

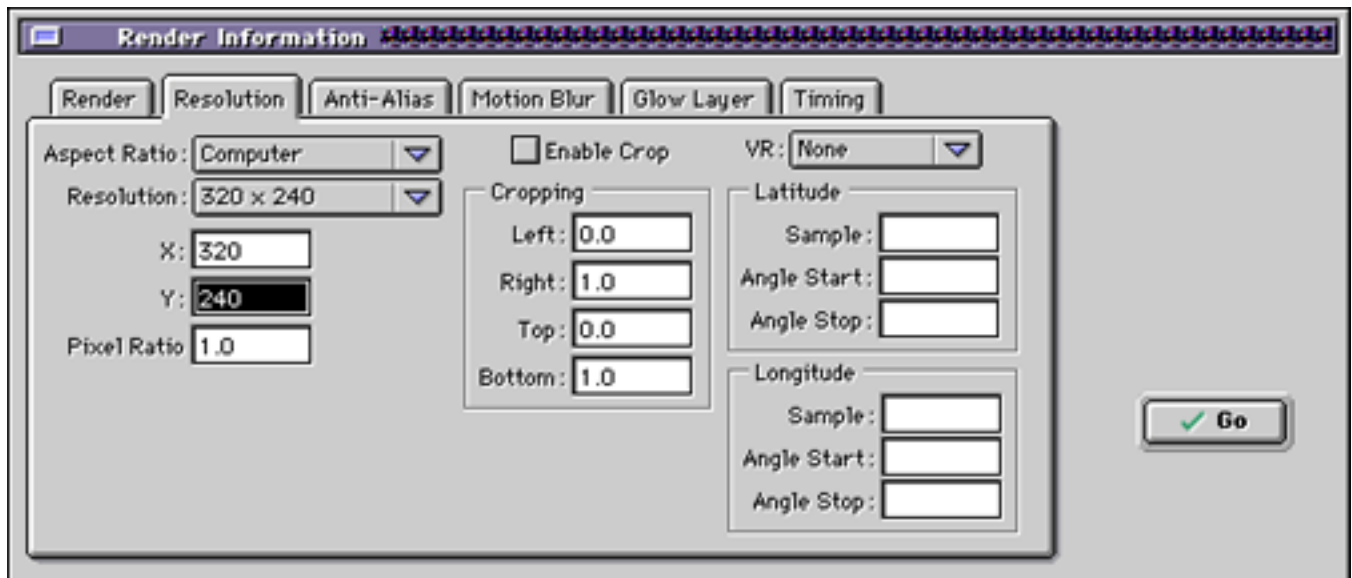
Animating for the Web by Troy Benesch

This tutorial provides several examples on how to bring your ElectricImage animation to the Internet. Converting anything for Web sites is a painful ordeal in terms of the degradation of quality. This is not to be confused with Virtual Markup Language (VRML) or VRML2 which are different topics altogether. Like creating a video, Web site design requires using several software programs to create the finished product. In addition to ElectricImage, I use DeBabelizer for color compression and Gif Builder for animation assembly. DeBabelizer is available from Equilibrium and Gif Builder is available as a free download (<http://iawwww.epfl.ch/Staff/Yves.Piguet/clip2gif-home/GifBuilder.html>).

