

SCIENCE AND THE CONSUMER**● High-Definition Digital Television: Why Make the Switch?****Converting to Digital Television Is Expensive**

The Federal Communications Commission (FCC), the government agency that regulates interstate communications, has decided that by 2006, all TV broadcasts in the United States must be in digital, high-definition television (HDTV) format. To make this change, TV stations must spend large sums of money on new equipment.

Also, because the TVs currently available will not be able to process digital signals, television viewers will have to buy converters or new, more expensive HDTV sets. Considering the expense of switching to digital TV, you might wonder why the government is requiring the change at all.

Benefits of Digital TV

Digital TV is worthwhile for several reasons. First, because digital TV signals are more compact, they use a narrower range of frequencies than analog signals do. Making all TV signals digital will free up many of the frequencies now in use. The government plans to use these frequencies for public health and business services.

Also, the compactness of digital signals makes many features possible. TV stations can fit more information in a digital signal, so a show on an HDTV set will have a very clear picture and sound. In addition, the station may offer the viewer sports scores, news headlines, or stock prices during a show. Or stations could choose to fit four channels of analog TV into one digital signal, making them able to offer four different shows at one time.

Your Turn to Think

1. What does the Federal Communications Commission do?
2. Explain two advantages of digital television signals.
3. Explain two disadvantages of switching to digital television signals