

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

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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF SECRETARY

In the Matter of)

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Advanced Television Systems)
and Their Impact Upon the)
Existing Television Broadcast)
Service)

MM Docket No. 87-268

REPLY COMMENTS OF THE COALITION OF FILM MAKERS

The Coalition of Film Makers (the "Coalition"), comprised of the Directors Guild of America, the American Society of Cinematographers, the International Photographers Guild, Local 600, IATSE, AFL-CIO, and Panavision International L.P., by its attorneys, hereby submits the following reply comments with respect to the Fifth Further Notice of Proposed Rule Making (the "Fifth Further Notice") in the above-captioned proceeding.

The initial comments submitted in this proceeding make two things plain. First, certain parties have fundamentally misconstrued the Coalition's position regarding an aspect ratio standard for the display of films via digital television ("DTV"). Second, a majority of the parties — including NTIA — express substantial concern about the video transmission standard recommended by the Advisory Committee on Advanced Television Service ("ACATS"). These parties agree that a base line video transmission standard, along the lines put forth by the Coalition in its comments, would be far superior to the ACATS recommendation.

I. THE COALITION DOES NOT SUPPORT MANDATED STANDARDS FOR ASPECT RATIOS.

A number of parties defending the ACATS standard take issue with what they perceive to be the position of cinematographers and directors regarding an appropriate aspect ratio. They have, however, mischaracterized the nature of the

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Hollywood artistic community's objections to the ACATS standard and its position on mandated standards for aspect ratios generally.

A. **The Film Industry Is Not "Dogmatically" Insisting On A 2:1 Aspect Ratio.**

Sony Electronic Corporation ("Sony") asserts that film makers have been "dogmatic in their insistence that only their choice of a 2:1 aspect ratio should be imposed upon a renaissance television industry... ." ¹ To the contrary, film makers have made plain that their interest is not in mandating one or two specific aspect ratios, as ACATS has done. Rather, the Coalition continues to urge the adoption of a requirement that all films be transmitted in their native aspect ratio.²

As long as receiver standards are not mandated by the government, this flexible approach will permit manufacturers to build TV receivers in response to public demand, enable viewers to see films as they were intended to be seen — without the mutilation of the "panning and scanning" process — and promote artistic creativity. The computer industry agrees that it is unnecessary to mandate a specific aspect ratio in the DTV video transmission standard, since it is technically and economically feasible for broadcasters to transmit any given aspect ratio simply by transmitting a header descriptor specifying the number of lines and the number of pixels per line.³

Appendix B to the CICATS comments sets out the particulars of such an

¹ Comments of Sony at 28. See also, e.g., Broadcasters' Comments at 11.

² In September 1993, Victor Kemper, President of the American Society of Cinematographers, appointed an ad hoc committee to study the then-current ATV proposals. After examining the proposals, the committee made three recommendations: (1) Base any ATV system on a progressive scanning architecture; (2) require all films to be transmitted in their original aspect ratio; and (3) require receivers to be based on a 2:1 aspect ratio. In December 1993, the *ad hoc* committee's recommendations were published in an editorial in the American Cinematographer Magazine and forwarded to the Commission and members of ACATS.

³ Comments of the Computer Industry Coalition On Advanced Television Service ("CICATS") at 26; Comments of Compaq Computer Corporation at 21.

approach.⁴ Rather than mandating a specific horizontal resolution, which depends on the capabilities of a particular display, the base line standard would require only that the transmission format have 480 progressive video vertical lines. Thus, if a display device has a 2:1 aspect ratio (*i.e.*, twice as many horizontal pixel lines than vertical lines), the receiver will honor a horizontal resolution of 960 pixels.⁵ If the display device has a 1.33:1 (4:3) aspect ratio, then the device will dictate a horizontal resolution of 640 pixels.⁶

Barring restrictive and unnecessary receiver standards, which virtually all parties — including the majority of supporters of the ACATS standard — oppose, consumers would be free to purchase receivers of varying aspect ratios based on their budgets and viewing tastes.

B. The Debate Over The Relative Merits Of Competing Aspect Ratios Is Irrelevant Under The Coalition's Flexible Base Line Approach.

