

Liberty Imaging, Inc.

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FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

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In the Matter of:

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

MM Docket No. 87-268

To: The Commission

REQUEST TO ACCEPT LATE-FILED REPLY TO COMMENTS

Liberty Imaging, Inc. (LII) requests that the Federal Communications Commission (the "Commission") accept the attached late-filed Reply to Comments on the Commission's Fifth Further Notice of Proposed Rule Making (the "Notice") released in the above-referenced proceeding on May 20, 1996.

Comments in this proceeding were due August 12, 1996. LII is filing its Reply Comments late but requests that the Commission accepts them in the interest of a complete public record. LII has been an active participant in the Commission's proceedings to implement Advanced Television Systems. It is in the public interest to include LII Reply Comments on the current Notice because of LII standing as a contributor to the process starting with its participation on PS/WP-4.

To ensure open dialogue copies of this Replay to Comments will be forwarded to CICATS and other interested parties.

For the foregoing reasons, it is respectfully requested that the Commission accept the attached Reply to Comments by LII.

Respectfully Submitted,

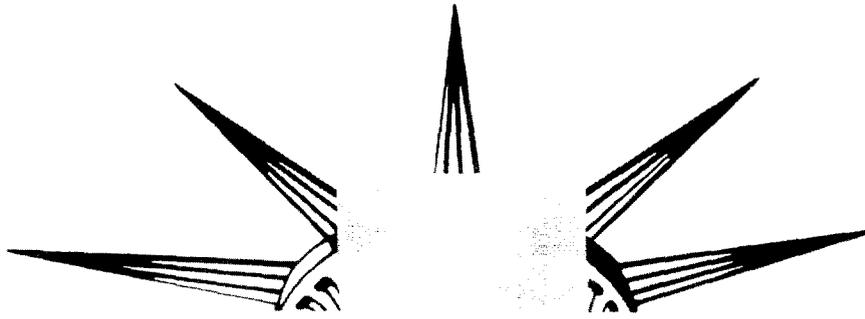


Liberty Imaging, Inc.
John V. Weaver
CEO & President
August 16, 1996

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REPLY TO COMMENT

OF

Computer Industry Coalition On Advance Television Service

Fifth Further Notice of Proposed Rule Making
Submitted August 16, 1996

John V. Weaver
President-CEO, Liberty Imaging, Inc.

Open Architecture as a Business Model for Commercial Television

Author's note: This paper addresses the issue from the perspective of Network Television as that medium is expected to initiate DTV. In general these principles also apply to local station operation.

Introduction:

The Computer Industry Coalition On Advance Television Service (CICATS) has proposed to the FCC a *modified* open architecture alternative standard for terrestrial DTV. The essence of their recommendation is that the FCC mandate very limited technical specifications, including progressive scanning, square pixels; and the inclusion of a more effective bit error correction mechanism, and a modulation scheme to prevent co-channel interference.

The premise of the argument is that the ATSC/Grand Alliance Family of Standards contains antiquated technical attributes, interlace and nonsquare pixels that are not compatible with computers. Further, that by defining formats prematurely, the standard inhibits innovation in the future. Instead CICATS asserts that consumers (viewers) through free market forces should be allowed to influence "voluntary" industry standards by choosing between competing products.

This reply to CICATS analyses the embedded market driven mechanisms that form an impediment to the envisioned objectives of an Open Architecture Free Market Business Model. It is the authors contention that well established broadcast business practices require comprehensive standards in order to conduct the *business* of commercial broadcasting. To address this issue, the following outlines some critical components that are relevant to these business practices and constitute cornerstones of advertiser supported "freely accessible" commercial television.

Revenue:

To understand the broadcast business model it is critical to know that the customer is the *Advertiser* not the *Viewer*. Broadcasting's revenue is almost exclusively derived from the sale of commercial time and therefore the broadcasters primary effort is to satisfy the demands of their clients, the advertisers.

At no time has the broadcast revenue stream been regulated. The entire seller-buyer mechanism has evolved, in a free market, over some 40 years as a result of innovation motivated by broadcasting's need to attract viewers in order to sell commercial time to advertisers.

