

## LESSON 8: BITMAP EDITOR AND ADVANCED VECTORIZING

In this lesson we'll re-do the Colt logo that we vectorized in lesson 7. The difference is that we'll now use GravoStyle's bitmap editor to examine the logo that we'll import and we'll use an advanced technique to eliminate many problems when we vectorize.

The concepts we'll learn are how to:

- ... Use GravoStyle's bitmap editor
- ... How to use the color reduction window

Our job's specifications are:

- ... Job Filename: Finished Colt Logo.gnh
- ... Logo Filename: Colt Logo.bmp
- ... Plate: 8 inches by 8 inches with a ¼ inch margin

Our job plan is to:

- ... Import the logo
- ... Open GravoStyle's bitmap editor to examine the logo before we vectorize it
- ... Vectorize the logo, making use of GravoStyle's powerful color reduction feature

### STEP 1: DEFINE OUR PLATE SIZE

We'll open a new job and define our plate as being 8 inches by 8 inches with a ¼ inch border all around. At this time we'll make sure that our viewing mode is set to "Filled contours".

### STEP 2: IMPORT THE LOGO

As we did in lesson 7, we'll import the bitmap file Colt Logo.bmp. Don't forget to exit the automatic text entry mode before you do. After we import the logo, we'll select all (Control-L) and ungroup as a matter of good practice, even though the bitmap should be one single element.

Our logo will now appear as it's shown in Figure 8-1.



Figure 8-1 Imported Bitmapped Logo

### STEP 3: OPEN THE BITMAP EDITOR

Select the bit map image and click on GravoStyle's "Bitmap editor" tool (Figure 8-2).



Figure 8-2

GravoStyle's bitmap editing window will open with our graphic on its screen (Figure 8-3).

