BEFORE THE

Federal Communications Commission

WASHINGTON, D.C.

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In the Matter of	)	
	)	
Revision of Rules and Policies	)	IB Docket No. 95-168
for the Direct Broadcast	)	PP Docket No. 93-253
Satellite Service	)	

REPLY COMMENTS OF GENERAL INSTRUMENT CORPORATION

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REPLY COMMENTS OF GENERAL INSTRUMENT CORPORATION

General Instrument Corporation ("GIC") hereby submits its Reply Comments on the Notice of Proposed Rulemaking in the above-captioned proceeding.[1]

I. INTRODUCTION AND SUMMARY

GIC focuses in these reply comments on two issues: (1) the Notice's proposed structural and behavioral restrictions on cable participation in the DBS business; and (2) Viacom's suggestion that the Commission control or regulate the use of digital video distribution technologies and equipment.

- Proposed Structural and Behavioral Restrictions on Cable Operator Participation in DBS.

GIC concurs with those commenters who oppose the imposition of cross-ownership or behavioral restrictions on cable participation in the DBS business. In particular, GIC urges the

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[1] Revision of Rules and Policies for the Direct Broadcast Satellite Service, FCC 95-443, released October 30, 1995 ("Notice").

Commission to reject DOJ's proposed rule for the wholesale DBS industry, since DOJ's asserted bases for such a rule are either factually incorrect or unsubstantiated conjecture. The DBS industry is thriving, and there is no factual, legal, or policy basis for imposing such restrictions on cable-affiliated DBS providers. Moreover, given the highly complex and interrelated nature of the video distribution marketplace, the imposition of such restrictions will not only have perverse effects on the DBS industry, but it could also have profound negative residual effects on the equipment industry and other sectors of the economy.

- The Role of Government in Technical Standard Setting.

The Commission should avoid setting technical standards in the multichannel video programming distributor ("MVPD") marketplace, particularly during the current period of dramatic technological change. Whether the distribution "network" in question is owned by a satellite company, a cable operator, or a telephone company, digital television is in its infancy. During this nascent and dynamic stage of development, network operators, as well as equipment manufacturers, should be encouraged to engage in extensive research and development and experimentation via technical and marketing trials without the fear that the government will prematurely establish technical standards that stifle innovation.

This is especially true since the marketplace is already successfully solving interoperability issues and aggressively

allocating resources to identify those technologies which satisfy consumer demand most efficiently. For example, GIC's digital video distribution system and equipment are based on a technology that implements existing industry standards. Even those core GIC technologies that involve security, such as access control, have been licensed to GIC competitors. In addition, voluntary, industry-led standard-setting groups have already begun to specify interoperability standards for the MVPD marketplace.

Finally, the Commission should not allow Viacom's private interest in lower distribution costs and broader distribution of programming to drive important public policy decisions. Viacom's proposals, if adopted, could skew technological development and deprive consumers of the full potential benefits of technological dynamism and innovation.

II. THE COMMISSION SHOULD REFRAIN FROM IMPOSING CROSS-OWNERSHIP OR BEHAVIORAL RESTRICTIONS ON CABLE OPERATORS WHO SEEK TO COMPETE IN THE DBS INDUSTRY

A. There is No Factual, Legal, or Policy Basis to Justify the Proposed Restrictions on Cable-Affiliated DBS Providers

GIC fully supports the comments of Primestar, Continental, NCTA, and other parties that persuasively demonstrate that no factual, legal, or policy basis exists which would justify the Notice's proposed limits on cable participation in the DBS industry.[2]

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[2] See, e.g., Comments of Ameritech at 3; Comments of Continental Cablevision at 1-21; Comments of NCTA at 4-15; Comments of Primestar at 17-34; Comments of Time Warner at 1-21.

The Commission should resort to economic regulation only where there is a demonstrated market failure. There is no failure in the DBS business and, consequently, no justification for imposing on cable operators the severe structural and behavioral restrictions contained in the Notice. To the contrary, the DBS business is thriving.

DirecTV had record-breaking success in its first year of operation. As a recent report described it:

> Faster than VCRs. Faster than color TV sets. Faster even than the previous all-time consumer electronics sales king, compact disc players. That's how fast DirecTV, the satellite-to-home TV system, reached a million customers.[3]

DirecTV needed only 13 months to sign up its one millionth customer. It is aiming for 3 million customers by year-end 1996 and 10 million by the year 2000.

