

Recoloring the Unit Counters with “The Gimp”

By
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TOAW comes with a large suite of counter color schemes. But sometimes, none of them will do. At that point, you’d like to recolor them. Using Windows Paint tools, like “Pick Color” and “Fill With Color” you could, with a lot of labor, recolor the old .bmp counters. However, the new .png counters have a color gradient across them. “Fill With Color” won’t fill very much, and you would need a suite of colors to fill with, in order to preserve that gradient. This task requires some more powerful tools.

Fortunately, “The Gimp” has them. Since I was completely unaware of them, I’m guessing most readers are as well. I’ve hardly become an expert at them, but I was able to get the .png counters recolored using them, given enough trial-and-error. I’ll share the methods I used, but because of all that trial-and-error I’m not calling this article a “how to”. That would imply there’s a step-by-step method that always works. There isn’t. Rather, there is a suite of tools available, and some combination of them will have to be devised for each situation.

Note that instructions for obtaining “The Gimp” can be found in the “ScenarioBMP-HowTo.pdf” document.

It was the designer of the new .png graphics, Marcelo Portella, who directed me to the tools available. I’ll start out with his instructions, since, once we’re finished, they may prove to have been the best instruction of all:

“I don't have experience with Gimp, but I'll describe the way I would do it in photoshop; most software will have very similar tools.

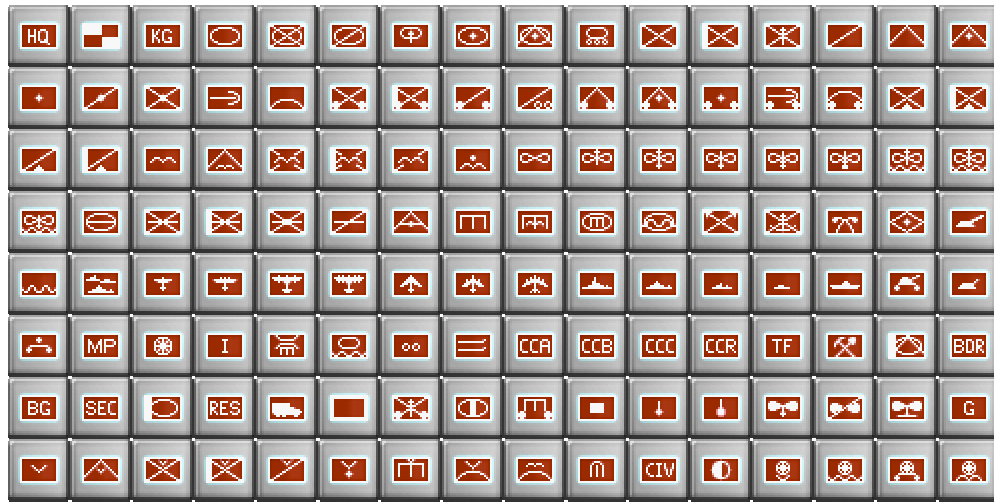
There are two simple ways to do it:

1. Select the magic wand tool. With it you'll be able to select a color range, depending on the tolerance you set on the status bar. Adjust the tolerance until you get the exact area you want for a specific counter. It's possible that all counters will have the same, similar area, selected. If not, into the Select menu, click 'similar' (Gimp must have a corresponding command somewhere). Go into Image>Adjustment>Hue and Saturation and just set the parameters until you get the result you want. At this point it is intuitive. If you get hard corners at the edge of the selection, go into Select>Modify>Feather and set a 1 or 2 pixels feather to get a softer transition. Take note of the values and repeat it for the other files. In photoshop I create a batch so that it can be applied automatically to all files in a specific folder.

2. Go into Image>Adjustment>Replace Color, select a midtone in the image using the magic wand present in the tool window, select a tolerance and change hue, saturation and brightness until you get the desired color. Tweak the tolerance, at the end, to get a better result.

Those two methods will change color without messing with the existing gradient. It's the best way to change color in most occasions, for counters or terrain tiles. If you get the right procedure in Gimp, it wouldn't be a bad idea to place some tip into a readme file shipping with the patch, since the ability to change color without messing with the pixels relations is crucial to tweak graphics.”

So, those instructions apply to Photoshop, for those of you lucky enough to have a copy. I’ll demonstrate similar tools in “The Gimp” for the rest of you. Let’s get started.



Above is one of the .png unit counter sheets. Note that there are 128 individual counters on each sheet, to index the various counter icons. Each counter consists of three parts: The body of the counter, the icon, and the contents of the icon. As Marcelo indicated, recoloring is a two step process: Select the part of the counter to edit, and then color shift that part as needed. We'll look at the selection part first.

Ideally, each part of all 128 counters would need to be "selected" separately, to be operated on separately. Clearly, that can't be done with the above parts by a simple rectangular selection tool. Are there tools that can make a selection of that much complexity? Yes there are, in "The Gimp". Marcelo mentioned the "Magic Wand" tool. Gimp has that too. From Gimp's help file:

2.5. Fuzzy Selection Tool (Magic Wand)

The Fuzzy Select (Magic Wand) tool is designed to select areas of the current layer or image based on color similarity. It starts selecting when you click at a spot in the image, and expands outward like water flooding low-lying areas, selecting contiguous pixels whose colors are similar to the starting pixel. You can control the threshold of similarity by dragging the mouse downward or to the right: the farther you drag it, the larger the selected region.

