and 50 inches for RPTVs. Pioneer and Panasonic have also introduced 1080p PDPs at 50 inches and 65 inches respectively. A display with 1080p resolution is a good match for 1080i video sources, but the larger screens benefit most from 1080p resolution, as the additional pixels help create a smoother picture you can view at closer distances. The rule of thumb is that 1080p resolution is a must for screens larger than 50 inches. With smaller TVs, you would need to sit fairly close to appreciate the improvements the extra pixels would offer.

**YOUR BOTTOM LINE**

Truth is, there’s almost too much information out there about high-definition television. It’s not like the information glut that accompanied the early days of consumer PCs—too many options, with no winner, only the option that’s best for you. This story, along with our online reviews and resources, should clear up much of the HDTV picture, or at least set you on the path to making the right decision for your family room and your wallet.

---

**The Future on Display**

A new flat-panel technology emerges to challenge plasma and LCD.

---

The technology was developed by Canon and Toshiba. The acronym, SED, stands for surface-conduction electron-emitter display. And the technology borrows from CRT and LCD while avoiding the pitfalls of both. Like a CRT, an SED uses an electron source to stimulate a thin layer of material. But a CRT paints its picture line by line using a single magnetically guided electron beam; in an SED, an array of electron emitters draws each individual pixel.

This level of pixel control lets SED’s developers claim pixel-response times of below 1 millisecond, which will result in superb clarity when displaying video containing fast movement and colors enhanced by infinitesimal black levels. And SED’s contrast ratios reach into the astounding realm of 50,000:1 or better (the ratio approaches infinity:1 as black measurements approach zero, or no light), meaning that black on an SED will appear inky dark instead of the dim glow you’ll see on other TVs. I had the opportunity to view a prototype 37-inch SED panel in action and was impressed by the display’s dark-gray detail as well as its superclear fast-motion video.

Returning to reality, the main issues affecting SED’s success are time and price. The current time line from Canon/Toshiba calls for the debut of 55-inch 1080p SED TVs in late 2007. Pricing isn’t available yet, but like all new technologies, SED will initially command premium prices.

### CRT and SED Technologies Compared

Behind the scenes, an SED uses electron emitters to draw each pixel individually. On the CRT display, pictures emerge line by line.