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Guidelines: Design for DVD

If you are providing your own menu designs, it's best to provide them as a layered Photoshop files. Include your source files and any fonts that were used in the design.

Layered files allow the greatest flexibility and allow author to make changes when necessary. We also recommend providing a flattened jpeg or tiff as reference of the final design. Video has limitations not found in print or web design. If you plan on providing your own menu designs, we recommend the following guidelines:

Pixel Aspect Ratio

Standard Definition Video pixels are rectangular, not square like computer pixels. This is why computer generated images brought directly into Standard Definition Video will appear distorted.

To compensate for pixel proportion disparity, we recommend one of the following two options:

1. Work with rectangular pixels from the start.

Photoshop is capable of working in rectangular pixels and can accommodate any square pixel images imported into the document. To utilize this feature in Photoshop, select the following preset for 4:3 aspect ratio: "NTSC DV 720 x 480 (with guides)."

Or - create a new 720 x 480 pixel document and select: Image > Pixel Aspect Ratio > D1/DV NTSC (0.9).

For an anamorphic, 16:9 aspect, select: "NTSC D1 Widescreen 720 x 480 (with guides)."

Or - create a new 720 x 480 pixel document and select: Image > Pixel Aspect Ratio > D1/DV NTSC Widescreen (1.2).

2. Resize the document when you export.

Start with an RGB 720 x 540 pixel document. Complete your design. Then go to Image > Image size, uncheck "constrain proportions", and change the Pixel Dimension height from 540 pixels to 480 pixels. The document will distort visually, but when brought into video, it will look normal.

Color Gamut

NTSC video cannot reproduce the full spectrum of color avail-

able on a computer monitor or in print. If you include colors outside of the NTSC color gamut they will blow out, vibrate, or bleed.

Computer RGB color values are measured on a scale of 0 to 255. The darkest color black would have the RGB values of R=0 G=0 B=0, the brightest white as R=255 G=255 B=255. "NTSC black" should be set to: R=08, G=08, B=08, and "NTSC white" should be limited to: R=235, G=235, B=235. Avoid very bright reds and greens in particular. to: R=235, G=235, B=235. Any value below 08 or above 235 will not be accurately reproduced in NTSC video.

NOTE: Very bright colors, even those within the gamut, tend to bleed. Avoid very bright reds and greens in particular.

Interlacing

All Standard Definition NTSC video is interlaced. Interlaced video doesn't show the entire frame but splits up each frame of video into two fields. One field contains all the odd numbered lines of pixels (1,3,5,7...) the other field contains all the even lines of pixels (2,4,6,8...). These alternating fields are displayed so quickly that they appear as seamless picture. However, if any line, edge, object, or pattern is a single line (pixel) thick, it will not display continually but will appear to flicker. To prevent this avoid using hairlines, high contrast edges, and thin diagonal lines. Any remaining flicker can often be improved by using a 0.3 pixel Gaussian to smooth out the image.

Overscan

The majority of televisions do not show the entire video picture. They cut off the edges of the image. To ensure that all, important elements, such as a menu buttons and text, do not get cut off, it's customary to observe the "title safe" guidelines. The "title safe" area is approximately 72 pixels from the top and bottom, and 48 pixels from each side.

Fonts

Cine-O-Matic recommends using San Serif fonts of at least 18 points. Smaller fonts often become illegible when displayed on a television. Serif fonts tend to flicker and break-up due to interlacing. If you would like to use a font with serifs we recommend bolder fonts no smaller than 30 points.