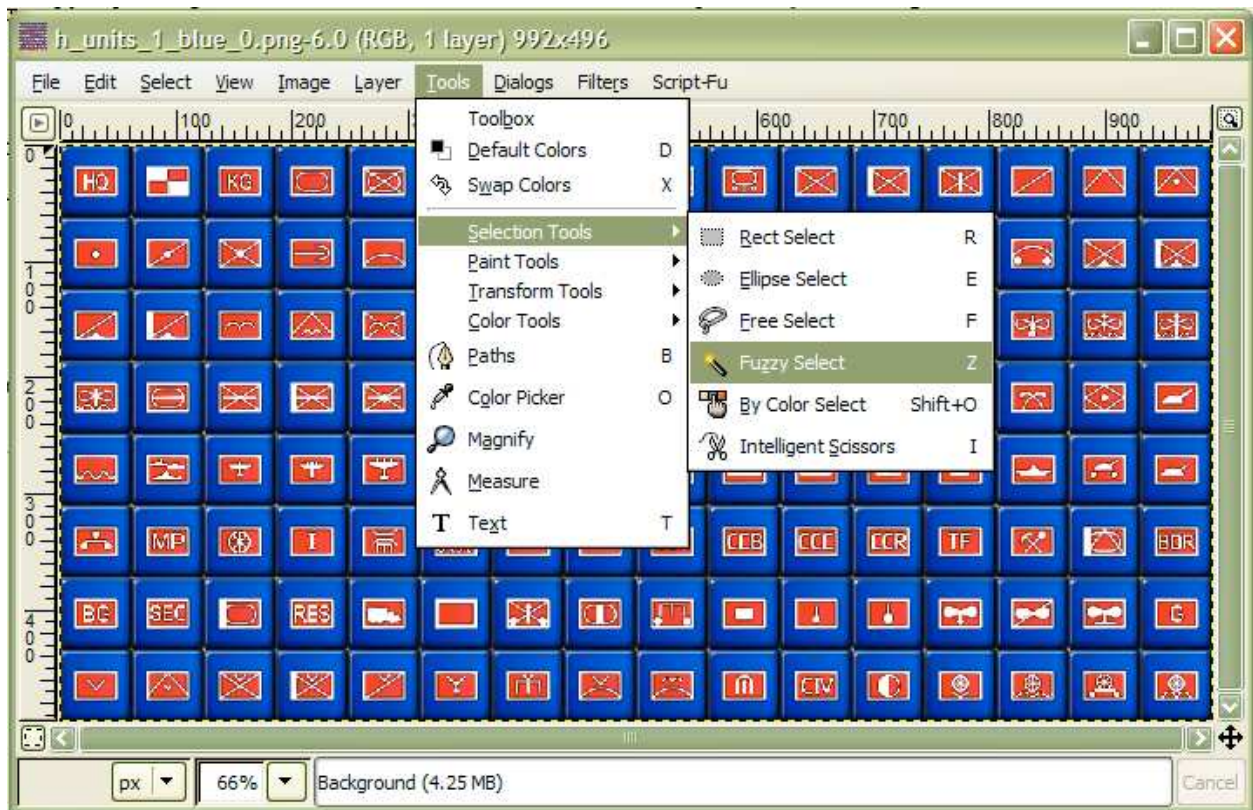
There is also the "Select By Color" tool. And we'll need that one, too, since some of the parts of the counters are not contiguous. From the help file:

2.6. Select By Color Tool

The Select by Color tool is designed to select areas of an image based on color similarity. It works a lot like the Fuzzy Select tool ("Magic Wand"). The main difference between them is that the Magic Wand selects contiguous regions, with all parts connected to the starting point by paths containing no large gaps; while the Select by Color tool selects all pixels that are sufficiently similar in color to the pixel you click on, regardless of where they are located. Also, clicking and dragging in the image has no effect on the Select by Color tool.

Now, let's use the "Magic Wand" tool to select the 128 counter bodies while omitting the icons.

After running The Gimp and opening the target countersheet, select the Magic Wand as shown:



