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National Cable Television Association

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November 14, 1996

EX PARTE

Mr. William F. Caton
Acting Secretary
Federal Communications Commission
1919 M Street, N.W. - Room 222
Washington, D.C. 20554

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Federal Communications Commission
Office of Secretary

Re: Advanced Television, MM Docket No. 87-268

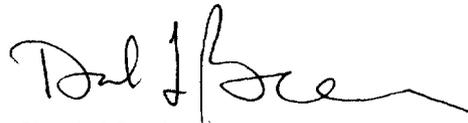
Dear Mr. Caton:

On November 13, 1996, Decker Anstrom and Daniel Brenner of the National Cable Television Association, Inc. met with:

Commissioner James Quello
Lauren J. Belvin, Sr. Legal Advisor

At that meeting, the topic discussed was standards for advanced television. Attached is a paper left behind for their review.

Respectfully submitted,


Daniel L. Brenner

DLB:tkb

Attachment

cc: Meredith Jones

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FOR IMMEDIATE RELEASE

Cable Industry Agrees on Key Elements of Digital Systems Specification

Louisville, Colorado, October 3, 1996 -- Working with some of the key suppliers of digital technology, Cable Television Laboratories, Inc., (CableLabs) and its members have agreed upon major elements of an interoperable digital cable systems specification for North America.

This specification establishes the basic building blocks of digital services, allowing set-top terminals and data modems built by different manufacturers to work together (interoperate) on the same cable system. CableLabs expects that many of its members will purchase equipment that complies with this specification.

The specification covers how cable television systems will transport digital video and data in standard six MegaHertz (MHz) cable channels. In the specified digital transmission systems, the payload data rate will be between 27 and 40 Megabits per second (Mbps).

"This specification will advance the industry's ability to deploy digital set top boxes and cable modems in a cost effective manner," said Time Warner Cable Chief Technical Officer James Chiddix. "That will benefit the cable customer and the cable operator dramatically, with lower price points and more choice," he said.

TCI Senior Vice President Thomas Elliot, a pioneer in cable's digital video efforts, said that manufacturers will be able to include these key elements of the specification and differentiate their terminal products based on features. "This interoperable digital cable specification will allow the simultaneous coexistence in the same cable system of set-top terminals and data modems from a variety of manufacturers," Elliot said.

Among the basic areas covered in this agreed specification are that the system will conform to MPEG-2 (Moving Picture Experts Group) main profile at main level parameters; the specification transport multiplex will also be MPEG-2; and the audio element will be the Dolby Audio AC-3 system. The service information tables for this specification will incorporate the Advanced Television Systems Committee (ATSC) specification. Having uniformity in these tables is critical for interoperability.

Downstream digital modulation will conform to the International Telecommunications Union (ITU) standard ITU-T J. 83 Annex B which calls for 64 and 256 quadrature amplitude modulation (QAM) with concatenated trellis coded modulation.

plus enhancements such as variable interleaving depth for low latency in delay sensitive applications such as data and voice.

Using 64 QAM, a cable channel that today carries one analog video channel could carry 27 Megabits per second (Mbps) of information, or enough for multiple video programs. Using 256 QAM, the standard 6 MHz cable channel would carry 40 Mbps.

The cable industry is committed to delivering broadcasters' digital video signals to cable customers. This specification is compatible with the ATSC standard definition digital video system, with the exception of modulation. The ATSC standard incorporates vestigial sideband (VSB) modulation, versus QAM.

Because of the characteristics of over-the-air transmission, versus cable transmission, and the consequent differences in bit rates, this difference in capacity is logically dealt with at the cable headend. The difference in modulation also can be dealt with at the headend, and by having this capability, cable operators will be able to handle any digital signal from whatever source and deliver those signals to cable customers.

As for signal security, suppliers and cable operators have specified the General Instrument (GI) DigiCipher implementation of the DES encryption standard as the core encryption system. Multiple conditional access and control data streams such as DigiCipher™ and PowerKEY™ will be supported, enabling multiple vendor use of the core encryption.

The majority of components of the specification are already standardized.

CableLabs President and CEO Dr. Richard R. Green praised the key suppliers, GI and Scientific-Atlanta, for their willingness to work with CableLabs to establish this specification. "Scientific-Atlanta and GI are working toward an agreement that will include a royalty free cross-licensing arrangement for core encryption, modulation and forward error correction technology, and they are willing to license other manufacturers," Green said. "This is a tremendous precedent and we would like to see it expand into other areas," he added.

DigiCable units that already have been deployed by TCI, Cox Communications and Comcast and others will adhere to this specification, using GI's conditional access system. The Pegasus set-top boxes deployed by Time Warner and others also will adhere to this specification.

"GI is pleased to be part of the industry's embrace of open standards," said Ed Breen, president of GI Communications Division, General Instrument. "We believe this will help promote rapid growth of digital technology and exciting new consumer services throughout North America," he said.

"Scientific-Atlanta has been an advocate of open standards since digital compression efforts began," said Michael P. Harney, vice president and general manager of Digital Video Systems, Scientific-Atlanta. "This specification will allow all North American operators and subscribers to benefit from the unique set-top and conditional access features offered in our digital products."

CableLabs is a research and development consortium of cable television system operators representing more than 85% of the cable subscribers in the United States, 75% of the subscribers in Canada, and 5-10% of cable subscribers in Mexico. CableLabs plans and funds research and

development projects that will help cable companies take advantage of future opportunities and meet future challenges in the television industry. It also transfers relevant technologies to member companies and to the industry. In addition, CableLabs acts as a clearinghouse to provide information on current and prospective technological developments that are of interest to the cable industry.