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November 15, 1995

William F. Caton
Acting Secretary
Office of the Secretary
Federal Communications Commission
1919 M Street, N.W.
Washington, DC 20554

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Dear Mr. Secretary:

Pursuant to Commission's procedures, Zenith Electronics Corporation is formally filing comments in response to the Fourth Further Notice Of Proposed Rule Making And Third Notice Of Inquiry (MM Docket No. 87-268) dated August 9, 1995. The original plus nine copies of our brief comments are enclosed.

Cordially,

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**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

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In the Matter of)
)
Advanced Television Systems)
and Their Impact Upon the) **MM Docket No. 87-268**
Existing Television Broadcast)
Service)

COMMENTS OF ZENITH ELECTRONICS CORPORATION

Zenith Electronics Corporation is pleased to submit comments in response to the Commission's Fourth Further Notice of Proposed Rulemaking and Third Notice of Inquiry in this proceeding related to the establishment of the new transmission standard for Advanced Television (ATV), including digital high-definition television (HDTV).

A long-time leader in consumer electronics and cable technologies, Zenith has been actively involved in HDTV research since 1987. Zenith was one of the original 22 proponents that submitted proposals to the Commission's Advisory Committee on Advanced Television Service (Advisory Committee) in 1988. Indeed, Zenith's proposal pioneered the concept of simulcasting HDTV over taboo channels during the transition to ATV, paving the way for the ultimate return of very valuable spectrum.

In 1989, Zenith joined forces with AT&T to develop HDTV technologies. The Zenith-AT&T all-digital HDTV system was merged with three other digital systems when the Digital HDTV Grand Alliance was formed in 1993 with the encouragement of the Advisory Committee. The Grand Alliance subsystems for digital transmission -- the high-bandwidth eight-level vestigial sideband (8-VSB) system for terrestrial broadcasting and the even higher-bandwidth 16-VSB system for cable transmission -- are proven Zenith developments that provide world-class performance for the Grand Alliance system.

Zenith joins in the extensive comments filed by the Digital HDTV Grand Alliance and, to amplify certain points, we submit these additional brief comments.

* * *

As in the Grand Alliance's comments, Zenith endorses and applauds the Commission's commitment to promote and preserve universal, free, over-the-air television. Likewise, we reiterate that the public interest is best served by rapid adoption of HDTV and other ATV services. This will not only result in quantum-leap advances in the quality of the nation's communications infrastructure, but also will facilitate the recapture (after repacking) of large, nationwide, contiguous blocks of spectrum.

We wholeheartedly agree with other Grand Alliance members that the Commission should maintain 6 MHz channelization plans, because 6 MHz of spectrum is required for HDTV broadcasts. It provides a high technical ceiling for future digital applications and a foundation for the standard that will serve this country to the middle of the next century. And we urge the Commission, consistent with its goal to preserve and promote free over-the-air TV, to permit flexible use of the channel, in addition to HDTV.

We also agree that the Commission should require broadcasters to provide a minimum number of hours of HDTV as a condition for using a digital channel. By mandating even modest amounts of HDTV, the Commission can 1) promote the early availability of HDTV programming, 2) assure that the broadcasters making early HDTV investments are not cost-disadvantaged, and 3) facilitate a fair market test of HDTV's appeal with consumers. Availability of programming will be the most important factor in accelerating the transition to digital HDTV. It will help stimulate early market demand for new HDTV receivers, and the resulting sales growth will provide economies of scale that will make these high-end receivers more affordable sooner.*

* As a matter of perspective on the expected price of HDTV receivers, it is worth keeping in mind that, relative to disposable income, giant-screen HDTV receivers are likely to be less expensive, even at the outset, than many popular console color TV receivers in the early 1960s, when adjusted for inflation.

As broadcasters make the transition to full-digital broadcasting, the consumer electronics industry will provide consumers with a wide variety of products to receive the new digital signals. As soon as the Commission adopts the new ATV broadcast standard, Zenith and other television manufacturers stand ready to complete development work on digital HDTV sets that will receive signals based on the Grand Alliance system.

With adoption of the digital broadcast standard, there will be absolutely no need to mandate requirements for consumer electronics equipment. All HDTV sets introduced initially (and those sold for many years to come) also will receive and display analog NTSC broadcasts -- without any Commission mandates. In addition, Zenith believes TV manufacturers will produce digital TV sets that will receive all ATV formats, again, without any Commission mandates.

If the Commission chooses to impose any hardware requirements, Zenith reiterates the position of the Grand Alliance that, assuming broadcasters are required to transmit HDTV programming, all digital TV receivers could be required to receive HDTV broadcasts. However, the display modes for digital television need not be mandated. In fact, manufacturers should be allowed to implement various display modes in ways that respond to market demands and provide product differentiation.

Regarding the Must Carry and Retransmission Consent rules, Zenith supports the Grand Alliance position that the Commission should promote the rapid availability of digital HDTV broadcasts over cable television systems, while avoiding undue burdens on cable operators. As a leading supplier of cable set-top boxes, Zenith is very sensitive to the needs of the cable industry. And, as the developer of the VSB transmission technology, we have paid special attention to the future HDTV transmission needs of cable operators.

In addition to verifying that the Grand Alliance 8-VSB terrestrial transmission system works well on cable systems, the Advisory Committee also evaluated and tested the high-data-rate 16-VSB system designed for use on cable TV systems. This rugged transmission mode permits 43 megabits-per-second to be carried over a single 6 MHz cable channel -- more than twice the data rate that can be supported in the harsher environment of a 6 MHz terrestrial channel.

As cable operators invest in new digital technology, this system, or similar systems, could support a wide variety of advanced television services, not the least of which will be two simultaneous live action HDTV sports programs in one cable channel. This enormous capacity for carrying HDTV helps to address concerns regarding the drain on cable capacity to support potential must-carry requirements for digital television.

In conclusion, Zenith applauds the Commission as this eight-year process to establish the new advanced television broadcast standard moves toward successful completion. We commend the Commission and the Advisory Committee for their leadership of an open, industry-driven process that has yielded world-leading digital ATV technologies. Zenith is proud of its significant contributions to the process over the years. As the FCC makes its final key decisions, we urge the Commission to move rapidly, to require HDTV as a centerpiece use of the transition channel, and to remain steadfast in its commitment to serve the public interest -- ushering in the new era of digital television broadcasting while recovering valuable spectrum for future uses.

Respectfully submitted,



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