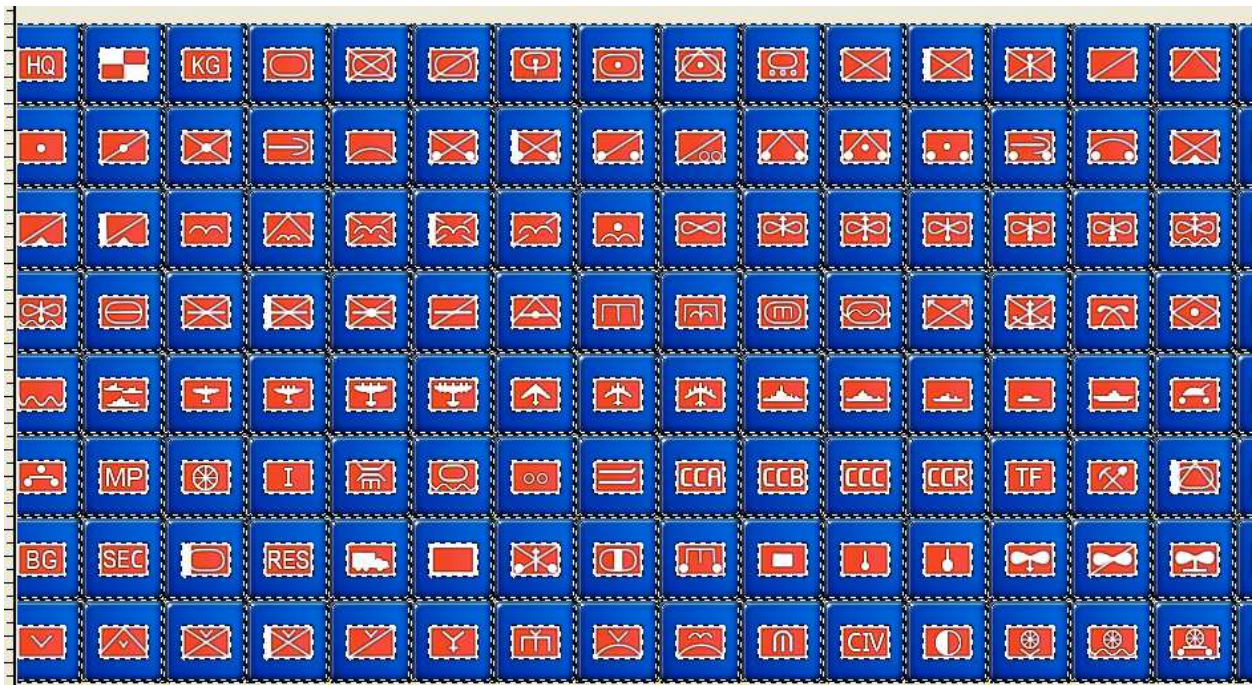
Note that I've now zoomed to 400%. Then I click on the body of one of the counters and start dragging down and to the left. After a little dragging, it looks like this:



After a little more dragging, the entire row of bodies of that counter has been added to the selection:



Finally, after more dragging, the entire sheet of counter bodies has been selected, omitting the icons:

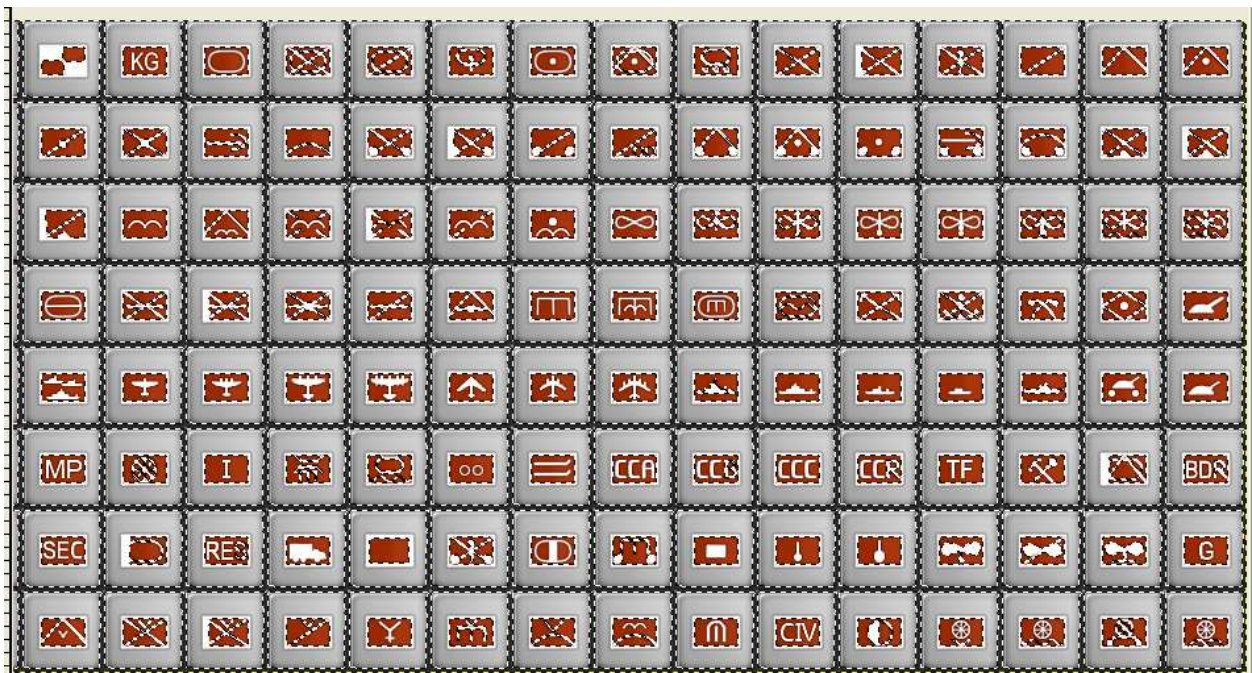


Amazingly, all the counter bodies have been selected and all the icons omitted. We can now color-shift the counter bodies without affecting the icons.