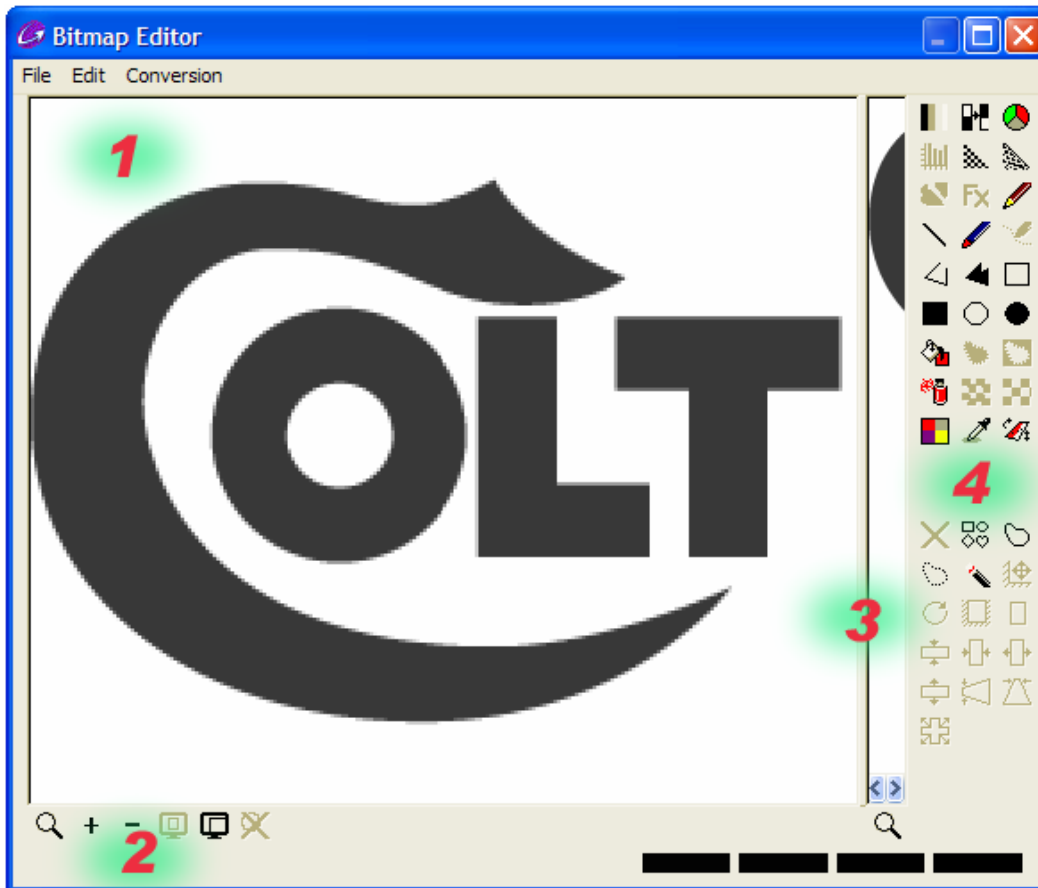


Figure 8-3 Bitmap Editor Window

The main areas of interest in the bitmap editor are:

- ... Area 1, where our logo appears
- ... Area 2, zoom tools
- ... Area 3, a separator between the main window area and a secondary one
- ... Area 4, bitmap editing tools

Note that GravoStyle's bitmap editor has many of the editing tools that are found on stand-alone graphics programs! We could edit bitmaps here to do a lot of clean-up before we vectorize, but for this job we'll just examine our logo to help us understand the nature of the problems we had in lesson 7.

Recall the "Color reduction" window that we chose to ignore in lesson 7. It's reproduced here in Figure 8-4

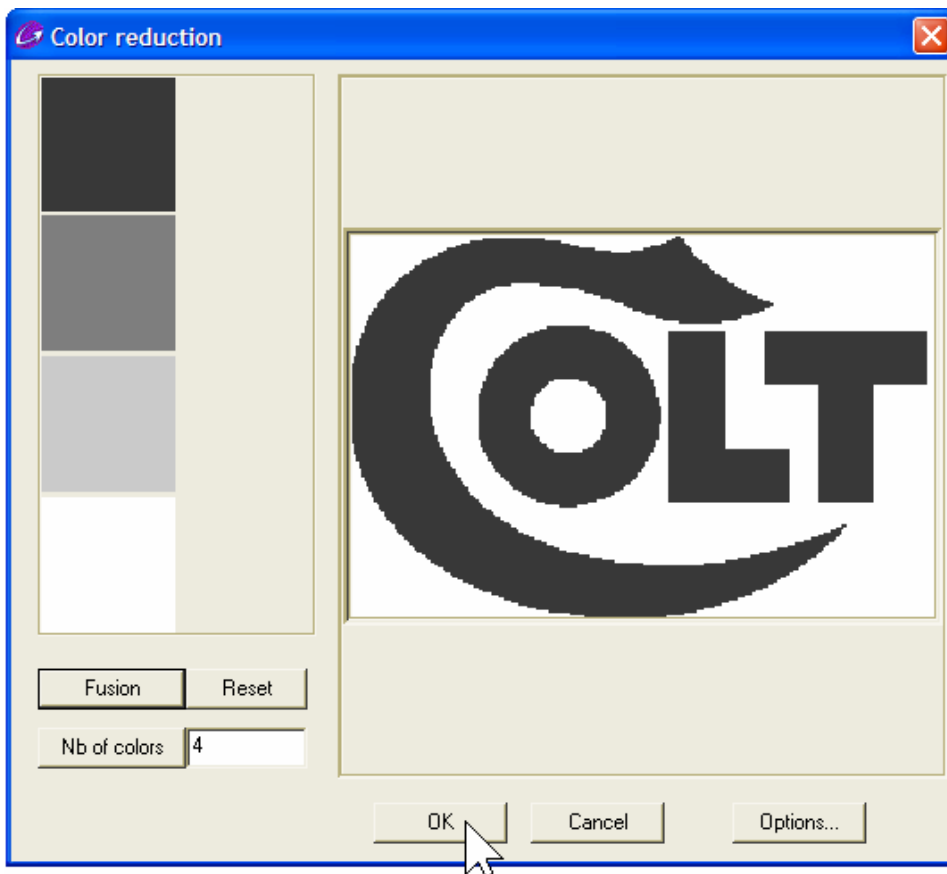


Figure 8-4  
Color Reduction  
Window From  
Lesson 7

The color reduction window showed us that GravoStyle "saw" four colors (including the white background); white, the expected black and two unexpected shades of gray. Where are the gray portions of the bitmap, and how did they get there? We'll look for the answers in the bitmap editing window.