Broadcasting can be viewed as a "commodities service business":

- Commercial Air Time is perishable. If it is not sold, it will pass by unrecoverable. Consequently the sale of "commercial-air-time" acts as a commodity, governed strictly

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by the laws of supply and demand. Generally speaking, popular shows, that is, those with large audiences fetch more money than unpopular or low-rated shows. And if there are a lot of commercials available and little time to sell them the price tends to go down. On the other hand, if there are few commercials available and lots of demand the price tends to go up.

- Broadcasters do not make the product. They sell Air Time that consists of a void of specific duration between program content in which advertisers insert "Product" commercials.
- To make a deal the important issues to resolve are Cost-per-thousand Homes or Viewers, gross rating points per week, program share and/or rating and day-parts. Like commodities, they deal in abstracts, i.e., cost-per-ton, tons-per-week, Grade "A" vs. "B".
- There are no allowances made for good or bad technology. i.e. Computer planters, synthetic fertilizers or transport technology. Advertisers expect the best and latest technology, the most imaginative content, efficient service and uniform results. Broadcasters understand that providing the best "commercial" environment, including technology, is their business. That is the service they are providing.
- One result is that TV commercials appear to be integrated into shows seamlessly. Show and commercial appear to be as one¹. Doing it right gets the invoices paid on time. Do it wrong and irate clients threaten not to pay².
- Two unique network television sales propositions are critical to this analyses:
 - A. a major advantage to advertisers in buying network television is that their commercial message will appear in the same program, on the same date in the same daypart nationally, and,
 - B. one-stop shopping at the network offers the most efficient means to advertise products nationally.
- While there are provisions to cover exceptions, these are guiding principles of network sales. If a network can't deliver real time programming and *uniform* national coverage, advertisers purchase alternative media that is cheaper.

An attractive alternative is to purchase air-time in nationally syndicated programs such as Oprah and Star Trek. These comparably rated shows are less valued by advertisers because they are not broadcast in uniformly prescribed dayparts nor in real time.

¹ The author concedes that commercials are frequently better than the shows, because advertisers are willing to invest a great deal of money and effort to get and hold the viewers attention. The broadcaster does not guarantee sales; in any case the standard used in both is the same. Historically, one reason the National Television Systems Committee (NTSC) was formed was to bring uniformity to the presentation of advertisements at the behest of Advertisers.

² It must be remembered that air-time is a perishable. If the broadcaster messes it up, it can't be recovered.

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Network Television Advertising is such a successful marketing strategy for consumer products that any proposed standard must be compatible with established business practices or it can't be accepted by advertisers, and therefore broadcasters.

Programming (Content):

DTV produced programming is a pre-condition to launching the new service because:

- to motivate large and demographically desirable viewers/consumers to purchase DTV receivers high-quality programming must be developed and produced in advance of launch,
- to entice the advertisers to commit to purchase air-time and produce commercials in advance of launch "pilots" of primetime shows must be produced in the format that will be broadcast by the networks affiliated stations,
- once determined, program schedules must be heavily promoted in advance by the network and affiliated stations to assure the public that if they invest in purchasing a new DTV receiver, that high-quality, compelling shows will be available on the announced launch date,
- the initial "sunk capital" investment will be substantial running into hundreds of millions of dollars,³
- traditionally producers recover approximately 75% from network licensing fees. They must wait 2 or more years to recover the balance and make a profit when the series goes into syndication. This assumes the series has a successful run on the network; if it doesn't what's not recovered is lost. Estimates vary, but possibly no more than 10% of shows launched are profitable. New FCC ownership rules will spread the risk some but the failure rate will not change,
- recovery of this high risk investment is ultimately the result of income from the sale of commercial advertising time in the United States, plus, in out years, profit from the demand for American-produced programming internationally; and,
- profitability is dependent on the popularity of the shows which is highly unpredictable. Program development and production is a high risk enterprise. Any component of the system that can be stabilized, such as a uniform format in the distribution channel, has a very comforting impact on the viability of the investment. This point can't be over emphasized.

³ Hour film dramas for network primetime will cost about 1.5 million dollars per episode. The network will need approximately 20 episodes, or 30.0 million dollars for one hours entertainment per week.