However, note that the above counter sheet had good contrast between the body colors and the icon colors. That's not always the case. Here is the gray sheet I want to recolor. Note that the icon content colors are very close to the body colors. This results in the selection slipping into the icons. Just the edge at first:

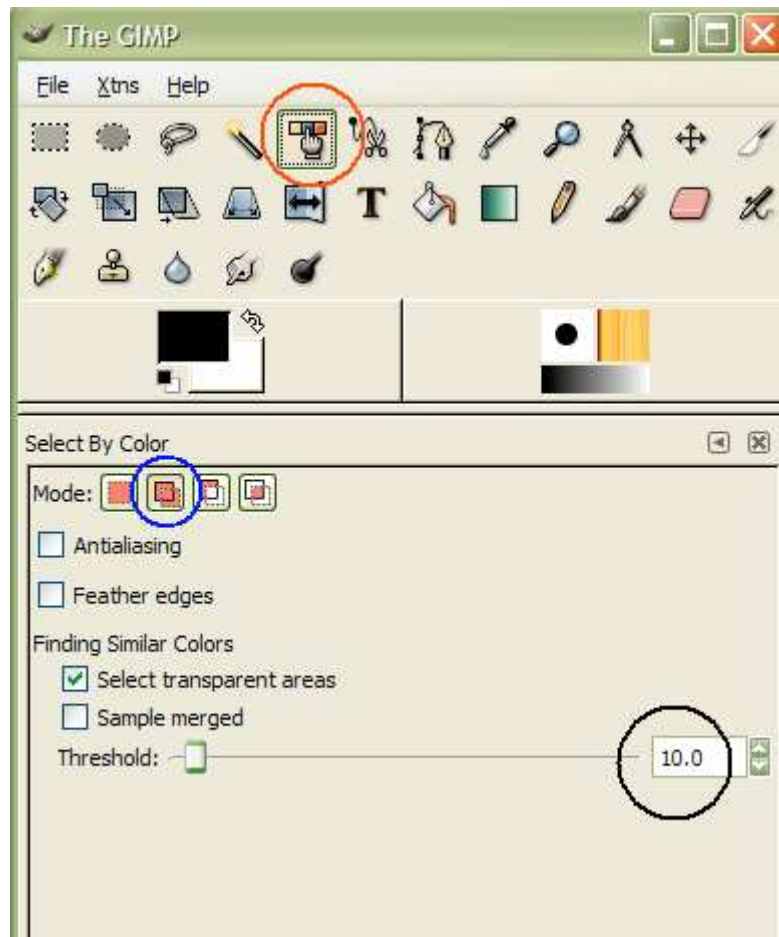


After more dragging, even well into the icon contents:



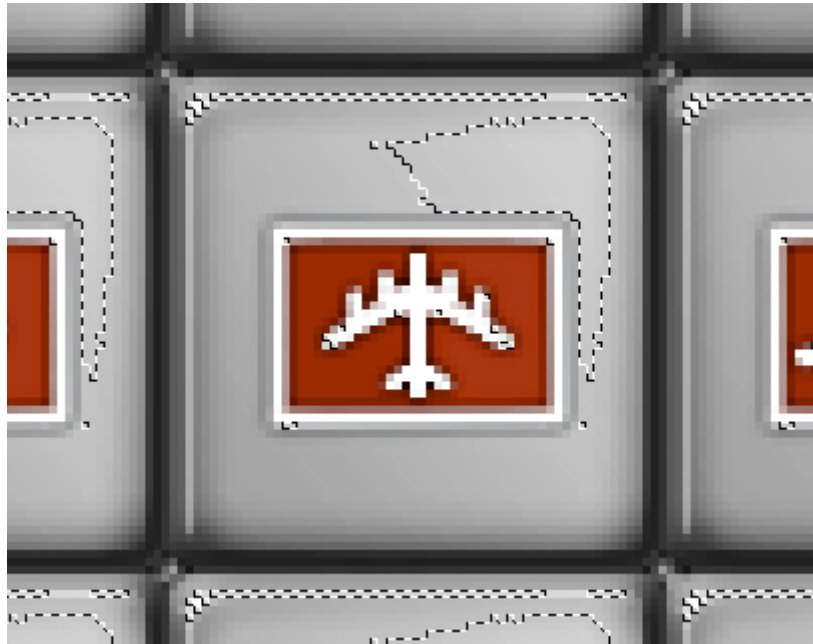
Unfortunately, this is a common problem when the body and the icon have similar colors in them. One way to deal with this is the “Threshold” setting for the tool. The narrower it is set to the less leakage like the above will occur. But I had that set to zero during the above selection anyway. The best way around this is to start with a counter sheet that has good contrast between the counter bodies and icon parts. But, if that’s not possible, you have to use the other tool. (This is part of that “trial-and-error” process I earlier had said was necessary.) Let’s look at that other tool next.

Here's an alternate way to invoke this tool – using the main Gimp screen:



The red circle is around the tool icon itself (note the “Magic Wand” tool next to it). The blue circle is around the “Add to the current selection” Mode button. This is a significant advantage this tool has over the Magic Wand: The selection can be modified after the initial selection by these add/subtract modes. The other modes are replace, subtract, and intersect. The black circle is around the Threshold. That sets the color width of the selection. A setting of 0 would only select the exact color clicked on.

