

Utopia Theater

The Science of Images

Back in 1969, I built a Heathkit color television for my parents. It used vacuum tubes and, as I recall, almost all the wiring was labor-intensive "point-to-point." Among the kit's features was an electronic remote control, which activated motorized potentiometers for channel switching, volume, color, and tint. More important, the TV had built-in convergence and color-bar generators. Tweaking the set's picture took almost as long as building it, and building the thing took all the evenings of an entire summer.

Switching on the Heathkit for the first time after six weeks of toil was a major thrill and an intense fright fest. The instructions warned that the new picture tube would be subject to serious (but quite normal) arcing, which caused sudden, violent, and very loud snapping sounds to come from the chassis.

Being obsessive, I tweaked and tweaked until I got the black-and-white picture to look black-and-white. I didn't have a color-temperature calibration device, nor did I know from 6500 kelvins, but I did have our old black-and-white TV to use as a guide. I worked for almost a week getting the convergence perfect, a process that was not helped at all by the performance variability of the tubes.

When I was finished, I had the second-best color-television picture I'd seen. (The best was the one I'd seen at RCA's Rockefeller Center exhibit.) A week later, our house was burglarized and the set was stolen. Oh well...

All of which brings me to the Imaging Science Foundation's monitor-calibration program. I'm sure you've heard about it. Have you had your set calibrated yet?

My friend Greg has a Sony 61-inch, SBR



video game-like center convergence adjustment. Reading his suggestions made me feel like I was on the *Titanic*—after it sank. Nevertheless, armed with a little knowledge and a lot of hubris, I attempted to improve the Sony's convergence, noting each setting before messing with it.

When I was finished, the set looked *much* better—not perfect, but clearly better. This improvement, plus a little whining and kvetching on my part, convinced Greg to hire Louis Carliner, the ISF expert in Maryland who specializes in this particular model, to give his set a thorough going-over.

Unfortunately, I was out of the country when the work was done, so I couldn't observe the master at his task. Along with calibrating the color temperature, Carliner adjusted the projector's optics and redid the convergence—the right way. When I returned from my trip, I visited Greg and looked at the set.

It had been dramatically transformed. Gone were the hotspots. Gone were the purple and green fringes and the garish blue tint that had infected colors all across the spectrum. Greg's television now looks like a well-calibrated direct-view set, only much, much bigger. The light distribution is even all over the screen, the colors are far more realistic, and the overall picture has a creamy, filmlike quality that's natural-looking and easy on the eyes.

If you've spent big bucks for a big screen, don't accept the mediocre factory setup you get out of the box, which is only made worse in shipping the set from the manufacturer to the dealer. Pay an ISF-trained service person to calibrate your set's color temperature and, if need be, adjust its convergence and optics.

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They weren't kidding. Each loud, sudden snap pumped more adrenaline into my bloodstream and sent me running for the fire extinguisher.

At first, the image looked awful; every possible parameter needed serious attention. The entire picture (if you could call it that) was tilted, its geometry was grotesquely off, and the convergence looked like an acid flashback. But slowly, with (at Heath's insistence) one hand behind my back to prevent electrocution, the picture came together.

rear-projection television. Every time I saw it, I was reminded of putting a magnifying glass on a zit. The convergence was seriously off, the color temperature was way too high, and the screen had more hotspots than South Beach. It's big, but size isn't everything.

I made a few calls and got the access code for the Sony's internal service mode. Then, a friend in the industry turned me on to a guy who specializes in setting up that particular model. He gave me a few pages' worth of tips, most of which were way over my head; it turns out that a few *dozen* calibrations can be made from the service menu, not just one