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DEC 6 1996

December 4, 1996

MM Docket No. 87-268
Advanced Television Systems
and their Impact upon the
Existing Television Broadcast Service

DOCKET FILE COPY ORIGINAL

Technical Standards for Digital Television

Comments of Digital Theater Systems, LP on Digital TV Standards Agreement

Digital Theater Systems hereby submits additional comments in response to the Fifth Further notice of Proposed Rule Making ("Fifth Further Notice") adopted on May 9, 1996 and released on May 20th, 1996 by the Federal Communications Commission ("Commission"). These comments are in response to the November 27th "Agreement".

We are pleased that a mandate of a single technology national transmission standard has been averted. We believe that the foundations of this policy, one that encourages innovation and competition, **should be applied to the audio portion of Digital Television as well as the video.**

The argument that AC-3 was the best codec tested three years ago cannot support a government mandate that it must be bought by every consumer in the country when there is a practical alternative that eliminates obsolescence now and in the future and encourages competition. That alternative is to simply have the codec code in software form rather than in hardware form. The currently proposed audio standard is exactly like the government mandating that an obsolete proprietary word processor must be built into hardware in every computer sold from now on.

Notwithstanding some outrageously misleading distortions of the cost and practicality of the open platform proposal, I assure you that the "open platform" solution is both practical and economical and that this fact will be confirmed by independent unbiased experts in the field. Furthermore, this approach is exactly what is demanded by the Telecommunications Act in that it encourages competition and will open the door for the adoption of the US standard as an international standard because it will not mandate an obsolete proprietary technology.

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Digital Theater Systems, LP recommends that item 1 of the agreement be modified to read:

1. The FCC should adopt no later than December 31, 1996, the voluntary ATSC DTV standard (A/53) except for the video **and Audio Format (A/52)**.

In regards to item 3 of the agreement, Digital Theater Systems, LP **strongly disagrees that the proposed standard provides for practical competitive alternative service and believes that the augmentation process that "allows" for "audio service enhancement" in practical effect provides only for Dolby's proprietary enhancement of their system since it will be the only system there to be enhanced.**

Sincerely,

A handwritten signature in black ink, appearing to read "Terry Beard". The signature is written in a cursive style with a long, sweeping underline.