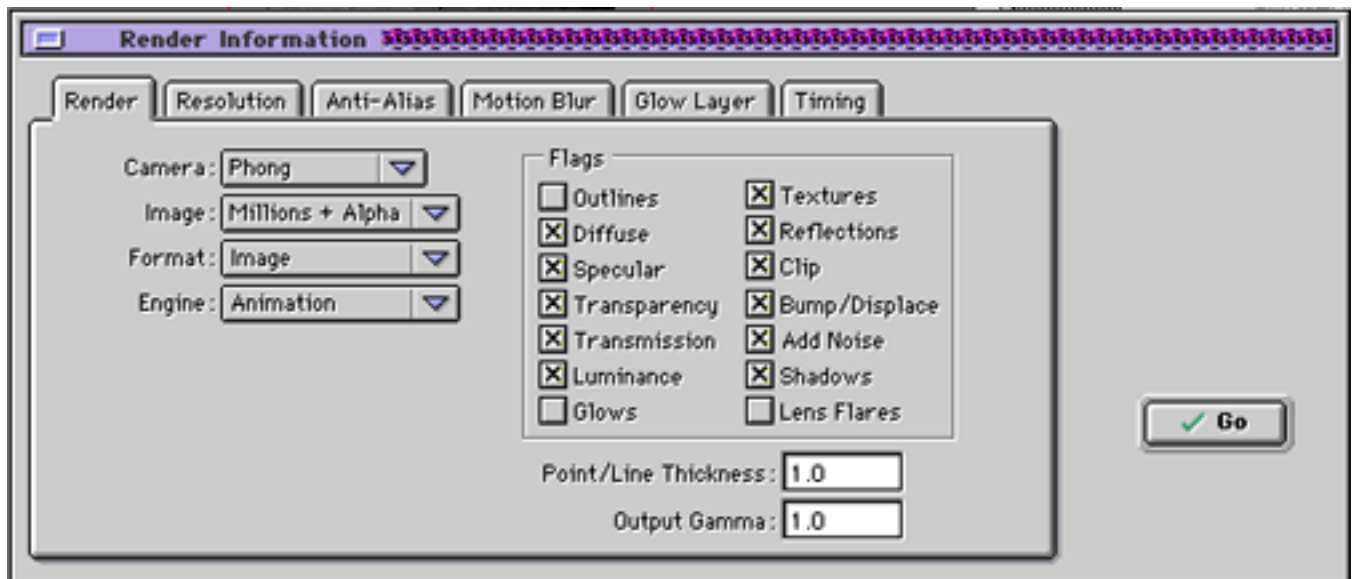
Internet bandwidth is one of the biggest issues that Web site designers grapple with. If you want everyone in the world to see your animation, then you must realize that the average configuration out there is a 28.8 baud modem hooked into a Windows OS PC with a 14" monitor that will display 256 colors. What this means is that the person's computer under "ideal" (read - unrealistic) circumstances can download a file at the maximum rate of approximately 3.6K per second. However, there are factors that will affect this performance, such as the Internet Service Provider (ISP), servers, various configuration and connectivity issues and data traffic. So, more than likely they will be accessing your site at less than 2k/second. If your animation is 1MB large (not uncommon), it will take that person 500 seconds or longer before the movie can be viewed. The Internet browser will also affect how an animation is viewed. An animation will look different viewed through America Online, Netscape, Internet Explorer or WebTV, etc. All of these factors must be considered, BEFORE you begin to think about how to convert your animation for the Internet. With these issues identified, let's get down to business...

There are numerous ways of showing your animation on the Internet. There are programs that will compress digital video, or permit the streaming of video, etc. The two most common and simple methods of showing one's animation on a Web site, are to make a QuickTime movie and a Gif Animation (basically creating a looping sequence of Gif files).

Embedding QuickTime movies on your Web site is a pretty simple and straightforward process. I would recommend running the animation at 15fps and keep the physical dimensions as small as possible (160x120, 240x180 and 320x240 being common sizes).



Step 1: In ElectricImage, render the animation out in millions of colors and in Image format.