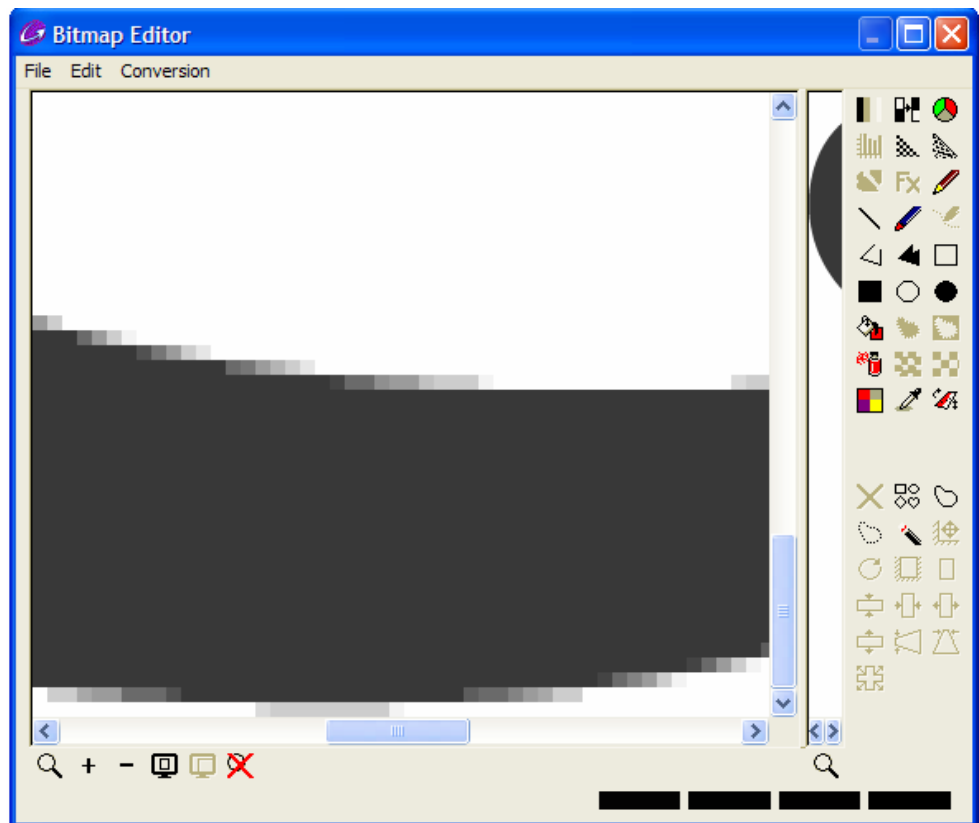
We'll use the bitmap editor's zoom tools and zoom in on the bottom of the letter "C". Our screen will appear as it's shown in Figure 8-5.

Figure 8-5  
Zooming In On the Bottom  
of the “C”



Figure 8-6 shows the zoomed screen, and the grays are there! They're commonly produced as unintended artifacts when an image is scanned, and they're called transition pixels.

Figure 8-6  
Zoomed In On the Bottom  
of the “C”



Transition pixels are a major source of headaches when we vectorize a bitmap image, and we saw this in lesson 7. GravoStyle recognizes separate colors, including grays, as requiring separate vectors contours when it vectorizes. It saw the grays, *as it should*, and produced the spurious superimposed contours that we had to later clean up.

