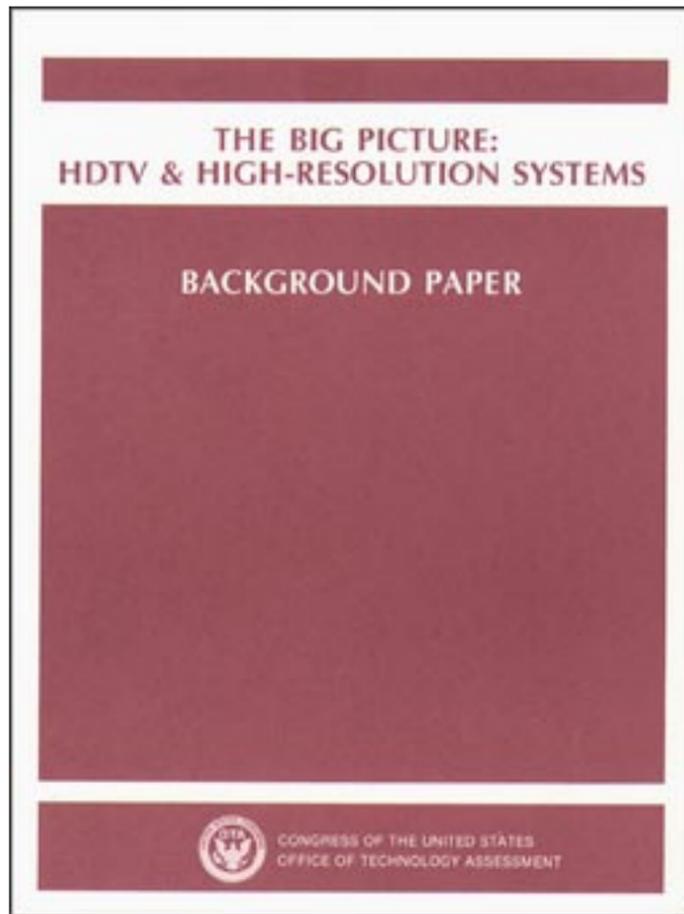


*The Big Picture: HDTV and  
High-Resolution Systems*

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# Foreword

As early as 1883 inventors dreamed of transmitting visual images to distant points extending what they had already done for written messages and voice with signals carried over the telegraph and telephone. By the 1920s, **significant** efforts were underway to scan and project images. Crude television images—actually little **more than shadows**—were demonstrated in 1926, and by 1928 even color images were achieved. Television broadcasts of the first television drama, *The Queen's Messenger*, were made from an experimental station in Schenectady, New York in 1928. TV was still futuristic at the time of the New York World's fair in 1939 but finally erupted into widespread commercial use in the 1950s. Now nearly a **half-century** later, technological change drives the video revolution unabated.

Television has become the dominant **entertainment** medium, and has displaced newspapers and radio as the prime opinion **maker** in American current affairs. Its influence reaches millions of individuals daily. It has been praised as an extraordinary educational tool, and its communication power has been credited with deeply influencing the actions of governments, including the fast-moving democratization of Eastern Europe. On the other hand, television is criticized as an agent of political manipulation that must share substantial blame for increasing voter apathy, and suffers with an image of daily **programming** dedicated to sitcoms, violence, and trivial game shows. Television has become big business, with production, broadcasting, advertising, video tapes, and the cable industries ranking high in the U.S. economy. Besides entertainment, this technology now profoundly affects communications, national security, research, and education.

Television technology is now on the threshold of a new evolution. We are on the verge of combining digital-based computer technology with television. This technological marriage promises to produce offspring that can deliver movie-quality, wide-screen programs to our homes with stereo sound equivalent to the best compact disks. Its importance goes well beyond home entertainment, however. High-definition television—HDTV as it is called—is linked with many other basic technologies important to the United States. The impacts of the development of HDTV will ripple through the U.S. economy: It will make us confront such issues as public policy dealing with manufacturing, educational and **training** standardization, communications, civil and military command and control, structural economic problems, and relationships between government and business.

This background paper was requested by Congressman George Brown, as a Member of the Technology Assessment Board. It is a primer of HDTV technology and its relationship to high-resolution computer systems. **OTA** gratefully acknowledges the contributions of the many experts, within and outside the government, who reviewed or contributed to this document. As with all **OTA** publications, however, the content is the responsibility of **OTA** and does not necessarily constitute the consensus or endorsement of reviewers or the Technology Assessment Board.

  
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