

## **DTV vs. HDTV**

The Advanced Television Standards Committee (ATSC) has set voluntary standards for digital television. These standards include how sound and video are encoded and transmitted. They also provide guidelines for different levels of quality. All of the digital standards are better in quality than analog signals. HDTV standards are the top tier of all the digital signals.

### **Standard vs. high-definition aspect ratio**

The ATSC has created 18 commonly used digital broadcast formats for video. The lowest quality digital format is about the same as the highest quality an analog TV can display. The 18 formats cover differences in:

**Aspect ratio** - Standard television has a 4:3 aspect ratio -- it is four units wide by three units high. HDTV has a 16:9 aspect ratio, more like a movie screen.

**Resolution** - The lowest standard resolution (SDTV) will be about the same as analog TV and will go up to 704 x 480 pixels. The highest HDTV resolution is 1920 x 1080 pixels. HDTV can display about ten times as many pixels as an analog TV set.

**Frame rate** - A set's frame rate describes how many times it creates a complete picture on the screen every second. DTV frame rates usually end in "i" or "p" to denote whether they are interlaced or progressive. DTV frame rates range from 24p (24 frames per second, progressive) to 60p (60 frames per second, progressive).

Many of these standards have exactly the same aspect ratio and resolution -- their frame rates differentiate them from one another. When you hear someone mention a "1080i" HDTV set, they're talking about one that has a native resolution of 1920 x 1080 pixels and can display 60 frames per second, interlaced.