With the above settings, the first click results in this:



Successive clicks around the body of the counter gets the entire body selected:

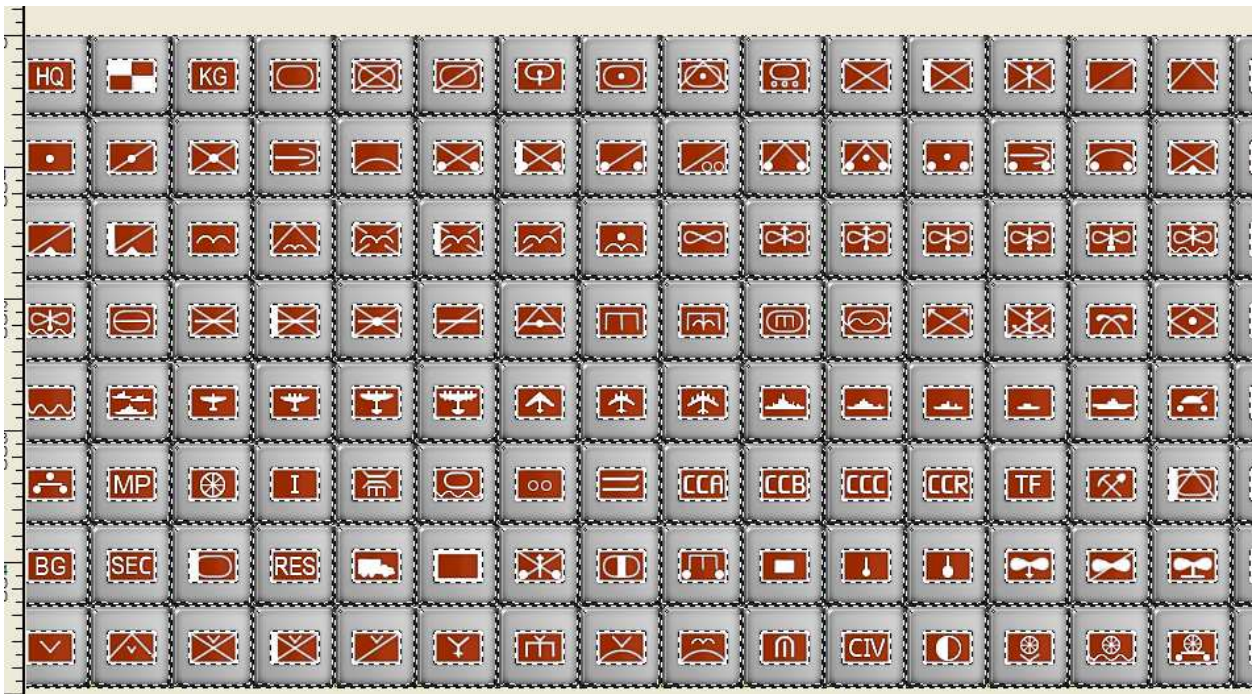


But note that many spots within the icon have been selected as well, due to color similarity. Now I switched to the “Subtract from selection” mode and set the “Threshold” to zero (don’t forget this – leave it at ten, and you’ll be subtracting from the bodies too). I then clicked on each selected pixel inside the icon.

The result was:



Continuing through all 128 icons:



I now have a perfect selection, with all the bodies selected and none of the icon. It took a few minutes to subtract all the pixels that had been selected within the icons, but it's easily doable. I can now color shift the counter bodies without affecting the icons, even when there was this little contrast between the bodies and icons.

Before starting the color shift, you need to know what your target colors look like. For my Killer Angels scenario, I wanted to match Confederate Uniform colors. I found this photo on the web:



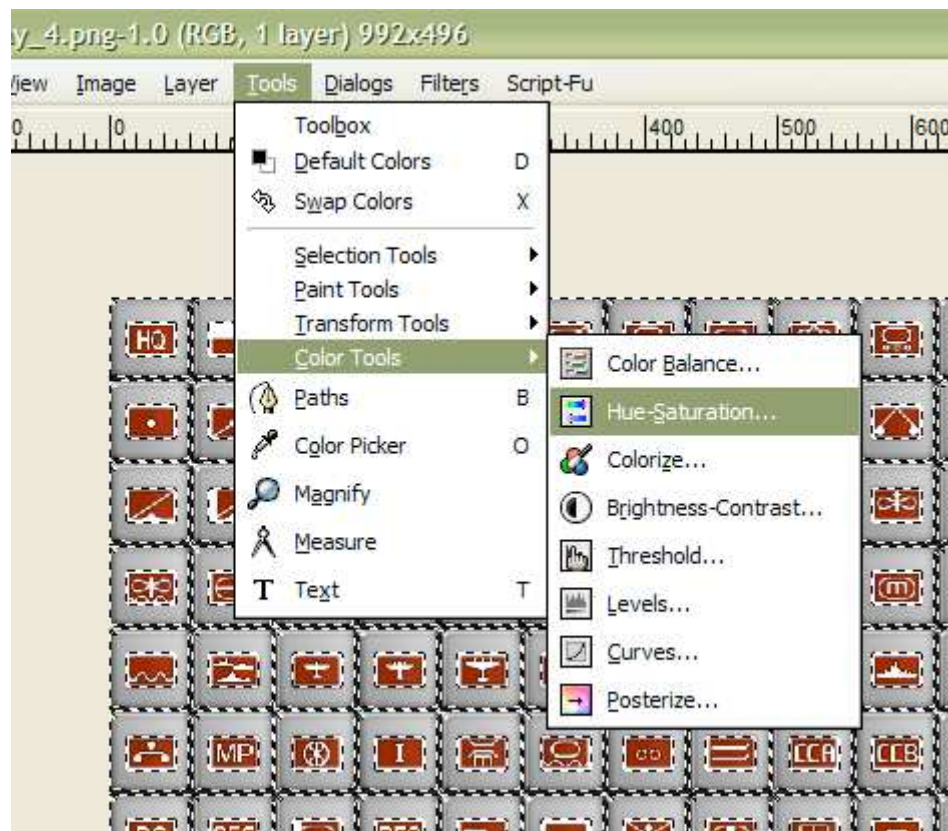
Using the pick tool, I came up with these target colors for the body and icon:



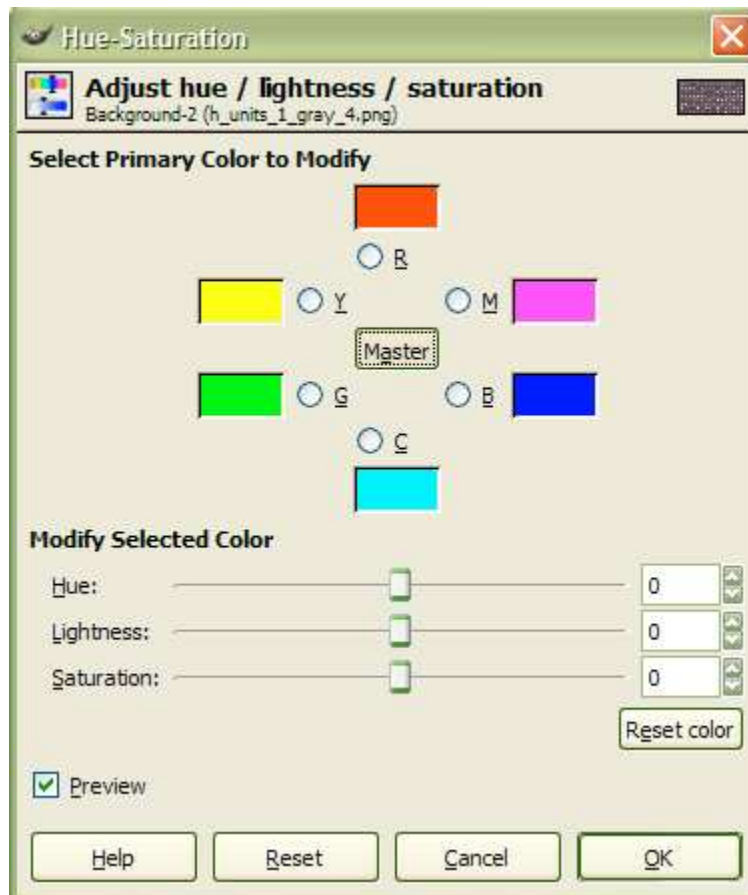
I had a similar photo of the Union Uniform and made similar targets for them.

It now becomes a matter of judgement to color shift the body color to the first target color.

Two tools are necessary. First, the Hue-Saturation tool:

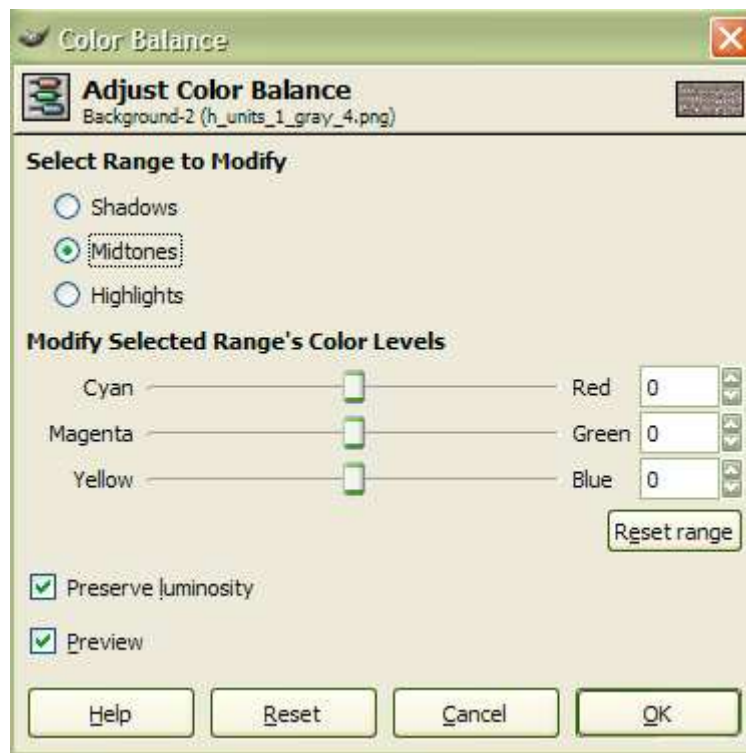


The above path brings up the tool:



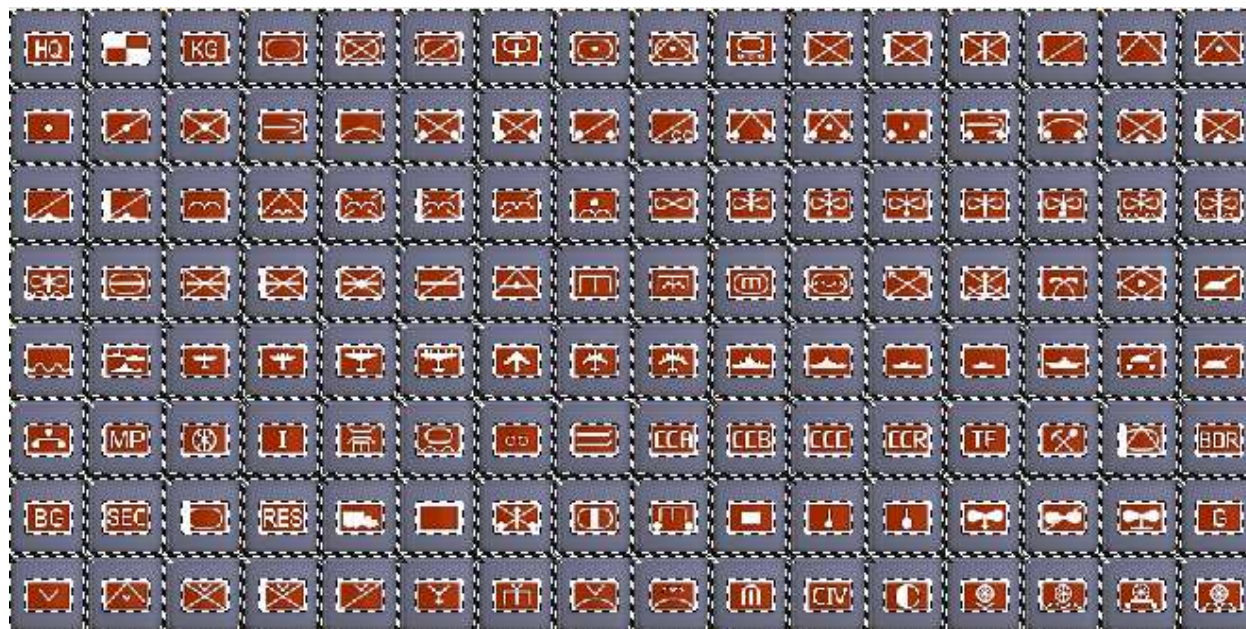
Usually, just Hue and Lightness need to be adjusted. But, when dealing with gray or white/black, it may be necessary to first boost some of the rainbow colors first. In this case, we need to boost the blue a bit before making the color darker. That requires the Color Balance tool. Note above that it's available via the same path as the Hue-Saturation tool.

Brought up:



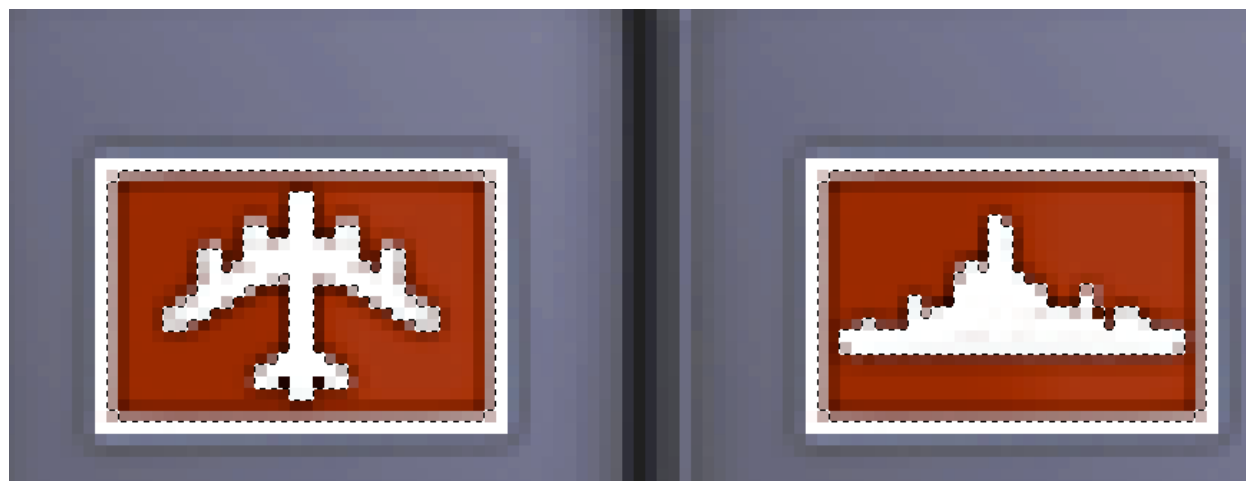
This allows blue to be boosted, if there is any in the starting hues. Sometimes there isn't any at all. Trying to color-shift black or white to a rainbow color may be a waste of time. Try to start out with an exiting counter color set that's at least close to the target desired.