#### STEP 4: VECTORIZE USING THE COLOR REDUCTION WINDOW

We could use the bitmap editor to eliminate the gray pixels or change them to black, but this would be tedious and time consuming. Instead, we'll use the power of the vectorize color reduction window to simplify our job. This window provides us with the powerful ability to combine parts of a bitmap and force them to have the same color or, optionally, to vectorize *only* those colors we choose.

We'll proceed as follows:

- ... We'll close the bitmap editor.
- ... We'll click on the "Vectorize" tool to open the vectorize window. We'll use the same values as before (lesson 7) and note that GravoStyle remembers our last values as a new default.
- ... We'll click on "OK" and to open the color reduction window (Figure 8-8)

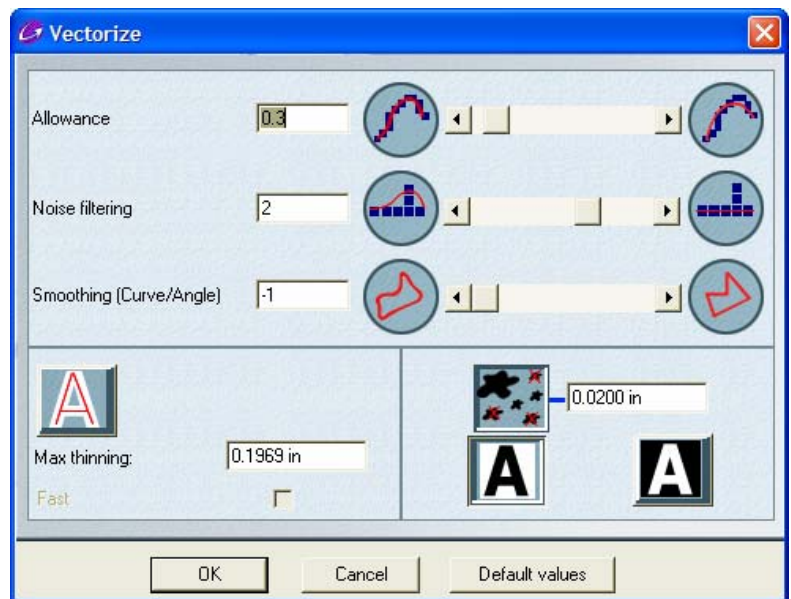