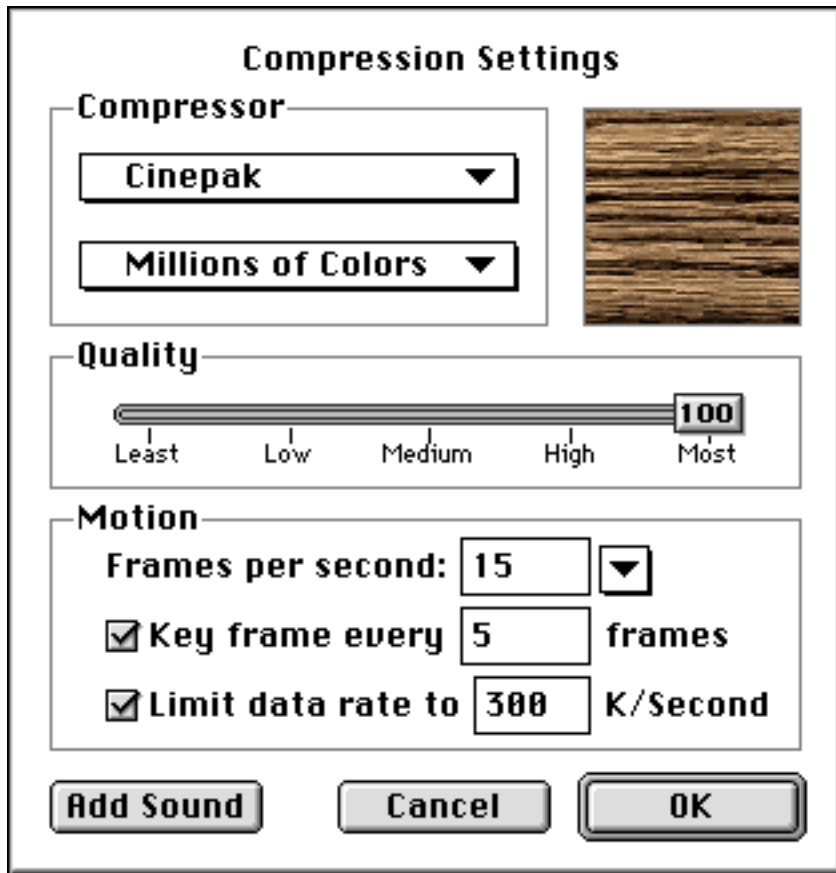


Step 2: Input the movie into After Effects from Adobe Systems and/or other programs to add in any additional touches. It is important to always keep the movie in uncompressed or lossless form.

Step 3: For final delivery to the Internet, you are faced with several options. The one most recommended is to use the compression program called MediaCleaner Pro™ from Terran Interactive, to compress your movie using their Cinepak compression algorithm. Another alternative is to use the "Image to QT"



utility that resides in your ElectricImage folder. To use this utility, double-click on it and you will be prompted with a dialog box asking you to locate the animation file that you want to convert into a Quicktime Movie. Select the movie and you will be faced with a familiar dialog box prompting you to set the compression level.

