



Pixel Aspect Ratios

As we mentioned in Chapter 4, “Choosing a Camera,” although the pixels on your computer screen are square, digital video formats—including DV—use rectangular pixels. Unfortunately, this means that your images and video can end up stretched and distorted as you move back and forth between different pieces of software.

Because digital video uses rectangular pixels, it will appear wider when displayed on your square-pixel computer monitor. Most editing and effects programs compensate for this by squishing the image horizontally to bring it back to a 4:3 aspect ratio on your computer screen. (If your software doesn’t do this, you’ll just have to get used to working with stretched footage. *Don’t* perform horizontal squishing yourself, or your video will be distorted when it goes back to tape and gets played on a video monitor.)

Today, most video packages let you specify a pixel aspect ratio—many even let you explicitly configure for DV format—when you create a new project. Consult your software’s manual for more information on how to set pixel shape (Figure 17.15).

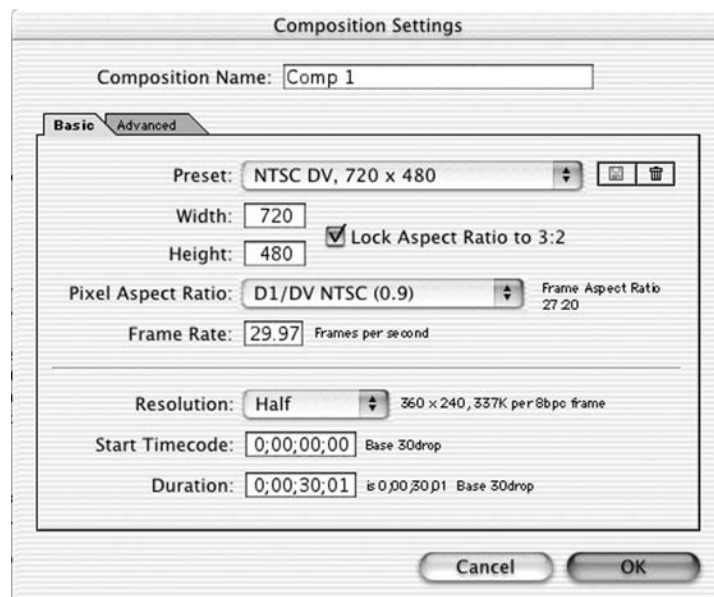


Figure 17.15 Most editing and effects packages now let you specify a pixel aspect ratio when creating a project. Shown here is the Composition Setup dialog from Adobe After Effects 5.5.



If you're creating graphics in a paint, image editing, or 3D application, you'll need to do some extra planning if they're destined for videotape.

If you are using a square-pixel videotape format such as VHS or Hi-8, you can go ahead and create your graphics at 640 x 480 pixels and import them into your editing application normally. If you're using DV video, then you should create square pixel graphics at 720 x 540 while working in Photoshop, or any other square pixel environment. At this aspect ratio, they'll appear the same as they'll eventually look on a video monitor. When you're done with the artwork, save a copy and resize the copies to 720 x 480 before you import them into your editing package. (Figures 17.16a, 17.16b, and 17.16c).