Terry Beard,
Chairman, CEO

Encl.: Audio Adventure editorial
NY Times editorial

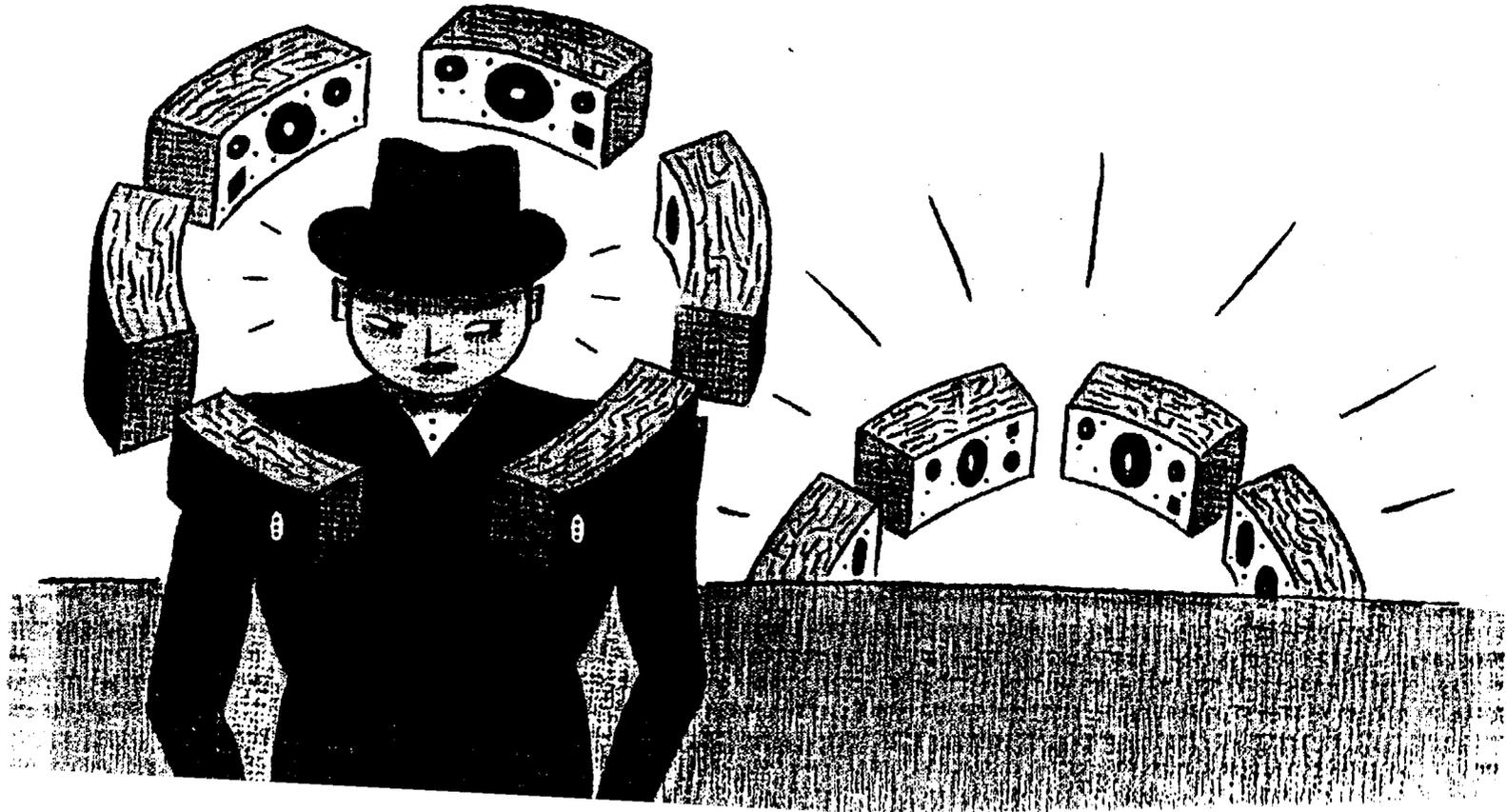
The New York Times

NEW YORK, SUNDAY, JULY 7, 1996

HOME ENTERTAINMENT

TECHNOLOGY VIEW/Lawrence B. Johnson

Down the Stretch, Dolby's Still in the Lead, but . . .



UNTIL VERY RECENTLY, the nascent technology of digital surround sound had but one name: Dolby. Despite mixed views of its sonic quality, on laser video disks Dolby Digital multichannel recording has been more than dominant; it has been the only game in town. And in setting guidelines for the coming digital video disk, the electronics industry has decreed that the Dolby digital multichannel decoding system must be included in every player.

But now Dolby may find itself in a horse race. The competition, suddenly moving up fast, is Digital Theater Systems, a California-based company whose digital surround scheme is used in more than 3,000 cinemas across the country, nearly three times the number of movie houses equipped with Dolby's commercial digital system.

For all its professional success, Digital Theater Systems was slow to develop a version of its multichannel technology for the consumer market. Even as its consumer system, DTS Coherent Acoustics, underwent refinements, demonstrations were rare. In short, "DTS," as the system is commonly known, persisted as more of a buzz than a reality. It had a few ardent champions but not much of a presence.

That obscurity ended with a bang last month at the Hi-Fi '96 home theater and high-end audio exposition in New York. In parallel demonstrations, DTS not only showcased the vivid, precise surround-sound field its method can bring to movies in a home-listening environment; it also made a powerful case for DTS Coherent Acoustics as a medium for recording music.

At the moment, one can only wait with whetted appetite. While Dolby boasts a number of laser disks bearing its digital multichannel soundtracks (not to be confused with conventional Dolby Surround), the DTS score remains at zero. The first DTS-encoded laser disks — "Jurassic Park," "Apollo 13" and "Casper" probably among them — are promised by September. By Christmas, as many as 20 titles should be available, according to David DeGrosso, the company's marketing director.

Meanwhile, electronics manufacturers are planning their first surround-sound processors with the chip required to decode the DTS signal. Mr. DeGrosso said about a dozen DTS-equipped processors would be available by the end of the year, with

What proved so impressive in the DTS movie sound at Hi-Fi '96 was not just the whiz-bang effects in the rear channels but also the subtle layering of sound and its untiring character. Listening to goodly stretches of "Jurassic Park," "Apollo 13" and "Casper," movies I've come to know almost by rote, I found myself engaged at a new level of intensity and delight. It was an experience more like cinema than video.

Was it better sound than the best heard from a Dolby Digital laser disk? It was unquestionably more refined, more elegant. One might say more beautiful if that were not so bizarre a word for the roar of rocket engines.

The sense of beauty was only heightened in the second DTS demonstration, which concentrated on music CD's. Not even the most ardent proponents of Dolby Digital have urged that system for music recording. Its high degree of digital compression would take a severe toll on the sound of music. Indeed, the deleterious effect of high-order compression on music has been amply demonstrated by both the digital compact cassette and the mini-disk.

