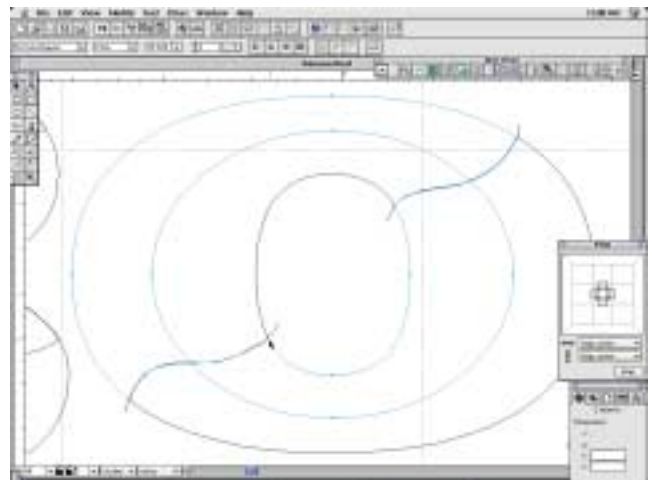


Figure 10. An O or S is the biggest challenge.



Figure 11. Here, all the paths are completed.



Figure 12. Turn Preview mode off to make sure it looks right in color.

make a mistake, or place a point in the wrong place, you can move it after you complete the path by selecting that point, and, using the arrows keys, nudge it into place. You can also pull or push the bezier handles to adjust your curve if it isn't correct.

Using the knife tool again, I cut the inner path for the "B" to give me the starting points for the highlight color. Using the pen tool, I started from the left and drew the straight lines, working toward the right to the curved part of the letter. Using the bezier

curves, I wrapped the path up and met up with the other center line, then cut back in to close the path (Figure 7).

Whew! This is rough! Repeat the process for the bottom, and I've finished the letter! Figure 8 shows the finished "B" with the highlighting prism paths selected. (Thankfully there are many repeating letters here. When that happens, you only have to do this for *one* of the letters!)

Straight letters are easier

Okay, let's make an easy letter—

one with straight lines—the A. Again, I started by knifing the outer path to get my start and finish points for the left highlight. Connect and close the path by filling in the center of the letter. I repeated this for the inside highlight and bottom highlight. Figure 9 shows all three highlighting prism paths selected.

Doing an "O" or "S"

I continued along, completing the N and then duping the other letters. The last letter I'll illustrate is the O. O and S are the hardest



Figure 13. The first layer is the outline and shade, in black vinyl.



Figure 14. Next, the dark yellow lettering is applied.



Figure 15. To apply the highlighting color, line the top up with the corners of the lettering.



Application goes pretty quickly, leaving this as the end result.

Step-by-step: Creating prismatic vinyl lettering

letters to execute, because the inner curves need to be smooth and accurate.

The easy way to do the O is to draw an inner circle using the circle tool, and then using the alignment tools, align the outer, middle and inner circles to make sure it's centered. Then I used my Free-hand drawing tool and roughed in my two curved cut lines on the top right, and lower left. I then got the knife tool and began cutting all paths at the points which were intersected by those two rough curve lines. Using the drawing tool, I connected the outer and middle paths to create the left

highlight, and then did the same for the inner and middle paths for the bottom right highlight (Figure 10).

Ready to cut

Figure 11 shows completed paths for all letters highlighted. Everything that shows up as a black rule now is an extraneous leftover path that must be deleted. This will leave me with exactly what my plotter needs to cut the highlight colors. I then grouped the highlight colors and placed them over the original. Finally, I turned the Preview mode off, so I can make sure it looks right

in color (Figure 12).

Using the original outline, I created a black outline and drop shadow, and a simple stripe under the lettering. I moved the grouped highlight color under the artwork. I pulled the shadow and outline out from under the main lettering. Then, I export the art to my plotter, resize and cut it. It was then ready to weed and mask.

Weed, mask, apply

Be forewarned—you can't rush the weeding of the highlighting color. There are too many jagged paths, and you'll wind up pulling away something you need. Go



As I mentioned earlier, the first time I attempted this effect was on one letter in this logo.



I changed a few elements of the original font and drew the leaf from scratch. (Prism is yellow vinyl with white highlight.) The slant was added after prism was complete.



Pro Tank's van had basic vinyl lettering on it before I designed the new logo at right.



Pro Tank uses a yellow base and lemon yellow highlight. I applied lemon yellow right on the weeded yellow, and then masked the lettering. This allowed me to apply the completed lettering without worrying about the rivets on the truck body throwing off the registration for the highlight.

slowly. When masking the highlighting color, try to leave the tips of the highlights show by maybe $\frac{1}{16}$ of an inch. It will be helpful in registration when applying.

You could also use transparent transfer tape or registration marks to assist in lining up the highlight color over the darker letters. Keep in mind that the average viewing distance is several feet away, so if your registration is off slightly, it won't be noticeable.

Figure 13 shows the black outline and shadow applied. Figure 14 shows the darker yellow lettering applied over the black.

Now, the part I've been dying to see: the prism effect in action! For letters this size, don't attempt to get the whole thing down in one shot. I did two letters at a time. Line up the top of the highlighting prism color with the corners of the darker yellow (Figure 15). I highly advise a wet application here. Squeegee down the letters, and bingo—there you have it.

I had the whole job applied in about a half hour. My total computer time to create plot files was about an hour. The more you do these, the quicker you'll get at using the drawing tools.

I've done a few jobs utilizing the same techniques, but in a three-color effect (see Carney Electrical in *SignCraft's* May/June 1998 issue, page 42).

It's a little more work, but looks a bit more realistic. Obviously, any two shades of colors will do—yellows, blues, grays—whatever. And don't attempt serif letters until you get very proficient with your drawing tools. Those serifs will drive you crazy! □



Dan Antonelli's shop, Graphic D-Signs, Inc., is in Union, New Jersey. If you have any questions on this technique, you can e-mail

Dan at grafdsigns@aol.com.