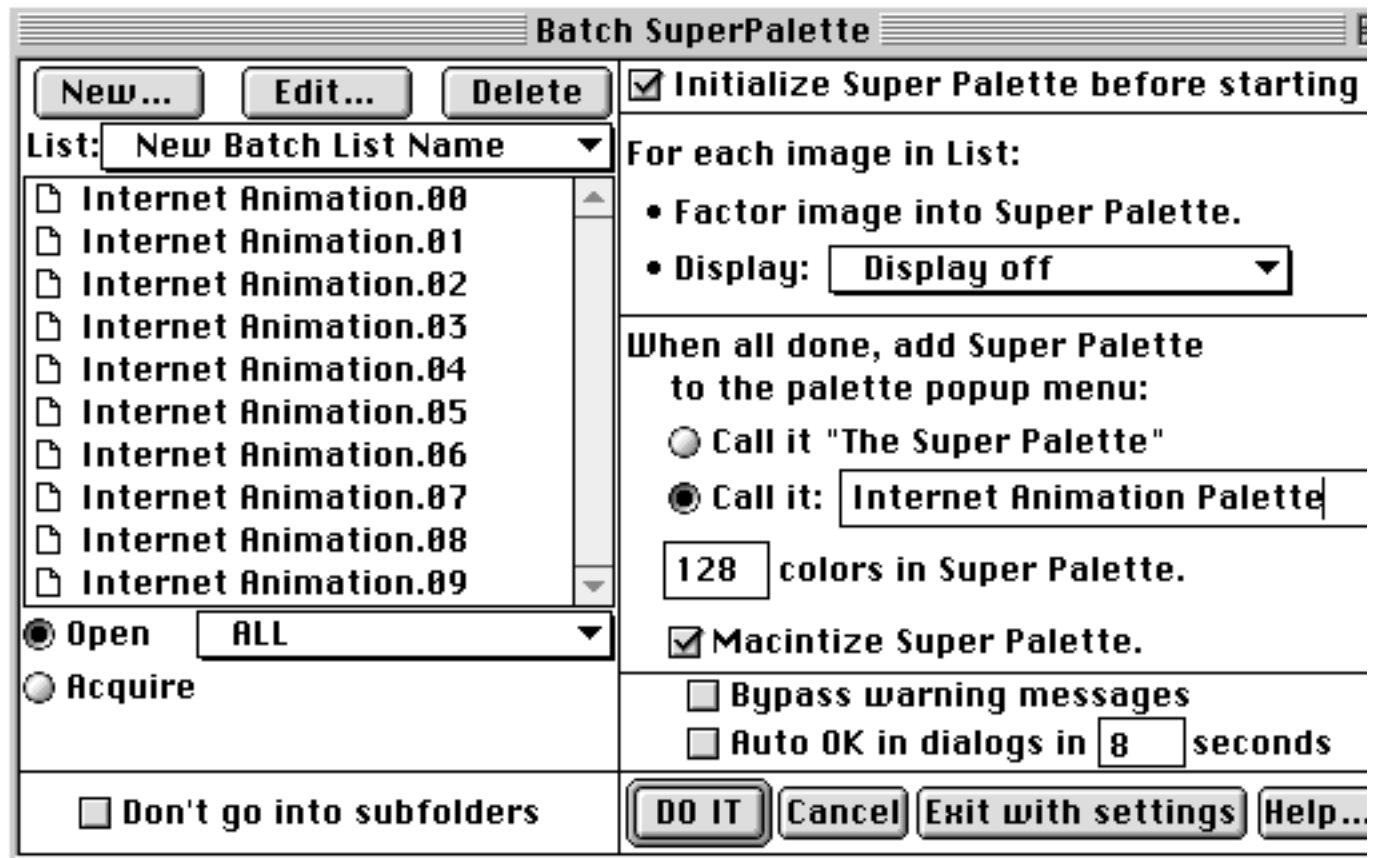


To determine the number of keyframes and data rate limitations, examine your animation. If you have a lot of movement going on and lots of colors shifting and changing, etc., then you will want to lower the number of keyframes to use. 300K/second data rate is a good target data rate. Do several small tests adjusting the Data Rate and the Quality slider to find your optimal 'look'. Unfortunately, each movie will vary in terms of what settings to use, but as you become more experienced in this process, you will be able to guess more accurately on the starting point. As of QuickTime 3.0, these movies will be able to be played on both Macintosh and Windows machines. However, color palette is still an issue if the movie is played from within the Web browser.

Another way to show animations on the Web, is to create what is called a 'GifAnimation'. Gif animations typically have a limited number of frames (most are between 5 to 30 frames total), may loop and have a minimized color palette (less than 256 colors). Let me interject something at this point. If you are going to seriously do any design work for the web, you must purchase the program, DeBabelizer. It is a tool as essential for Web design as Photoshop is for image manipulation in my opinion. That being said, onward.