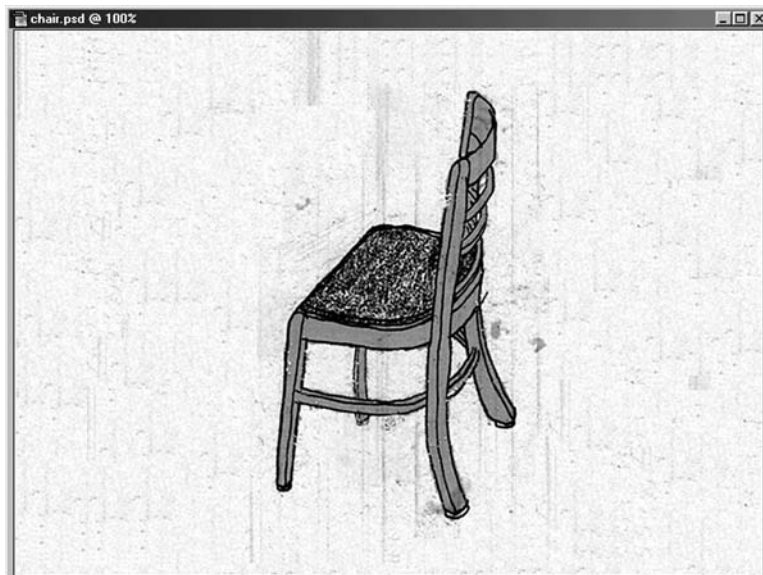


Figure 17.16a When creating images for export to video, start with pixel dimensions of 720 x 540.

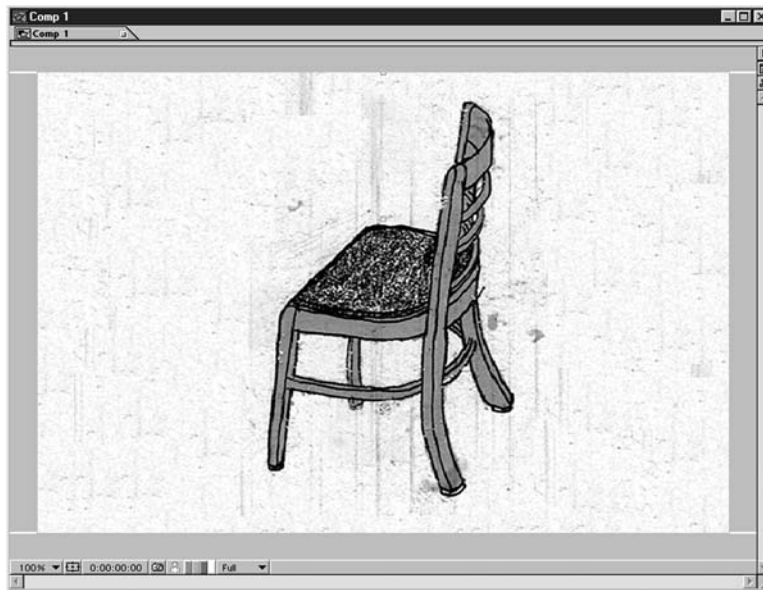


Figure 17.16b When imported into a program that supports rectangular pixel aspect ratios, the image will appear too wide.

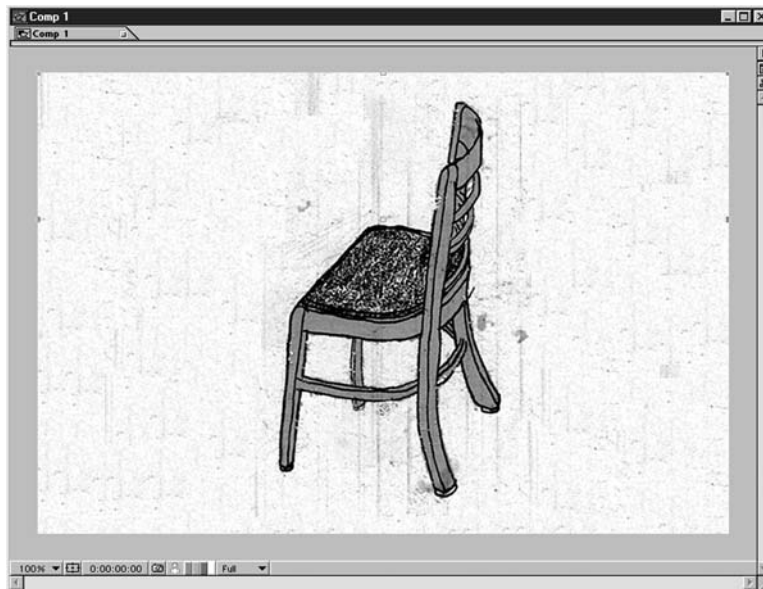


Figure 17.16c By simply applying a 90-percent horizontal scale, you can return the image to its correct aspect ratio.

In our tutorials, we assume that you are selecting the correct pixel sizes and project settings to compensate for the pixel aspect ratio of your chosen format.