



ACTV picture (bottom) and standard tv set in actual photos

## Advanced widescreen tube unveiled; NBC, Sarnoff, Thomson show ACTV

System enables NTSC signal to be broadcast on widescreen format; demo held at NBC h.q.

By CHARLES KIPPS

**New York** The first widescreen picture tube designed for advanced tv receivers was unveiled at a July 27 press conference at NBC. The demonstration was hosted by a consortium of companies including NBC, Thomson Electronics and the David Sarnoff Research Center.

Execs emphasized that the new system — Advanced Compatible Television I, or ACTV-I — is not an interim step preceding the implementation of high-definition tv. Instead, the execs insisted, ACTV-I is the first step in a technological and legal maze that ultimately will lead to High-D tv, dubbed ACTV-II by the consortium.

Sporting a 16-by-9 aspect ratio, vs. the 4-by-3 ratio currently in use, the ACTV receivers are identical externally to receivers that use the 1125/60 high-definition standard. However, the ACTV receivers do not contain high-definition electronics.

Simply stated, ACTV-I is a system by which a computer-enhanced National Television System Committee, or NTSC, signal can be broadcast with the additional horizontal information necessary to accommodate a widescreen format. No vertical resolution enhancement is included in the signal.

The visual presentation at NBC's studio 3-K consisted of various tapes simultaneously displayed on two television screens, one wide and one standard. Included were scenes from "Hoosiers," which may be the quintessential demo tape for such demonstration. Motion pictures are cited by

ACTV-I proponents as a primary source of programming for widescreen television, as are live sporting events. "Hoosiers" embodies both elements with its 35m format and basketball sequences.

Although broadcast technology and its requisite bureaucracy have been moving forward in relative tandem recently, the two have reached an impasse over the broadband-width requirement of High-D tv. While current NTSC broadcasts are sent on one channel, researchers have been unable to develop a method for transmitting a high-definition signal on a single frequency. The Federal Communications Commission, however, is not rushing to allocate more channels to broadcasters. This obstacle, according to NBC, renders ACTV-I an attractive first step. In fact, the FCC granted NBC an experimental license Feb. 27 for the purpose of exploring ACTV-I.

"We were on the air at 3:02 a.m. the next morning," recalled Dr. James E. Carnes, vice-president of the Consumer Electronics and Information Sciences Division of the David Sarnoff Research Center in Princeton, N.J. That first broadcast of an ACTV-I signal used the facilities of WNBC-TV New York.

The next test took place April 20 when an ACTV-I signal was broadcast from the WNBC-TV transmitter atop the World Trade Center during WNBC's "Live At Five" news program and was received in widescreen format at the Sarnoff Research Center. Then, on May 9, an ACTV-I signal was relayed via satellite to and from the Sarnoff Center using the standard band width of cable television. Other tests followed, culminating in a transmission over New Jersey's public television system (NJN) July 19.

"We are testing ACTV over every existing home delivery system," noted Michael Sherlock, president of NBC Operations and Technical Services.

### Cost key

But determining when ACTV-I will find its way into living rooms across the country ultimately may have nothing to do with either technology or bureaucracy and everything to do with cost.

Sets destined for the consumer market probably will cost twice as much as a comparably sized standard set, according to John A. Neville, vice president of the North American Tube Division of Thomson Electronics, the company that will manufacture the RCA ACTV-I receivers. As to when the new 34-inch diagonal picture tubes will begin to roll off the production line, Neville said the receivers will be produced in large quantities for U.S. consumption "when the market demands it." At such time, Neville added, the price of the sets will decrease sharply. Meanwhile, ACTV-I receivers are expected to be available in Japan and Europe by mid-1990.

Before consumers will be given the opportunity to pay more money for ACTV-I, station owners will have to loosen their wallets. NBC's Sherlock estimated that converting to ACTV-I will cost from \$2-5-million, depending on the equipment in place at the station. Some equipment, Sherlock said, can be converted to the new system instead of being replaced. This compares with the \$10-15-million required to outfit a station with ACTV-II, or high-definition, capability.

"Time and cost are critical," Sherlock stated, explaining that ACTV-I provides an immediate solution in providing widescreen technology to consumers. On the other hand, ACTV-II might still be years away, Sherlock said.

"It is a 2-step system," he concluded, insisting that the time for step one is at hand.