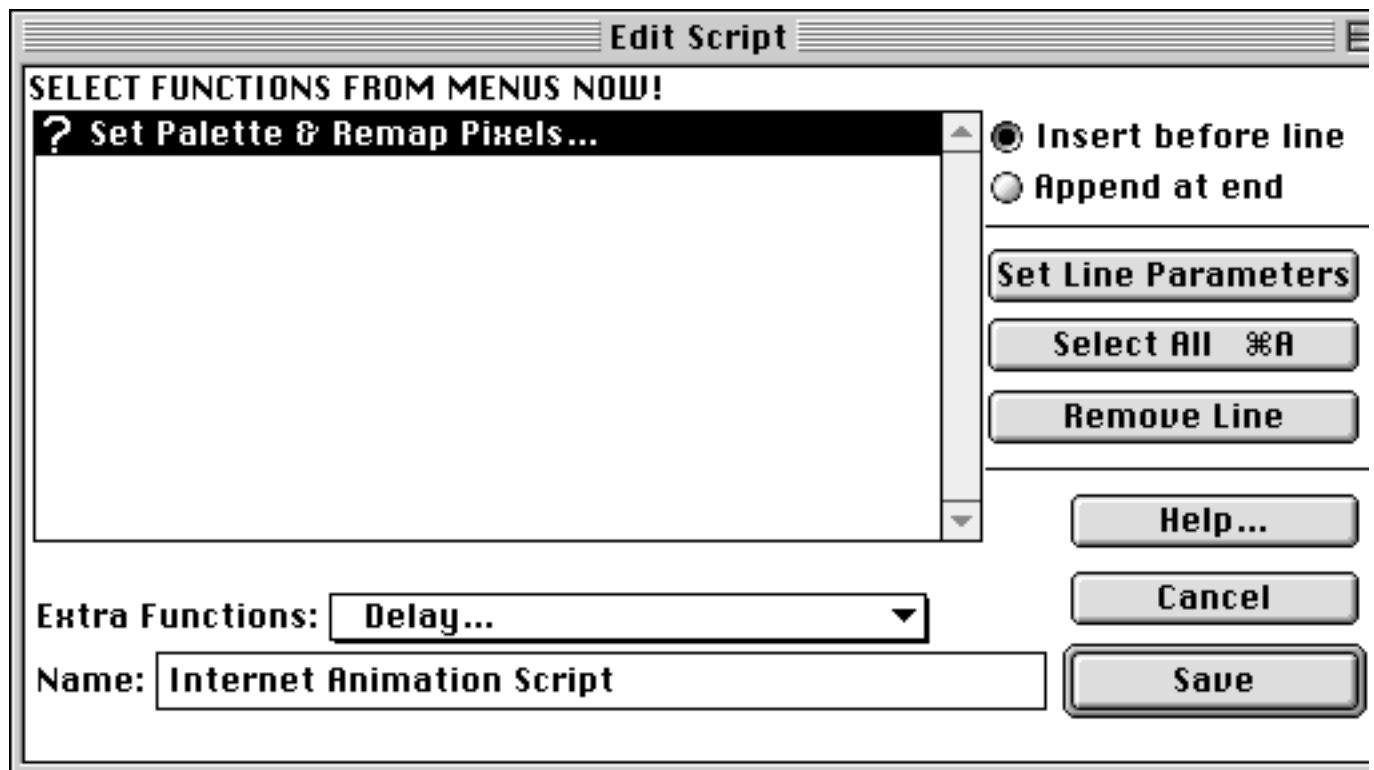
I have included a tutorial project as a sample. Open the project file "Internet Animation Project". There are several things to take note of. First bring up the Render Control Dialog Box by pressing Command+R. I have set Render parameters to Millions of colors and PICT format (to render the animation as a sequentially numbered series of Pict files). The resolution is set to 160x150. When dealing with the Internet, you will want to crop the image down as much as possible. Every extra pixel will increase the size of the image. Hit the "Go" button to render the animation. Create a new folder at the save as prompt and call it "Pict files". Name the title something like "EIWeb". It should only take less than two minutes to render the 10 frames. When it is complete, you will see 10 separate pict files in the "Pict files" folder.

If you have DeBabelizer, you will want to create a Super Palette with 128 colors. Be aware that working with 3D shapes, you will have a fair amount of gradation due to lighting, shadows, etc., creating banding issues. Go to File>Batch>Super Palette... and create a Super Palette with 128 colors.