1. The FCC need not concern itself with the artistic merit of competing aspect ratios.

Supporters of ACATS spend a considerable amount of time defending, from an artistic perspective, the merits of the 1.78:1 (16:9) and 1.33:1 (4:3) aspect ratios imbedded in the ACATS' standard. Indeed, it is noted in the Broadcasters' Comments that, "[f]rom an aesthetic perspective, the 16:9 (or 1.78:1) ratio best accommodates the many video formats that DTV will transmit... ."⁷

⁴ Comments of CICATS, Appendix B ("Technical Details of the Proposed Base-Line Format of CICATS") at 4, 7-8, 12, and 14.

⁵ In this regard, the Coalition supports the flexible approach regarding aspect ratio "templates" described in the Comments of DemoGraFX at 36.

⁶ Under this scenario, a video image with a native 2:1 aspect ratio would need to be letterboxed or panned and scanned to fit into the 1.33:1 (4:3) receiver. As explained in the Coalition's initial comments, letterboxing is preferable to panning and scanning. As discussed in Section II of these reply comments, the supporters of the ACATS standard agree that the practice of panning and scanning is inappropriate when displaying wide screen film images on receivers based on more narrow aspect ratios.

⁷ Broadcasters' Comments at 12.

The Coalition, however, is comprised of the individuals who actually make feature films and will not take a back seat to any other party on the issue of the artistic merit of display formats for films. If an aspect ratio has to be mandated, it should be established by film makers, not engineers. While the Coalition believes that a 2: 1 aspect ratio would be superior to 1.78:1 (16:9), if a ratio had to be mandated, there is no need to mandate an aspect ration in any transmission standard and no need for the Commission to enter the aesthetic debate and determine which aspect ratio is superior.

In light of the fact that a DTV system is capable of accommodating varying aspect ratios, broadcasters should transmit programming in its original aspect ratio and, thereby, not constrain the ability of viewers to express their own aesthetic and other values when they purchase TV receivers. A consumer who uses TV principally to view C-SPAN can choose a receiver based on a 1.78:1 (16:9) ratio, while a consumer who wishes to get the most from a "home theater" will choose a receiver with a 2: 1 or greater aspect ratio. There is no compelling interest in having the government deprive consumers of such choices. Rather the Commission should enhance the consumer's ability to choose.

2. A flexible requirement regarding aspect ratios will foster exports of video program material and lower costs to consumers.

Supporters of the ACATS standard assert that use of 1.78:1 (16:9) is essential because: (i) it is the preferred format around the world, a phenomenon they allege will improve the chances of selling U.S.-produced programming overseas, and (ii) it is the most economical for consumers.⁸ Both of these assertions are without merit.

First, as noted in the Coalition's initial comments, over the past forty years film makers increasingly have opted for wide screen production (*i.e.*, 1.85:1 and

⁸ See, e.g., Comments of Broadcasters at 13.

greater). Adoption of a restrictive 1.78:1 (16:9) format in the United States or abroad will not reverse this trend. U.S.-produced wide-screen films already are enormously popular abroad, making them one of this country's most significant exports.

By not mandating specific aspect ratios, the directors and other video artists who work principally in the TV medium will have the opportunity, for the first time, to produce TV programs in aspect ratios of their choice. These programs too are likely to be accepted by U.S. and non-U.S. audiences, just as wide-format feature films have been accepted. In short, rather than adopting an inferior video transmission standard based on the practices of other countries, the United States should adopt the best possible DTV standard at home to increase the likelihood of that standard's adoption throughout the world. This is precisely the advice of the supporters of the ACATS standard.⁹

Second, the assertion that a 1.78:1 (16:9) standard is the most economical for consumers misses the point. While the Coalition agrees with those parties who suggest that breakthroughs in flat screen and moving mirror projection technologies will eliminate the additional costs presently associated with manufacturing wide-screen receivers,¹⁰ consumers should be free to purchase receivers to match the native aspect ratios of the program material they most desire.

As noted above, consumers who are unable or unwilling to pay a premium for wide-screen receivers do not have to buy them. Alternatively, viewers who want receivers capable of displaying all of the enhanced capabilities associated with DTV (including the ability to view wide-screen films in the same manner such films are displayed in theaters) should be able to purchase such receivers, even if they cost more.

⁹ See, e.g., Comments of the Advanced Television Systems Committee at 30-31.