DTS uses a less extreme ratio of compression, and the results seemed plausibly close to what recording engineers like to call transparency: no difference at all between the master

Buzz becomes reality in a new surround-sound package from Digital Theater Systems, and the race suddenly heats up.

tape and the final multichannel CD. A sampling of DTS-encoded CD's (among them the Steve Miller Band's "Fly Like an Eagle" and Bachman-Turner Overdrive's "Not Fragile"), on the High-Definition Surround label, was perhaps the signal event of the entire five-day, far-flung Hi-Fi '96 show.

That brief audition afforded a very encouraging glimpse into the future of music recording in the multichannel era. You can count on this: the history of two-channel recording is all but written. It scarcely matters that you can't buy a DTS decoder yet, or that DTS-encoded CD's are incompatible with regular CD players. The needed gear is coming.

The technology itself is the thing, and its far-ranging possibilities will almost certainly affect not only the way music is recorded but also the way it is written. As a full-blown music recording system, DTS will allow the first uncompromised realization of four-channel masterings from the quadraphonic era of the early 70's. The system also presents composers today with a blank slate on which to create multidimensional works, which can be captured in as many as eight channels.

IN A WORD, THE IMPRESSION made by this first rigorous presentation of consumer DTS was stunning. But particularly interesting was the company's retro posture. DTS appears to be committed to the CD in its current form and to the laser disk. And why not, since the major companies behind the digital video disk have given Digital Theater Systems the cold shoulder? Sure, the producers of a particular movie on digital video disk can utilize DTS surround sound, and yes, hardware manufacturers can — if they see a need — include a DTS chip along with the requisite Dolby Digital.

Well, keep an eye on the fast-rising image of DTS, because it has the look and feel of a groundswell. The question may be, who needs whom? In its radical conservatism, DTS is hitching its wagon to twin stars, the CD and the laser disk, that are likely to shine for some time to come. The digital video disk has yet to twinkle.

By the time that medium finally emerges, the electronics industry may have gained a whole new perspective on digital surround sound. The movers and shakers may have shimmied over to DTS. □

AudioAdventure

Dolby Doldrums?

You get big, you get fat, you get lazy. It was in the bag - the tux was rented and the homecoming queen was your date to the prom. But that pest across town kept calling her, getting her interested and mumbling into her parents' ears things you hope are never revealed. So now you're desperate. Sitting at home with a cummerbund for company was not in your plans.

This is just an allegorical way of saying that the hold-up of DVD must be making Dolby nervous. DTS is fighting hard, and fighting cleanly, to bring what they're convinced is a superior audio experience into the home. Had everything fallen into place for a 1996 introduction of DVD, Dolby Digital's (AC-3) signed-and-sealed selection as the primary audio format for DVD would never have been questioned. But now that DVD's launch date is slipping to sometime next year, all that may be about to change. Working behind the scenes, DTS is making critical inroads with the film industry by virtue of their track history (DTS - equipped theaters outnumber both Dolby and Sony equipped theaters) and credibility, DTS's 5.1-encoding method provides over three times the bandwidth of Dolby Digital, a point not lost on an entertainment industry that has found home video sales and rentals exceeding their wildest expectations. And the fact that DTS has already been approved as a valid soundtrack alternative for DVD, means it can't be killed in committee.

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Further complicating Dolby's life are the large numbers of hardware manufacturers aligning themselves with both formats. Now that Motorola's DTS chip is shipping in quantity, surround processors can be equipped to handle both Dolby Digital and DTS at little additional cost. Soon the world will know which format is truly superior, even if side-by-side tests are not available. While the larger Asian manufacturers haven't jumped on the DTS bandwagon yet, don't be surprised if they begin doing so, with announcements as early as next January.

DTS, by virtue of its less "lossy" compression techniques and 20-bit encoding, is almost certainly the better choice for multi-channel music reproduction. The argument that Dolby Digital is sufficient for video applications won't hold water with audiophiles. Given a choice, sales will gravitate to the superior format. The future of multi-channel sound is far too important just to drift down the path of least resistance. Perhaps Dolby feeding off past success, has even convinced itself that the step up from the problematic ProLogic matrixed sound to Dolby Digital is all that the public needs. It is all they've offered. A hardy hurrah for DTS for not rolling over and playing dead. This issue is just too important.

As seen in...
Audio Adventure Magazine
Issue: Volume 3 Issue 10
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Written By: Fred Manteghian