Figure 8-7 Vectorize Window



Figure 8-8  
Color Reduction Window

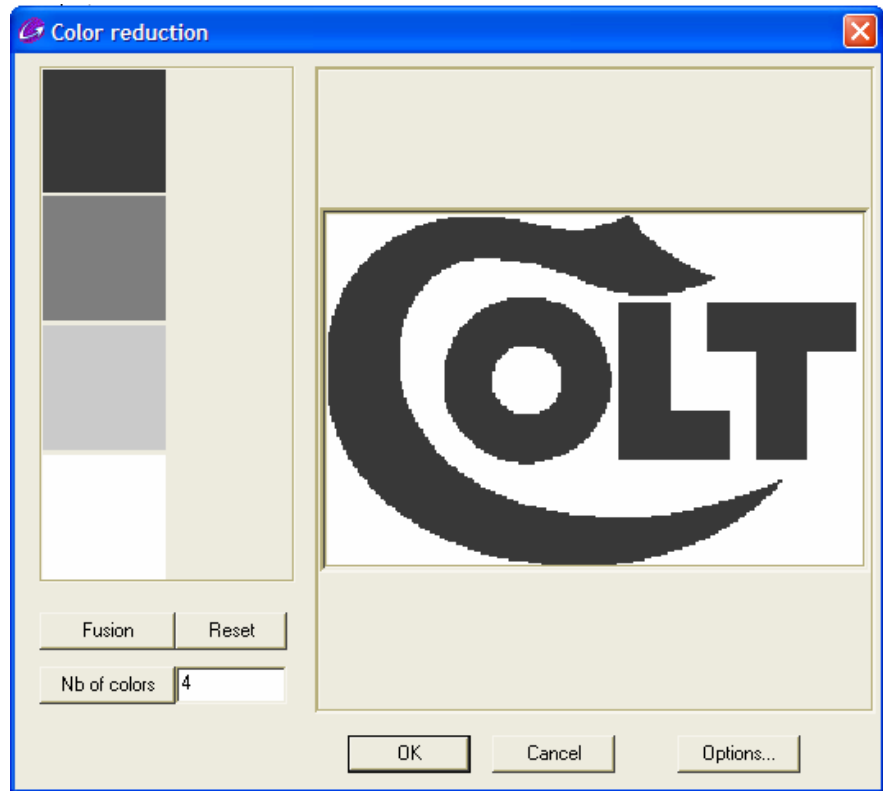
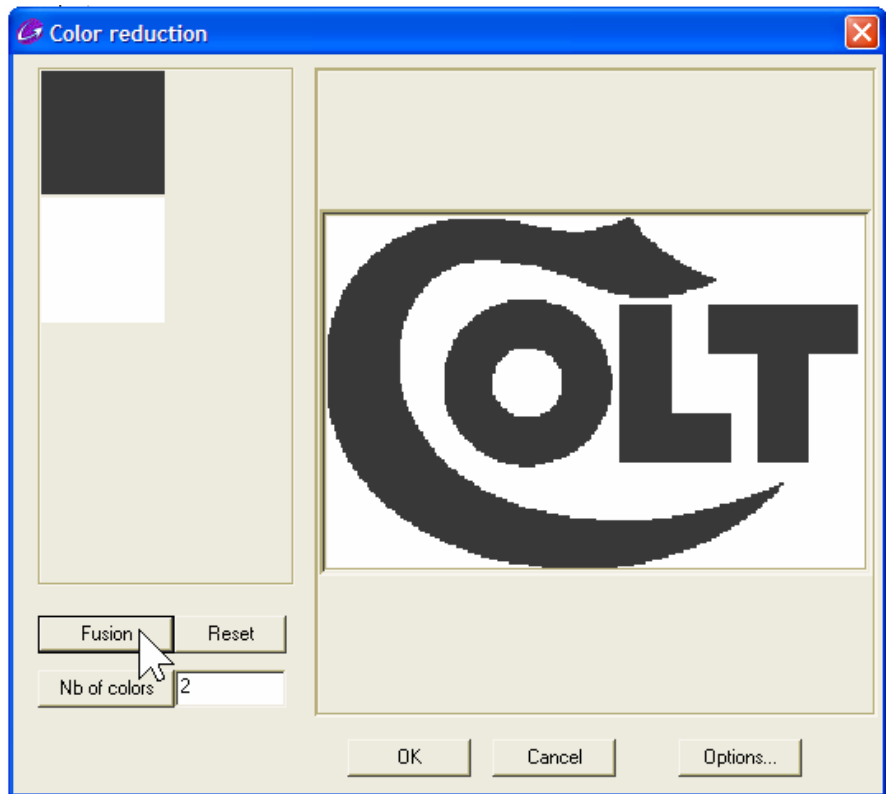


Figure 8-8 shows all of the colors that GraveStyle sees. We could use the color reduction window to force the two grays to black. We'll try it; here's how:

- ... We'll first click on the black colored square at the upper-left of the window to set this color as the base.
- ... We'll next add to the selection by holding down the Control key while we click on the two gray color squares.
- ... Finally, we'll click on the fusion button and the result will be as shown in Figure 8-9.

Figure 8-9  
Bitmap Reduced to Two Colors



There are no more grays. They've been converted to black and we can expect to vectorize without the problems we encountered in lesson 7.