¹⁰ See, e.g., Comments of Robert Primes at 7.

II. THE COALITION AND ACATS SUPPORTERS AGREE THAT "PANNING AND SCANNING" SHOULD BE AVOIDED.

As set forth in detail in the Coalition's initial comments, the two aspect ratios mandated by ACATS likely will lead to the continued "panning and scanning" of films when they are shown on television. This process deprives viewers of the ability to experience feature films displayed on television in the manner they experience films in the theater. As such, the ACATS approach is inconsistent with principles of viewer choice and artistic integrity.

In its initial comments, the Coalition indicated that letterboxing wide screen film images displayed on television is preferable to panning and scanning such images.¹¹ While the two aspect ratios set forth in the ACATS standard are needlessly restrictive, the Coalition was encouraged by the comments of parties who support those aspect ratios inasmuch as they recognize that letterboxing is the only acceptable way to display wide-screen film images on television receivers with more narrow aspect ratios. The broadcast parties, for example, note that films produced in a 2.4:1 aspect ratio and transmitted to DTV receivers in a 1.78:1 (16:9) aspect ratio will occupy 100% of the screen's width and 76% of the screen's height.¹² Similarly, the Motion Picture Association of America points out that a 1.85:1 film would occupy 96% of the height of a 1.78:1 (16:9) receiver.¹³

The essential point is that if a TV receiver has an aspect ratio different from the aspect ratio of the film, the film image should be letterboxed and not panned and scanned. The Coalition is pleased to see this view widely accepted.

¹¹ Comments of Coalition at n. 8.

¹² Comments of Broadcasters at 12.

¹³ Comments of the Motion Picture Association of America, Inc. at 2.

III. THE COMMENTS DEMONSTRATE THAT ADOPTION OF A BASE LINE STANDARD IS IN THE PUBLIC INTEREST

A majority of the parties participating in this proceeding believe that the ACATS standard is flawed in a number of significant respects. As NTIA Administrator Larry Irving noted in his August 9, 1996, letter to Chairman Hundt, while a number of parties urge the Commission to adopt the ACATS standard immediately, there is a significant amount of disagreement about the efficacy of such an approach.¹⁴ For this reason, Mr. Irving, on behalf of the Administration, suggests that the FCC adopt only those elements of a DTV standard necessary to foster certainty in the marketplace, U.S. economic and trade interests, technological innovation, and convergence between computers and television.¹⁵

As reflected in the comments of the American Homeowners Foundation, an education and research organization that represents the interests of millions of homeowners, adoption of ACATS' complex 18 format approach will impose unnecessary costs on consumers.¹⁶

CICATS, moreover, undertook a careful analysis of the costs to consumers and broadcasters of adoption of the ACATS standard as compared to adoption of a base line standard. As detailed in Appendix C to CICATS' comments, consumers will spend approximately \$50 billion more to migrate to DTV under the ACATS standard than they would under a base line standard.¹⁷ These enormous additional and unnecessary costs will slow the migration to DTV and, in this regard, impede the use of DTV and the recovery of the broadcasters' analog frequencies.

The parties also largely agree that the ACATS standard will undermine the

¹⁴ Letter from Larry Irving to Reed E. Hundt, MM Docket No. 87-268, dated August 9, 1996, at 1.

¹⁵ *Id.*

¹⁶ Comments of the American Homeowners Foundation at 2.

¹⁷ Comments of CICATS at 5, Appendix C.

public interest by inhibiting future technological development.¹⁸ As the Coalition stated in its initial comments, interlace scanning degrades film images and impedes convergence of media technologies. In this regard, members of the computer industry have joined with the Hollywood artistic community in expressing concern about the inclusion of interlace scanning in the ACATS standard. The computer industry believes this will threaten interoperability between computers and television, notwithstanding that interoperability among media is one of the key objectives of this proceeding.¹⁹

Supporters of the ACATS standard defend interlace scanning on a number of grounds, including that currently available HDTV production equipment and the installed base of NTSC production and studio equipment is based on interlace technology.²⁰ This contention is unavailing. As Professor Schreiber of MIT points out, broadcasters can use interlaced studio equipment with an interlaced-to-progressive converter to transmit in a progressive format, the costs of which would be negligible relative to the costs of migrating to DTV and the costs of requiring each receiver to be capable of converting an interlace signal to progressive.²¹

The current unavailability of a progressive system capable of achieving a 1,000 line format is also cited by supporters of the ACATS standard as a reason to maintain interlace scanning in any DTV format.²² A substantial body of broadcasters, the Grand Alliance asserts, believes that an HDTV format must have more than 1,000 lines to be successful. As Professor Schreiber makes plain, however, this belief is without basis and reflects confusion on the broadcasters' part

¹⁸ See, e.g., Comments of Intel Corporation at 4.

