Photoshop CS and the Video Pro

Non-square pixels and 16-bit rates improve Photoshop's video integration

BY RICHARD M. HARRINGTON, PMP

National Association of Photoshop Professionals

Adobe Heard the Cries of Video Professionals

It's been a good year for video professionals. Adobe has released updates to key products, such as After Effects and Premiere, and new tools: Encore (for DVD authoring) and Audition (for audio editing). In support of these great tools, Photoshop CS has built in tremendous support for video users.

Photoshop was developed in part by an engineer doing motion-picture work at Industrial Light & Magic, but these roots were lost for many years, which forced video professionals to develop their own strategies and workarounds. Tough issues, such as image size and pixel aspect ratio, have plagued video professionals. Open two manuals for Nonlinear Editing (NLE) systems and you'll find contradicting information about building graphics and preparing them for import into a video edit session. No more! Adobe heard the cries of video pros and several workarounds have been eliminated by fundamental changes in Photoshop's toolset.

Pixel Aspect Ratio

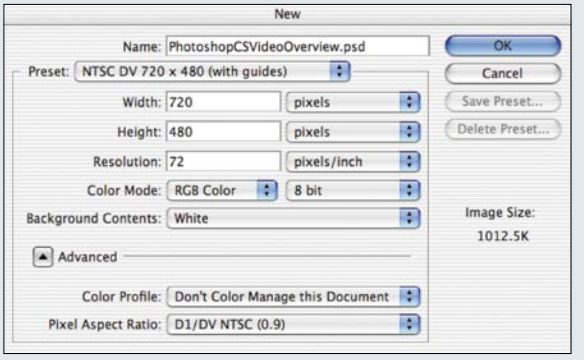
Here's the best news you'll hear all year: Photoshop CS fully supports non-square pixels when building graphics for video. If you work in video, you likely have a huge smile on your face. If you're new to video (or believe in reading your magazines cover to cover), you may wonder what the big deal is.

Traditional square pixel (left); Digital Video pixel for NTSC video (right)

Computers and video use pixels to display images; however, television and computers developed along distinctly separate lines. These technologies existed independently of each other, and using computers to process broadcast-quality video is a relatively recent development. While all computer pixels are square in their native format, professional video applications generally use pixels that are non-square. Photoshop's ability to design in non-square pixels is a great help for building files for After Effects, Premiere, Encore, and other video applications.

When the design originates in Photoshop

As Photoshop now has all the templates you need (with title safe overlays) built right in, this is the easiest method for working with non-square pixels: From the New dialog, simply pick the correct size for your video system. You can also name the document and specify 8-bits or 16-bits per channel (more on that later).



Create your masterpiece as you always did, except now you have fewer steps. When your master design is finished, there's no need to resize the document for video. Just save a flattened copy with Alpha channel (if desired) or a layered PSD file for importing into your NLE or compositing program.

When working with Freeze Frames

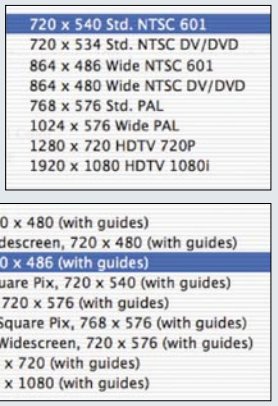
Perhaps you need to touch up a video frame to remove a "hit" or maybe build on a frame to place text and graphics. All NLE packages support exporting still frames of video as graphic files…easy, right? Nope, be careful! Video programs will write the file at the correct size (720x480 for an NTSC DV file), but will do so as square pixels. When you open this document in Photoshop, it will look distorted (stretched horizontally for NTSC, vertically for PAL). Choose the correct Pixel Aspect Ratio settings from the Image menu and the distortion is gone (see next page)!

Image appears distorted.

Image here has the correct Pixel Aspect Ratio.

Think less, work more

Just as the print world has margins, so do video graphics. In fact you'll often lose the outermost 10% of your graphic when it's shown on a TV. Furthermore, type is usually constrained to an even smaller area to avoid crowding at the edge. In the past, video professionals used a Safe Title Area template or overlay when building their graphics.



Photoshop 7 vs. improved Photoshop CS (bottom)

Now, with this convenience built in, you just choose one of the pre-designed video templates. They're now labeled with guides to inform you that a grid is supplied. The outside set of lines is called Action Safe. You should still design edge-to-edge, but be sure to put elements that must be seen inside these first lines. The second set of guides is Title Safe. All text must fall within this inside box for proper readability on a TV.

Bigger bit rates

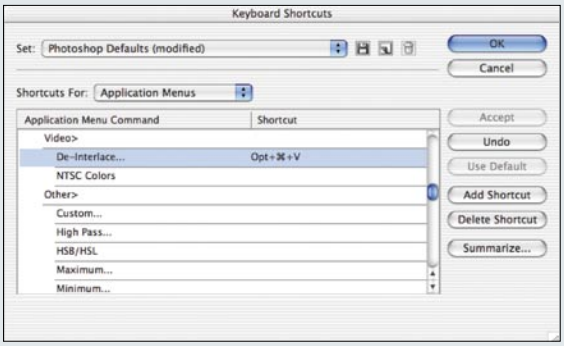
Previous versions of Photoshop supported 16-bit images only when working without layers. Photoshop CS smashes this quality barrier and allows full support of a 16-bit workflow—great news for After Effects artists who've had 16-bit capability for some time. Most video-editing systems support higher quality imports as well.

Working in 16 bits is superior for higher quality scans and image corrections: You have more data to work with and can manipulate things further before banding or posterization. *Note:* Not all features are 16-bit compatible (and working in 16 bit requires more render time).

Of greatest impact to video professionals (as of this writing) is that only 22 of Photoshop's built-in filters have been optimized to work in 16-bit mode.

Stop re-learning

A mappable keyboard has always been popular with video professionals as it lets you put the tools you need at your fingertips. In addition, you can have the same keyboard shortcuts work across programs and manufacturers. Photoshop CS lets you modify existing commands or create new ones for most menu functions and tools; for example, the De-Interlace filter could have its own hot keys assigned. To get started, choose Edit>Keyboard Shortcuts.



If you work with Adobe's Pro Video products, Photoshop's influence can be clearly seen, whether it's adoption of the Photoshop Type engine across the board, or After Effect's new Paint tools, which match those in Photoshop. Higher bit rates and improved compatibility of imported Photoshop files can also be seen throughout the product line. Two noteworthy examples include: Encore's ability to use Photoshop files as menus (including the ability to edit a menu in Photoshop after creation); and After Effect's new options that facilitate importing PSD files as compositions.

Adobe Photoshop began life as a film and video tool. Now, Adobe has helped return it to its proper place with the release of Photoshop CS. Non-square pixels is enough of a reason to upgrade, let alone the other features discussed here and in other articles in this special supplement. Next time you see Adobe at a trade show, be sure to stop by the Photoshop booth and say thanks! ■

Richard M. Harrington is a faculty member at the Art Institute of Washington, author of Photoshop for Nonlinear Editors, *a successful consultant in the DC area, and a popular speaker at industry conferences throughout the country.*