

High definition television technology effect

[Media](#), [Television](#)



High definition television provides twice as many scan lines as analog television systems. HDTV incorporates a larger screen, wider aspect ratio, higher resolution, with surround sound that imitates reality when the viewer sits approximately three times the screen size away from the television. High definition enhances color reproduction, a larger screen, and digital audio combined to make the HD experience feel more than that of standard definition television. The introduction of television took place in Japan in the 1960s.

In 1968, Japan began research on a new HDTV that would use 35mm film as the benchmark. HDTV pioneer Dr. Fujio's and his research team examined the physical attributes of human vision. Fujio's research concluded that HDTV required a resolution of 1000 scan lines. The 1970s began to transfer research and in 1977, the society of motion picture and television engineers formed the first study group on HDTV. That same year, HDTV began to appear in technical journals and the following year, the first experimental satellite transmission of high definition began (HDTV World Review website, 1990).

Using technology In the late 1980s, the United States government debated on the approach it should take to join the HDTV advancement. The United States acknowledged that Japan took an early lead on the technology developing analog HDTV and wanted to consider making the transition. Strategists argued for a stay of current research to jump fully into digital technology. This approach would enable the U. S. to leap ahead of Japan and European systems. Broadcasters initially resisted HD technology and called

for the formation of the Advisory Committee on Advances Television service to look out for their interests.

Another interest to consider is the consumer. In 1990, the FCC determined regardless of what HDTV system was adopted, it would have to be compatible with current National Television System (HDTV World Review website, 1990). Organizations response For terrestrial broadcast, the NTSC signal requires 6MHz of spectrum space. Full bandwidth, uncompressed HDTV signal requires 30MHz. As a result of the FCC being the regulatory body controlling the use, FCC approval is required before HDTV transmission signal is transmitted. Any system considered for transmission must be compatible using the existing NTSC system currently in place.

The true meaning behind this is HDTV systems adopted for United States broadcast must be transmitted in an NTSC compatible signal that has bandwidth no wider than 6MHz. The way to get around this obstacle was to use two channels for broadcasting. The additional channel would come from unallocated channels within VHF and UHF signals and would coexist with the current NTSC allocation. Controversy increased by conflicting broadcast groups. Terrestrial broadcasters became concerned that the HDTV signal will make their broadcast look bad when comparing the two spectrums.

In 1990, the FCC announced their intention to assign each broadcaster a second 6MHz channel. These channels come from unused channels. In 1992, the plan approved by the FCC indicated that stations would have six years to fully implement ATV service. Simulcasting ATV and NTSC would continue for 15 years and at that point, the allocation would be surrendered to stations

going out of business (High Definition Television website, n. d.).

Broadcasters were concerned over the audiences lack of appreciation for the improved picture quality, requested the option for using the new spectrum.

Broadcasters could offer high definition service for sports and movies and for prime time viewing but switch to standard definition for other programming offered numerous times of the day. The decision to enable the use of 6MHz spectrum is closely tied to the debate over processes and conditions of spectrum allocation (High Definition Television website, n. d.). Public response The initial public response was that the average consumer did not notice much improvement over NTSC when viewing HD broadcasts on a small display.

Manufactures claim that for consumers to appreciate the advantages associates with HDTV, a screen size must be at least 36 inches. The best HD viewing was realized with a screen exceeding 48 inches. Size and cost were important factors that prevented the public from grasping the technology. HDTV faced slow adoption rates by consumers as a result of the increased cost to acquire a high definition television. Some consumers had the money to spend for the technology but many rooms on households did not have the space to accommodate a monitor of that size (High Definition Television website, n. d.).

Public acceptance has been slow developing and ithin the last five years, acceptance of HDTV has increased as a result of flat panel digital televisions reducing in price to a more manageable amount. Predicting the market Predicting the market effect of any technology driven product is often

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imprecise. The U. S. market of 24 million television receivers provides a baseline. HDTV technologies provide attractive means for supplementing the market. Initially, HDTV market segments were ready for HDTV but the display has a way to go to before consumers would feel comfortable paying to enter the HD market.

Considering the global television industry, progress in the U. S. market is inevitable. Technological barriers will fall continually and prices will also decrease. Considering historical patterns of market developments in television, HDTV markets have begun to show steady growth as the price to acquire this technology has decreased (HDTV World Review website, 1990). Government response The switch from analog to digital television began in 1996. US Congress authorized additional broadcast channels to each television stations they could begin offering digital broadcast and simultaneously continuing to broadcast the analog signal.

Congress eventually designated June 13, 2009 as the date that broadcasters cease analog broadcast and transmit digital signals. The major push behind the switch was to free up valuable broadcast spectrums for public safety departments. Consumers also benefited from the switch with improved picture and sound quality. Multicasting enables broadcast stations to provide more programming choices for consumers than the analog system provided (DTV. GOV website, 2009). Consumers had to purchase a digital converter box or purchase a new HD television to receive a digital signal on their televisions.

The federal government provided assistance for the Conclusion HDTV initially received resistance from broadcasters and the general public. HDTV provides improved picture and sound quality and is advanced technology that has forever changed television viewing in many households across the world. Failure to adapt to the new technology leaves current viewers in an analog state. The enhanced picture quality with a realistic, lifelike display has made an everlasting effect on technology and the television industry.