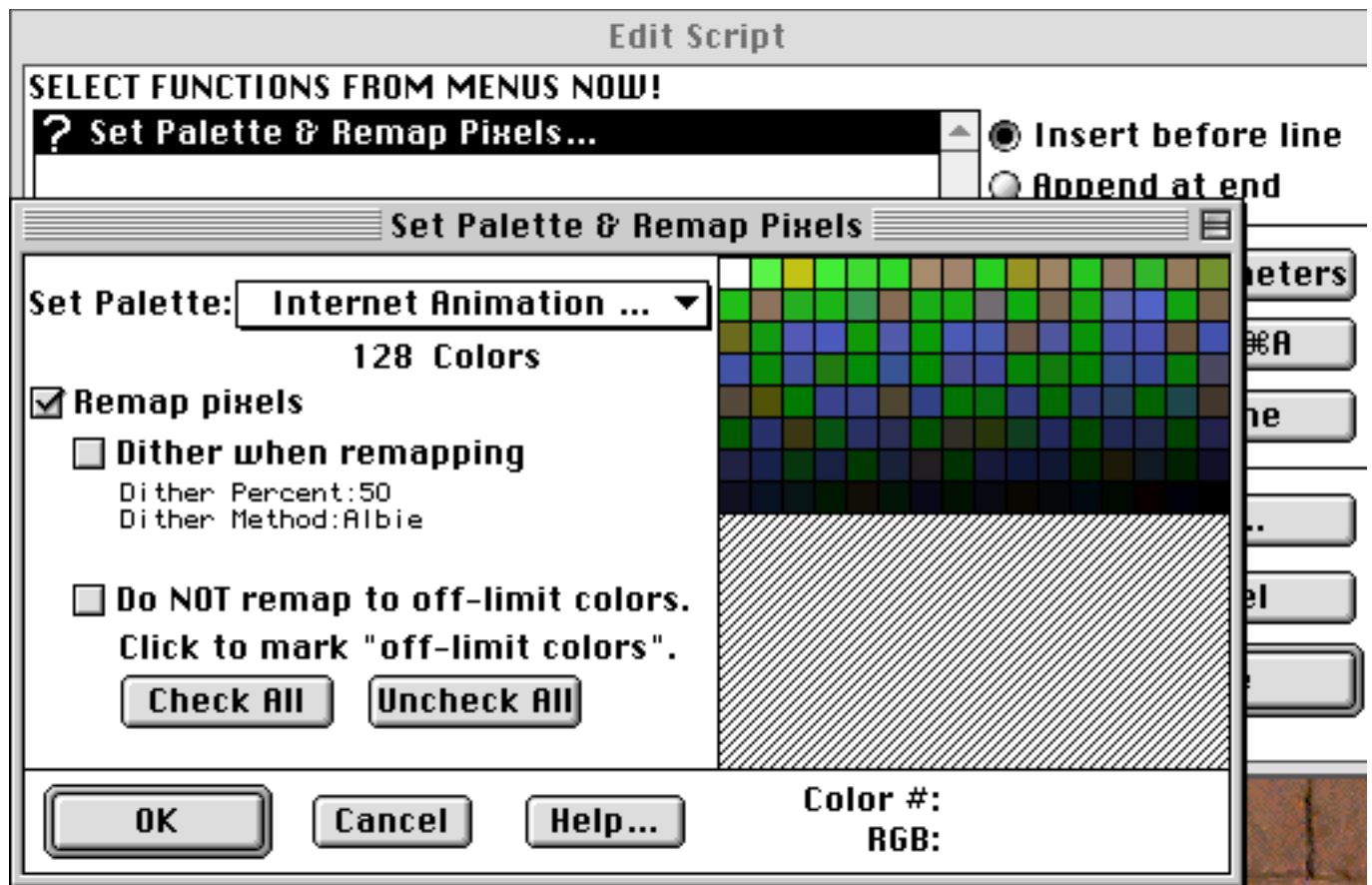


Call it "Internet Animation Palette" and hit "Do It". Debabelizer will now open and examine each of the 10 pict files and choose the 128 colors that are used the most and derive a combination that will degrade the image the least. After it finishes saving the Super Palette, you will want to create a quick script to make the conversion of the files painless and quick. Go to Scripts>New... and let's call it "Internet Animation Script".