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Commercial Distribution:

To successfully attract national advertisers, networks must guarantee to deliver signal coverage that exceeds 75 percent of the total television households available. That is, before advertisers will consider purchasing commercial time in national programs, the corresponding network must be able to assure the advertiser that a minimum of 75 percent of households with a television set nationwide will have the ability to receive the signal. Although there is no guarantee that anyone will view the commercial or buy the product, the opportunity must be present.

Once this condition is met advertisers require that their commercials run live, that is in real time on the network within a specified period of time, this is necessary to comply with media planning schedules that require certain specified amounts of advertising during specific periods, typically quarters but frequently short flights of days or weeks.

In the context of DTV, television networks can build the transmission capability to deliver a signal to their affiliated stations; however they must rely on each affiliate to build the necessary pass-through and local transmission facilities in order to radiate a signal in their market.

It is probable that at the start not all affiliated stations will be up and on the air at the same time. Advertisers will be asked to divert some of their dollars from the existing NTSC network to support new DTV programming. Hopefully they will agree but, in the authors opinion, only after the networks guarantee that the full benefits of advertising on network television, namely national coverage, will be on-line and available to present advertising messages within a reasonable time frame.

Another way of looking at this is that network television is made up of two parts:

1. The Network, which originates, pays for the program production and sells national commercial time to advertisers; and their independently owned affiliated stations who accept the network programming, including commercials, and retransmit it to television households in their local coverage area, and,
2. Stations that pass the network program signal through and originate local programming. In both cases commercial air-time is available to stations for sale to local and national spot advertisers.

Networks collect the advertising dollars after verifying the audience via Nielsen Research and share a portion of that income with their affiliated stations.

This symbiotic relationship tends to adopt common formats that assure the Advertiser/client that their commercial message will be presented as intended. The business practices are well disciplined, efficient and eminently successful. This is a business that is very profitable and not broken.

The author asserts that the market power of advertisers, *not viewers*, will drive networks and stations incessantly to achieve uniformity for commercial presentation.

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Commercial Production:

The advertising community is more demanding than entertainment producers and directors, with respect to how their products are presented. Commercial production exploits the same creative attributes, aspect ratio, resolution, etc. that is present in entertainment programming. To properly plan and produce commercials, advertisers and their agencies will demand to know in what format the programs will be broadcast.⁴ Because advertisers are the clients, broadcasters understand their needs must be met. In this author's opinion, uniformity will be the common denominator which tends to encourage standardized formats.

Infrastructure:

There is an important distinction between the economics of broadcasting and the personal computer industries with respect to infrastructure. Computer marketers of hardware and software products take for granted that in the United States an electric power grid and telecommunications infrastructure is in place and of such high quality as to provide reliable ubiquitous service. This is also true more or less in most industrialized countries.

The broadcast industry also depends on reliable power; however broadcasting is not dependent on the telecommunications infrastructure. In its place a separate new national infrastructure devoted exclusively to terrestrial broadcasting must be installed to implement DTV. The cost of this infrastructure is borne solely by the broadcast industry. Unlike the telephone and electric power industries, this investment has always been an unregulated component of the business. Consequently, there is no regulated pricing mechanism to guarantee that the risk capital investment will be recovered.

Therefore, the unique distinction between the two industries is the need for broadcasting to finance and build a separate transmission infrastructure. Common standards will tend to minimize construction costs and by implication promote uniform formats for broadcasters and advertisers to work within.

Production/Post-Production:

While CICATS and its allies are focused on expunging interlace from the FCC transmission standard, production and post-production standards are being ignored. If an open standard were to be implemented by the FCC, it would then be left to the marketplace to determine what production formats would be used to originate television programming, live or electronically recorded for later playback. DTV-originated programming, required to fill the vast majority of hours of the broadcast day must be produced using equipment that meets compatible standards.

The Society for Motion Picture and Television Engineers (SMPTE), the governing body, has recently published production standards for HDTV and SDTV. They, in general, mirror the

⁴ The author recognizes that producers will want unlimited creative latitude when designing commercials including departing from the norm i.e. black and white or unique aspect ratios. Commercial art direction is almost always undertaken to attract and hold the viewers attention in order to deliver the products sales proposition. There is nothing in establishing standards the prohibits the exercise of this creative latitude.