#### Look Further

*We held down the Control key to add to the black base for color reduction. If we had held down the Shift key instead, we would have also added to the black, but the meaning of the selection would be different. GravoStyle would interpret the Shift key color selection as a command to vectorize the selected colors and the selected colors only to be vectorized. This, too, is a powerful feature of the color reduction window. We can use it to pluck out a subset of a complex logo for specific vectorization.*

Let's try a different approach. We'll click on the "Reset" button to undo the color reduction and click on the black color only. We'll then click on "OK" and Gravostyle will vectorize *only* the black part of the logo - it's the only color selected. When we do this our screen will look as it appears in Figure 8-10.



Figure 8-10 Vectorized Logo and Bitmap

We'll separate the bitmap from the vector logo. Which is which? We'll click on the one that *didn't* move and, as Figure 8-12 shows, we'll see the selection outlines for the individual letters and for the center of the "O".

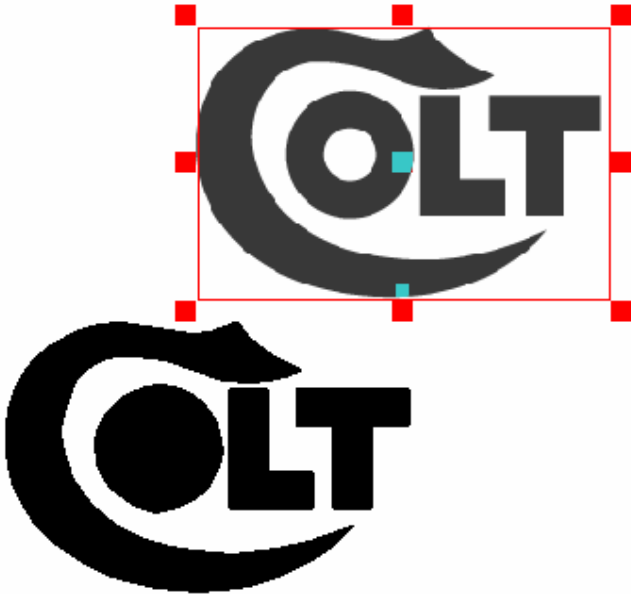


Figure 8-11 Bitmap and Vector Logo Separated

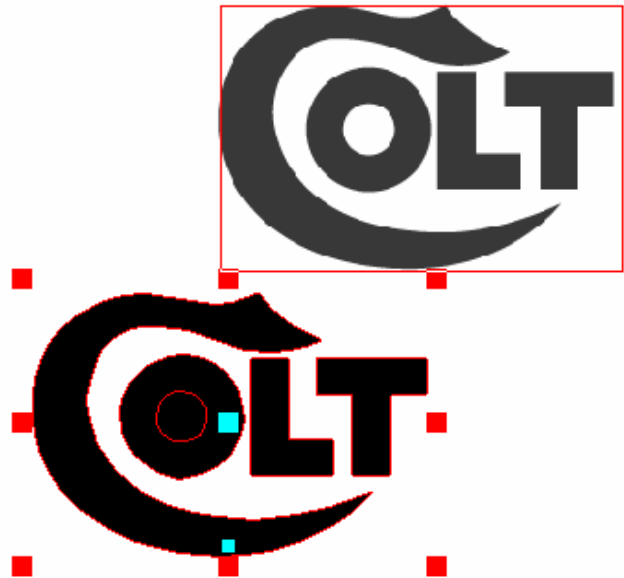


Figure 8-12 Vector Logo Selected

We can now safely delete the bitmap, and we'll do so.

Now, with the entire vector logo selected, we'll ungroup it and regroup it. The result will be as shown in Figure 8-13 - a correctly vectorized logo with no apparent spurious contours and correctly filled.

We'll finish the job by using the same point editing steps and techniques that we did in lesson 7.



Figure 8-13 Correctly Filled Vector Logo



## WHAT WE'VE LEARNED

In this job we've learned:

- ... How to open GravoStyle's bitmap editor
- ... How to inspect bitmap images prior to vectorizing them
- ... How to use the color reduction window to reduce the color complexity of bitmaps prior to vectorizing
- ... How to selectively vectorize only the colors we want in a bitmap