Definition: Zworykin, Vladimir 1889-1982, from Dictionary of Energy

Russian-born U.S. physicist who patented (1928) the use of magnetic fields to guide cathode rays in order to produce images on a fluorescent screen. This is the basis for all conventional television sets and computer monitors. He also developed the first practical television camera and the first electron microscope.

Summary Article: Zworykin, Vladimir Kosma

From The Hutchinson Unabridged Encyclopedia with Atlas and Weather Guide

Russian-born US electronics engineer who invented a television camera tube and developed the electron microscope.

Zworykin was born in Murom, Russia, and studied at the St Petersburg Institute of Technology and at the Collège de France in Paris. During World War I he worked as a radio officer in Russia. In 1919 he emigrated to the USA. He joined the Westinghouse corporation in Pittsburgh, Pennsylvania, and in 1923 took out a patent for the iconoscope (his TV camera tube), followed a year later by the kinescope (a TV receiver tube). In 1929 he demonstrated an improved electronic television system and became director of electronic research for the Radio Corporation of America (RCA), where he rose to vice-president 1947.

The iconoscope tube uses an electron beam to scan the charge pattern on a signal plate, which corresponds to the pattern of light and dark of an image focused on it by a lens. Zworykin's inventions also included an early form of electric eye and an electronic image tube sensitive to infrared light, which was the basis for World War II inventions for seeing in the dark. In 1957 he patented a device that uses ultraviolet light and television to throw a colour picture of living cells on a screen, which opened up new prospects for biological investigation.

He worked with James Hillier (1915–2007) on the development of the electron microscope, a device Hillier constructed while a member of Zworykin's research group at RCA.

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