¹⁹ See, e.g., Comments of Microsoft Corporation at 7.

²⁰ See, e.g., Comments of the Digital HDTV Grand Alliance at 22.

²¹ Informal Reply Comments of William F. Schreiber of the Research Laboratory of Electronics at the Massachusetts Institute of Technology, MM Docket 87-268 (Aug. 9, 1995) at 5.

²² Comments of Grand Alliance at 22-23.

over the number of lines in the picture and the actual vertical definition of the displayed image.²³

Accordingly, the combined submissions of those in the academic,²⁴ computer,²⁵ and film-making²⁶ communities demonstrate that interlace scanning must be excluded from any DTV transmission format.

While parties to this proceeding are divided fairly evenly on the question of whether any DTV standard is needed, the majority of parties agree that, if the Commission feels compelled to adopt a standard, a base line standard would be far superior to adoption of the ACATS approach. The Coalition strongly endorses this position. Failure of the Commission to adopt a DTV standard would result in the establishment of a *de facto* standard by foreign manufacturers prepared to capture the U.S. market with hardware based on obsolete technologies that is off the shelf or already in the production pipeline.

In short, a majority of the parties agree that adoption of a base line standard (or, as described in the NTIA's August 9, 1996, submission, a core set of elements necessary to achieve certain goals) will: (i) permit the public to view films on television as they view them in the theater, thereby promoting viewer choice and artistic creativity; (ii) foster technological innovation and interoperability among media; and (iii) reduce significantly the costs associated with migration to DTV which, in turn, will accelerate that migration and recovery of the broadcasters' analog spectrum.

²³ Informal Reply Comments of William F. Schreiber at 5-6.

²⁴ See, e.g., Comments of William F. Schreiber of the Research Laboratory of Electronics at the Massachusetts Institute of Technology ("MIT"); Comments of Richard J. Solomon, Branko J. Gerovac, Clark E. Johnson, and David C. Carver of the Research Program on Communications Policy at MIT; Comments of Lee McKnight of MIT's Research Program on Communications Policy and Joseph P. Bailey of MIT's Technology, Management and Policy Program.

²⁵ See, e.g., Comments of Compaq at Exhibits 2, 3, and 4; Comments of CICATS at Exhibits A-D, F, G, K and L.

²⁶ See, e.g., Comments of Robert Primes at 8.

CONCLUSION

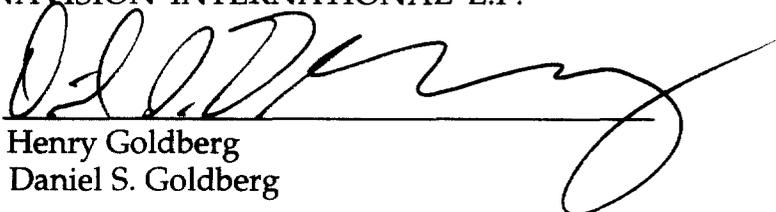
The Commission imposed the burden of persuasion on those parties that oppose the ACATS standard.²⁷ A review of the initial comments responding to the Fifth Further Notice demonstrates that this burden has been satisfied.

The fact is, a better approach exists — the base line standard set forth in the Coalition's comments. Adoption of the base line standard would avoid all of the pitfalls and secure all of the public interest benefits traditionally associated with the imposition of governmental standards in an field of rapid technological change.

The Commission's actions in this proceeding likely will govern the manner in which the public views films on television for at least the next generation of viewers. A golden opportunity exists to offer the public the ability to see films as the creators of such films intended them to be seen. The Coalition urges the Commission to seize this opportunity.

Respectfully submitted,

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²⁷ Fifth Further Notice at ¶ 54.