Working with CRT monitors

This text was excerpted from the 3rd edition of *Effective Onscreen Editing*, and is intended for editors who still use a CRT monitor.

Display settings

Modifying three aspects of your display settings can prevent computer use from turning into a visual nightmare: the screen resolution, the refresh rate, and whether or not *anti-aliasing* is used. Each can be changed via the Display (Windows) or Displays (Macintosh) control panel.

Screen resolution

Screen resolution determines how many dots (*pixels*) are displayed on the screen. Most computer users now use a large display with a resolution of at least 1270×800 to provide a good compromise between sharpness and size, but many other resolutions are available. Experiment with resolutions until you find one that lets you show the desired amount of text on the screen, thereby reducing the amount of scrolling you must do and providing a better view of page layouts.

At higher resolutions (more pixels), screen images will be sharper and potentially less fatiguing to view, but text and icons will be smaller than they would be at a lower resolution. The Display (Displays) control panel solves this problem by offering a range of icon and text sizes for each resolution.

Screen refresh rate

CRT displays have largely been replaced by LCD monitors. Nonetheless, since some editors still use a CRT, a few words on how to use one with less pain: With CRT displays, the image is painted by a beam of electrons sweeping across the screen, and by the time the beam reaches the end of the screen, the first-illuminated pixels have begun to fade. This leads to flickering as the fading pixels are suddenly "refreshed" and replaced by brighter, freshly illuminated pixels. Many computer users find that the baseline refresh rate of 60 Hz (sixty times per second) is insufficient; the flickering is distracting and visually fatiguing. Flickering is particularly obvious in peripheral vision, so if you don't see flickering when you look directly at the screen, try turning your head or focusing your gaze to one side of the screen.

If you do notice flickering, increasing the refresh rate to 75 Hz or greater will solve the problem for most people. However, a low-cost computer using a large CRT at high resolution to display the maximum number of colors possible may not permit sufficiently high refresh rates. In that case, you may need to decrease the screen resolution or number of colors being displayed. The computer's video card will then be able to refresh the screen sufficiently fast that the flickering becomes unnoticeable.

Anti-aliasing

Modern CRT displays provide sufficiently high resolution that it's difficult to see the individual dots that make up lines and characters on the screen. You can therefore select a wide range of display resolutions with little difficulty. However, both Apple and Microsoft offer a feature that is generically called *anti-aliasing*. Microsoft's solution is called ClearType; Apple calls this "LCD font smoothing". If you find the text on a CRT monitor blurry, try turning off this feature (if it's enabled) or turning it on (if it's off).

Flicker

Two other things can cause flicker. Fluorescent lights flicker, though modern compact fluorescents do so sufficiently fast that the flicker is hard to see. However, when your lighting flickers at a different frequency from your monitor, the flicker can become more apparent. Try installing LED bulbs, which don't flicker. In addition, CRT monitors are adversely affected by electrical fields. Placing two inadequately shielded monitors side by side can cause them to interact, and installing a monitor near a powerful source of electromagnetic radiation, such as a house's electrical panel, can also cause flicker. Moving the monitor or the panel may solve the problem.