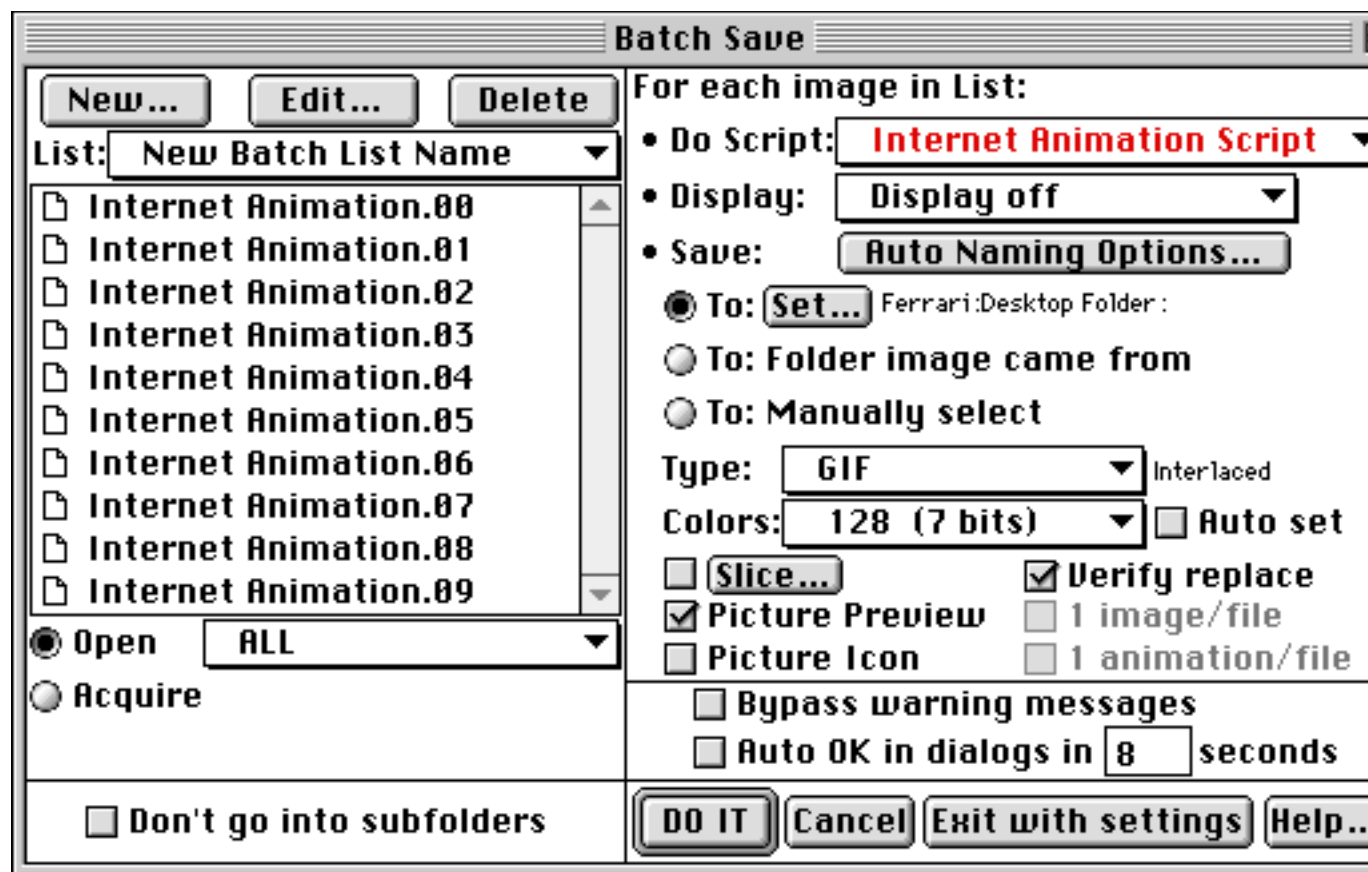
While the dialog box is still open, select from the top menu bar the Palette>Set Palette and Remap Pixels...



Your dialog box should look like the above. Next, double-click on the “? Set Palette & Remap Pixels...” selection that is highlighted. You will be prompted with another dialog box asking you to choose the Palette that you want to use. Select the “Internet Animation Palette” that we had created earlier.

