

**1080p CONFUSION**

Three years ago, I had seen the early HDTV sets that were touted as “the future of television,” and quite frankly, I was not impressed. As a result, I waited until I saw a television set which really wowed me, and one that the home theater magazines (yours included) really raved about. Though the magazines would speak highly of some of the better sets available, the “Wow” factor seemed to be missing. That all changed with last year’s introduction of Sony’s KDS-R60XBR1. And rightfully so—it is an outstanding set. I paid \$5,000 for that set, and hardly blinked at the price. I don’t fully recall if TPV actually stated that Sony’s set was 1080p capable, but I know the retailers did. In fact, OneCall still does in the spec section. Of course, now I and other consumers find that it is not capable of displaying

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a 1080p picture; only 1080i. The Sony is not alone, as Samsung, Mitsubishi, JVC, and Toshiba sold televisions that had “1080p” stickers on them in the stores. The truth came out, and magazines reported this, but no real stink was raised. The publications said that there is currently nothing available which puts out a 1080p signal anyway. Now there’s a new generation of TVs out that actually can display a 1080p signal, which the new HD DVD and Blu-ray discs send. I’m aware that manufacturers rely on early adopters to help fund development of new products, but have they now resorted to false advertisement as well? Is it me, or should consumers be ticked off by this tactic?

— **Dannie Paige**

**Scott Wilkinson**—This is a source of much confusion. The term “1080p” can actually apply to two different parts of the signal chain: the source and the display. On the source side, a source can output a 1080p signal or it can’t. (Actually, it’s a bit more complicated than



that—any source that outputs 1080p can do so at 60 frames per second, and some can also output 1080p at 24fps, the frame rate at which movies are shot and stored on HD DVD and Blu-ray discs.)

At the other end of the signal chain, a display with a native resolution of 1920x1080 pixels can accept a 1080p signal at 60fps (and possibly 24fps) or it can't. Either way, the display is often labeled "1080p" because it has a resolution of 1920x1080, and it must deinterlace a 1080i input to display it; in other words, the signal must be 1080p just before it hits the imaging hardware.

I agree that this is very misleading, because a "1080p" label on a display really tells you nothing about whether or not it can accept a 1080p signal.

Not only that, modern fixed-pixel displays (DLP, LCoS/SXRD/D-ILA, LCD, plasma) do not render an image in an interlaced or progressive fashion in any event—they flash the entire image of each frame all at once rather than drawing horizontal lines sequentially. (Hitachi's ALiS plasmas are an exception, though even these displays do not draw lines sequentially.) As a result, calling such a display "1080p" is doubly misleading. The terms "1080i" and "1080p" should only be applied to video signals, not displays.

I must also point out that, contrary to popular belief, a 1080p signal is not necessarily better than 1080i, especially if we're talking about 60fps. As mentioned above, a 1080i signal must be deinterlaced in any event before it can be displayed, and the quality of the final image is determined by which device—the source or display—does a better job of it. In general, there is no difference in

picture quality between signals at 1080i and 1080p/60, as long as the device doing the deinterlacing does it correctly. On the other hand, you can get a better picture from 1080i if the display can perform inverse telecine (discard the unpaired fields generated by 3:2 pull-down and display only complete, original frames at 72 or 96fps). In this case, the result will have no artifacts, which are very difficult to completely avoid in a deinterlaced 1080p/60 signal.

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