Using those two tools I was able to color shift the counter bodies to the desired target. This involved adding blue as needed and darkening (negative lightening) as needed. That required a bit of trial-and-error. I wish there were a more “scientific” procedure to get to the right hue, but there isn’t. The result was:



Now to select the icons. Note that the icons aren’t contiguous. There supposedly is a parameter for the Magic Wand that would allow its selection to bridge the gaps between them. But I couldn’t figure it out. But, as we’ve seen, the Select by Color tool works better, and doesn’t require contiguousness. We’ll use it again instead. Don’t forget to restore the mode to “add” and the threshold to 10.

Here are the results:

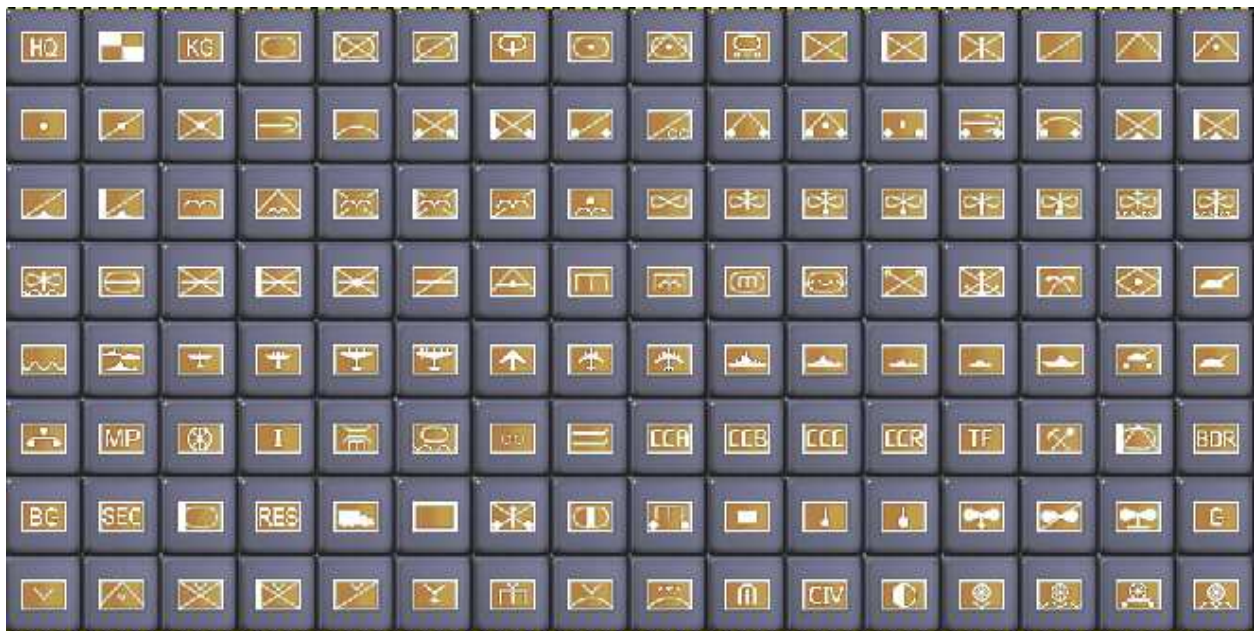


There was enough contrast that it didn’t require too much trial-and-error. Now we can color-shift the icon color.

Again, some Color Balance boost to yellow was required first. Then the Hue-Saturation tool was used to get the lightness, hue, and saturation right. The result is shown here:



After saving, the final result was this:



Compare this to the first figure in this article.

I didn't change the color of the contents of the icon, but that could be done by the same techniques.

It's a good idea to keep a record of all your Color Balance, and Hue-Saturation change values that you used. That's because there are separate files for the small, normal, and huge view modes. You'll want to make the same changes for each. (There isn't a small .png fileset, yet – but anyone is free to create one).

One more step is left, however. Don't forget about the Numbers.png and h_Numbers.png! Those files control the rest of the data that is shown on the counters in the game. So long as you're happy with those colors as they are, you don't need to edit those files. But, if you want to change the colors of the data on the counters, those files will have to be edited. The same techniques can be used as above, but normal rectangular selections will usually suffice. The trick is to find the correct line to edit for the counter set being edited. Again, trial-and-error can find it, but knowing the sequence of counter colors can enable you to deduce which one is the correct one.

The old Numbers.bmp file had the body color incorporated with the text. That required those colors in the Numbers.bmp to be edited the same as they were on the counter sheet file. But the new .png ones use a transparency for all pixels that aren't text, so that step isn't necessary.

I'm not going to provide an example of editing the Numbers.png. You can figure that out by yourself by now.

Finally, once all your edits are finished. Remember to put them into the scenario-specific sub-folder in the graphics folder. If you've also edited the old .bmp files, there will have to be an edited Numbers.bmp too (for the reason given above). That will require that the Numbers.png and h_Numbers.png be included in the folder too, even if they weren't edited (otherwise, the Numbers.bmp would supercede the ones in the main graphics folder).

Here's a shot from the game after all edits were finished:



Happy recolorizing!