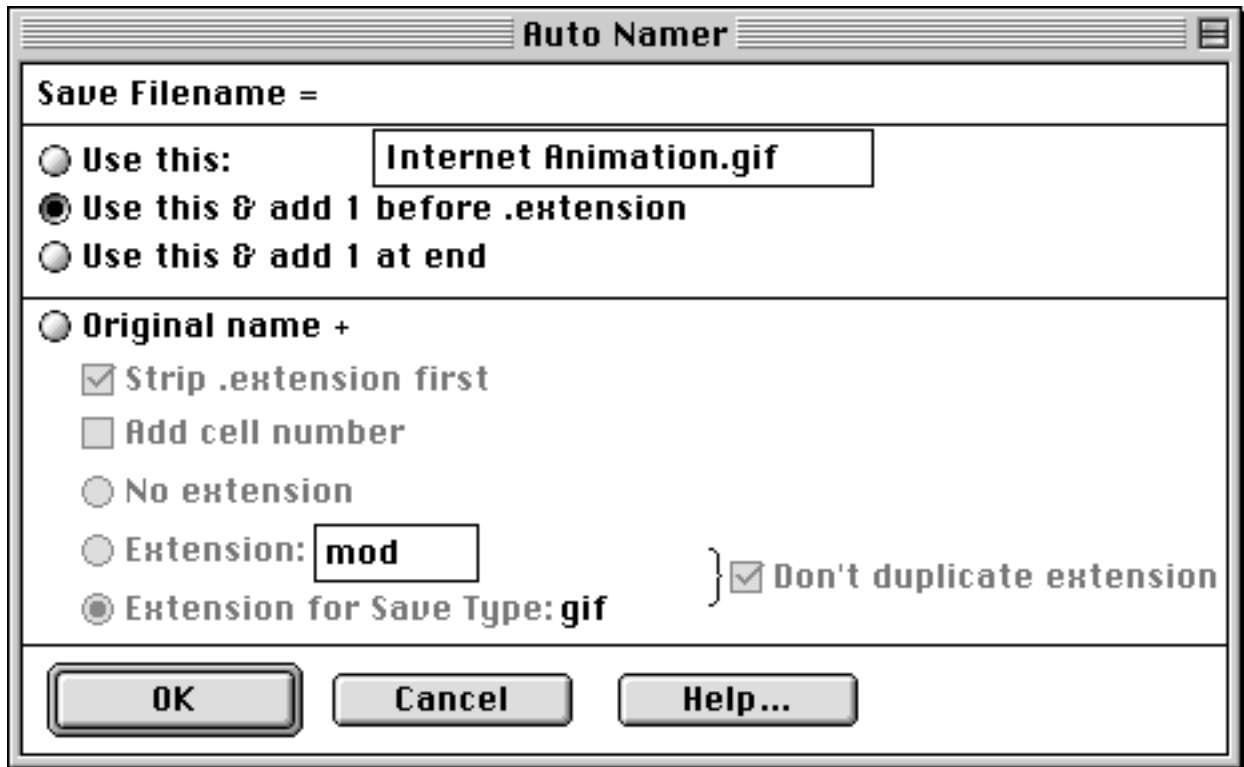


and then press OK. Do not check the "Dither when remapping" box. Save this script and then go to File>Batch>Save... Which will prompt you with this dialog box.



Choose "Internet Animation Script" under the Do Script drop down box. For Save, Auto Naming Options... name it "Internet Animation.gif" and select the 'Use this & add 1 before

.extension'.



Choose a place to save the files to (I created a folder called "Gifs" and saved the files into it) and hit "Do It" to save. You now have a series of 10 gif files. We will want to open the program Gif Builder and drag all 10 gif files onto the Frames window (or go under File>Add Frame...). Next choose Options>Colors>Best Palette, and Options>Depth>7bits/pixel, and Options>Loops>Forever, and Options>Default Interframe Delay...>15/100 seconds.

Save the file as "NetAnim.gif". Now open Netscape or Internet Explorer and choose File>Open File and select the gif animation that we just created. And there you have it. This example shows one of the many ways to create animations for the Internet.

Web design is a skill unto itself, and as any acquired skill, nothing beats experimenting.

Thanks and have fun.