Cleaning Up the Mysteries of Your HDTV

– Clay Tapp

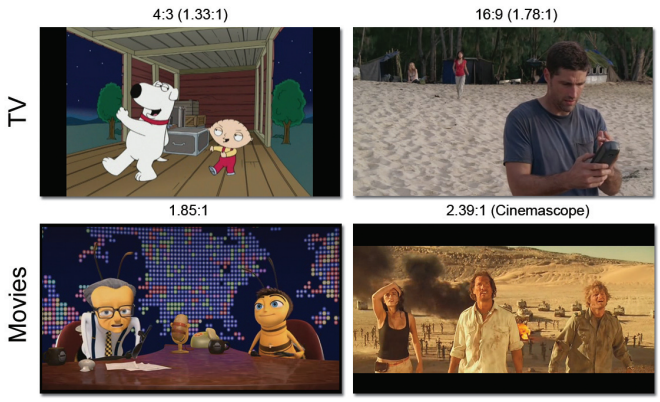
Why does my TV have black bars on the side?

It's a question I hear all too often in my line of work, but it's not hard to see why it can be such a confusing subject. It all boils down to something called "aspect ratio". To get us started unraveling the mystery, let's define the term:

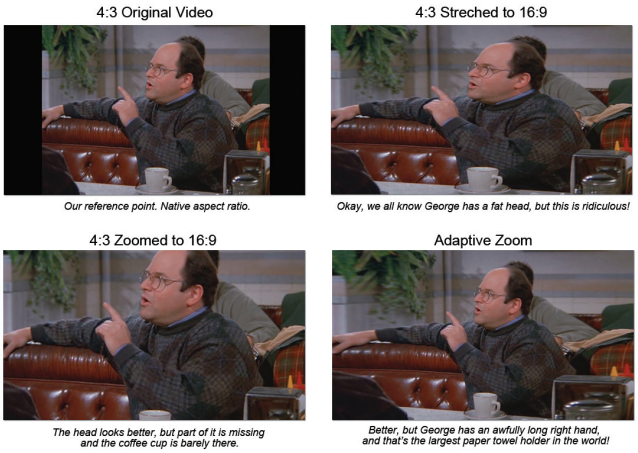
–Aspect ratio: The ratio of a video's longer dimension to its shorter dimension.

You've probably heard of at least two of them before; 4-by-3 and 16-by-9; But what about 1.85-by-1 or 2.39-by-1? As if 4 weren't enough, IMAX movies are shot in 1.43:1 and some advertisers shoot their commercials in 14:9, a compromise between the 4:3 and 16:9 ratios. Confused yet? There are more, but I won't bore you with the history of the industry. Let's just focus on the most commonly used.

The differing aspect ratios used throughout the television and film industries leave your 16:9 TV with some extra space to fill. Black bars are inserted to make up for the differences in the ratios, and are a perfectly normal part of your TV's operation. While the HDTV



standard is 16:9, channels will continue to air shows like "Family Guy", "Seinfeld" or "Andy Griffith", shot in the older 4:3 format and choose to send you the video in the unaltered original aspect ratio. While this is 100% true of broadcast television (major networks and PBS), some cable providers stretch a few cable channels to 16:9 before it gets to your home. If you don't like this, be sure to let them know.



As many of you have already figured out, your TV can be configured to compensate for these black bars by either stretching or zooming any video to fit your screen. The options vary from manufacturer to manufacturer, but there are a few basic inclusions that are industry wide. The most common of these are "Stretch" and "Zoom". Some makes/models offer varying options on either, and many newer models include something called "adaptive zoom". This specialized setting stretches the video only on its outer edges, leaving the center of the video image unaltered.

While these options will fill your screen with video, there are some sacrifices to make. Zooming the image means losing potentially important parts of the picture, and stretching the image means distorting the entire scene. Adaptive Zoom is arguably the best of the options, but can result in a fish-eye effect in moving video, or distorted bodies in tightly framed scenes.
Since viewing video in its native aspect ratio will always yield the highest quality viewing experience, I recommend you disable all of these settings. Of course, there's nothing wrong with any of these options! You should certainly enjoy your entertainment in any manner you choose. In the end, it comes down to your personal preference. Tweak to your heart's content – and if you break it, give me a call. I'll take a look.