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ATSC/Grand Alliance formats, but with fewer iterations. For instance, at the SDTV level, the 480 X 704, 16 X 9 format comes in a nonsquare pixel, 59:94 iteration only.

If CICATS succeeds in establishing there open architecture concept, the only HDTV production, post production systems available are 1125:60 and 1250:50⁵. In other words, if the FCC were to expunge interlace from the transmission system program material will be produced in interlace which would then be de-interlaced for transmission and re-interlaced for display since 1920 X 1080 progressive is not an FCC proposed DTV format.

The author can say with certainty that producing in interlace, deinterlacing for transmission and re-interlacing for display, no matter what magnificent filters and interpolation algorithms are devised, is not good for the picture or computer processing.

The situation reminds the author of an old axiom he first heard while trying to understand how to provide billing information to a Univac key-punch operator. Politely but firmly he was told, "Just be accurate and write clearly...remember with these machines if you put garbage in you get garbage out".

Base Line:

CICATS has suggested that in the event that the FCC can not accept their Open Architecture proposal that an acceptable alternative would be a Base Line vertical resolution of 480 lines. Migration to HDTV would be left to the market place.

If the above analyses is valid then the out come of such a strategy appears to fall in favor of a unified broadcast infrastructure centered on 480 lines of vertical resolution without a defined pathway to HDTV.

While a square pixel, progressively scanned 480 vertical line format is a significant improvement over the current NTSC standard the author, is inadequate to devise a business scenario that would encourage the evolution of HDTV in terrestrial broadcasting once the infrastructure is built. A base line strategy may be desirable but 480 lines does not appear to be the appropriate resolution if HDTV is a goal shared by the FCC, Broadcasting and the computer industry.

Conclusion:

The CICATS proposed open architecture free-market business model lacks the required discipline to construct a television network capable of meeting commercial advertising requirements. To accomplish this *networking feat*, programming and commercials must be seamlessly integrated and transmitted from the network to viewers/consumers. The most effective and efficient means of reaching this goal is to establish common formats between networks and their affiliated stations through the FCC authority to mandate comprehensive standards.

⁵ The author acknowledges the recent demonstration of a Polaroid HDTV 1280 X 720 progressive scan camera. The infrastructure to support this product is not yet available and therefore it is not yet a production, post-production system.

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If DTV is to be successful it must subsume to broadcasting's established revenue-generating paradigm.

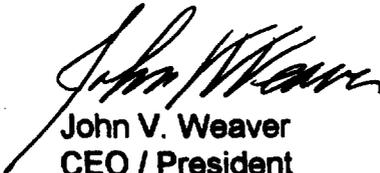
Recommendation:

In the opinion of the author the resolution of the debate before the commission regarding standards is not likely to be resolved through technical compromise. The author suggest an alternative process be explored by the Commission. The unique new business potential of a digital, broadband, ubiquitous, national DTV broadcasting infrastructure may hold the key to a happy ending for all. The objective being to foster a collaborative agreement between the contending parties to pursue a common objective, new revenue streams. Rather than continuing to mediate over technical debates the Commission might engage the top management of the industries involved to pursue the common goal. Successful new DTV products can only come about through marring the unique technology, skills and talent of the converging industries to devise products and services that will lead to new revenue streams. Advertising dollars is the common currency in which everybody has a stake.

It is the authors contention that this approach serves the public interest because once new revenue scenarios are envisioned business strategies will be embraced and implemented by the parties. The American public will receive new DTV products and services plus a much improved television technology in which it enjoy traditional programming. In the process the appropriate technology solutions will become self evident to the collaborating industries and the free market mechanisms so strongly advocated can be relied on to drive the construction of the national advertiser supported broadcast infrastructure and implementation of DTV.

The author implores the Commission to give serious consideration to finding a business rather than a technical solution to the debate before it.

Thank you for your time and attention.


John V. Weaver
CEO / President
Liberty Imaging, Inc.