Digital HDTV Grand Alliance

AT&T

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NEWS RELEASE **FOR IMMEDIATE RELEASE**

DIGITAL HDTV GRAND ALLIANCE MAKES KEY TECHNOLOGY DECISIONS

Momentum Builds for HDTV Standard

WASHINGTON, Oct. 21, 1993 -- The Digital HDTV "Grand Alliance" today announced a series of important technology decisions on key building blocks that will make up the digital high-definition television system being proposed to the Federal Communications Commission (FCC).

The technologies selected -- for digital video compression, transport, scanning formats and audio technology -- reflect the Grand Alliance's commitment to system excellence and responsiveness to the needs and concerns of consumers, broadcasters, cable operators, computer interests and the telecommunications industry.

Representatives of the Grand Alliance presented the technologies today to the Technical Subgroup of the FCC's Advisory Committee on Advanced Television Service, which endorsed the technology decisions. Today's technology decisions incorporate modifications of the GA system that had been recommended earlier by the Technical Subgroup.

(MORE)

Following approval of the full Advisory Committee, the Grand Alliance can proceed with construction of most aspects of the prototype system, which is expected to be tested next year.

Because of the Grand Alliance system's interoperability between entertainment television and computer and telecommunications technologies, today's decisions represent significant progress toward the establishment of the National Information Infrastructure.

Beyond entertainment television applications, digital HDTV can be an engine that helps drive deployment of the National Information Infrastructure -- by advancing the development of receivers with high-resolution displays and of a high-data-rate path to the home for the delivery of a multitude of entertainment, education and information services.

Since the Grand Alliance was formed, the seven organizations involved have been evaluating technologies to decide on key elements that will be at the heart of the "best of the best" HDTV system.

The video compression and transport technologies selected by the Grand Alliance are based on proposed international MPEG-2 (Moving Picture Experts Group) standards. The scanning formats selected are focused primarily on computer-friendly progressive scanning, while offering an interlaced mode important to some broadcasters. The audio technology selected is a six-channel, compact-disc-quality digital surround sound system. The last major technical decision -- the broadcast and cable transmission subsystem -- is expected in early 1994 following testing of competing technologies. (See "Technical Backgrounder.")

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The Digital HDTV Grand Alliance, announced on May 24, represents the merging of technologies developed by the three groups that had been vying for the digital HDTV standard in the United States: AT&T and Zenith Electronics Corporation, General Instrument Corporation and the Massachusetts Institute of Technology, and a consortium composed of Thomson Consumer Electronics, Philips Consumer Electronics and the David Sarnoff Research Center.

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CONTACTS:

AT&T, Mary Lou Ambrus (908) 771-3268
GI, Quincy Rodgers (202) 833-9700
MIT, Ken Campbell (617) 253-2703
Philips, Jon Kasle (615) 521-3274
Sarnoff, Cynthia Gray (609) 734-3038
Thomson, Frank McCann (317) 267-6613
Zenith, John Taylor (708) 391-8181

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TECHNICAL BACKGROUNDER **OCT. 21, 1993**

KEY TECHNICAL DECISIONS MARK PROGRESS OF DIGITAL HDTV GRAND ALLIANCE

The Digital HDTV Grand Alliance has decided on the technologies that will be at the heart of the digital HDTV system being proposed to the Federal Communications Commission. The technologies selected reflect the Grand Alliance's commitment to system excellence and responsiveness to the needs and concerns of consumers, broadcasters, cable operators, computer interests and the telecommunications industry. They are:

- **Digital video compression technology based on proposed international standards.** The compression system used in the Grand Alliance system will be based on MPEG-2 (Moving Picture Experts Group) parameters, including the use of "B-Frames." (B-Frame or Bi-directional Frame motion compensation is a compression technique that improves picture quality.)
- **Telecommunications-like packets of digital data based on proposed international standards.** A packetized data transport system, which allows the transmission of virtually any combination of video, audio and data in packets -- similar to those used in state-of-the-art digital data communications networks -- will concentrate on features

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and services of MPEG-2 that are applicable to HDTV and provided for the in the MPEG-2 transport layer.

- **Progressive scanning for computer interoperability.** The Grand Alliance has selected the following scanning formats: 24-, 30- and 60-frame-per-second progressive scan with a pixel format of 1280 x 720 (number of picture elements per line x number of active lines), and 24- and 30-frame-per-second progressive scan with a pixel format of 1920 x 1080. The system will also be capable of 60-frame-per-second interlaced scan with a pixel format of 1920 x 1080.

These formats provide a good foundation for the migration to a 60-frame-per-second 1920 x 1080 progressive format as soon as technically feasible.

- **Compact-disc-quality digital surround sound.** The system will use the 5.1-channel Dolby AC-3 audio technology developed by Dolby Laboratories Inc. In addition, the Grand Alliance will conduct additional testing on the Musicam system to verify it as a back-up audio system.

The Grand Alliance plans to select the broadcast and cable transmission technology in early 1994 following competitive testing of the 4-VSB, 6-VSB and 32-QAM broadcast modulation systems and their related, higher-data-rate cable modes. The hardware for the selected transmission system will be brought together with the other system elements consistent with the overall system integration and testing timetable.

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