DBS exhibits all the signs of a competitive business. Consider, for example, the following:

- Consumer equipment prices are dropping. Initially priced at around $700 per system, consumers can now hook up to DBS for about $550 and the prices are expected to drop to about $400 in the next year.[4]

- DBS operators have taken customers away from cable. Approximately 65% of all DBS customers live in cabled areas. Nearly two-thirds of them are former cable subscribers.[5]

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[3] "Dishing Up Signals to One Million Homes," USA Today, November 28, 1995, at B1.

[4] "Dishing Up Signals to One Million Homes," USA Today, November 28, 1995, at B2.

[5] Sky Report, at 3 (November 1995).

- DBS operators have all the popular cable programming, plus 60 pay-per-view channels. In addition, DBS offers popular programming that isn't available on cable, such as exclusive NFL and NBA games.

- Consumers already can choose from nearly two dozen direct-to-home satellite television distributors. In addition to PRIMESTAR, DirecTV, and USSB, there are approximately 20 national C-band DBS distributors. Moreover, several additional competitors are poised to enter the DBS business. Echostar and Directsat are expected to launch DBS services in the near future.[6] The Commission recently received 12 applications for authority to provide video and multimedia services via Ka-band satellite.[7]

Given the vibrant, competitive, and rapidly expanding characteristics of the DBS market, there is no need for the Commission to engage in micromanagement of this industry. The Notice cites no evidence of any problem in the DBS business, relying instead entirely on conjecture that is plainly at odds with the reality of the DBS business. In fact, PRIMESTAR has offered significant competition to General Motors and Hubbard Broadcasting. That competition has enhanced consumer welfare.[8] The proposals contained in the Notice would quickly reduce competition in the DBS business and thereby reduce consumer welfare.

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[6] Notice at ¶ 10.

[7] See FCC Public Notice, DA 95-2273 (released November 1, 1995). Ka-band applications were filed by AT&T, EchoStar, GE American Communications, Hughes Communications Galaxy, KaStar Satellite Communications, Lockheed Martin, Loral Aerospace Holdings, Morning Star Satellite, NetSat28, Orion Network Systems, PanAmSat, and VisionStar.

[8] For example, PRIMESTAR's equipment lease option has forced DirecTV to offer consumers a financing plan for DBS equipment as an alternative to a $600-700 up-front payment. See Comments of Continental Cablevision at 8.

The proposals in the Notice are particularly unnecessary in light of the PRIMESTAR consent decrees with the Justice Department and 40 state attorneys general.[9] The decrees impose restrictions on PRIMESTAR and its cable owners that are designed to ensure a competitive DBS business. Some of the decree provisions remain in place until 1997, others until 1999. Moreover, the Commission is required to monitor the competitive status of the DBS business,[10] so if any real problems develop, it will be able to promptly address them. Finally, it should be noted that the Justice Department, as well as DBS operators themselves, have the antitrust laws at their disposal should PRIMESTAR actually engage in anticompetitive behavior.[11]

B. The Commission Should Reject DOJ's Proposed Rule for Wholesale DBS Providers

DOJ proposes a rule that would essentially extend the principles of the Commission's program carriage requirements to the wholesale DBS context.[12] GIC urges the Commission to reject this proposed rule.

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[9] U.S. v. PRIMESTAR Partners, L.P., Final Judgment, 1994 U.S. Dist. LEXIS 14978, Civ. Act. No. 93 Civ. 3913 (S.D.N.Y. April 5, 1994); New York v. PRIMESTAR Partners, Final Judgment, 3 Civ. Nos. 3868-3907 (S.D.N.Y. 1994).

[10] 47 U.S.C. § 548(g).

[11] GIC agrees with Cox that antitrust enforcement is superior to a blanket prohibition on certain operator activity because it permits a balancing of the pro-competitive effects of such conduct. See Comments of Cox at 11.

[12] See Comments of DOJ at 17.

DOJ argues that the proposed rule is needed because several aspects of the market for wholesale DBS services present barriers to entry that will restrict the number of firms that can enter the market. First, DOJ cites the fact that entering this market will be expensive and technically difficult. While GIC agrees that entry into this market is not an inexpensive proposition, the Commission need only look at the firms that are already participating in the DBS market -- General Motors and Hubbard Broadcasting -- and the ones poised to enter -- such as MCI -- to conclude that government "protection" of these market players is unwarranted. GIC does not agree with DOJ's claim that market entry will be "technically difficult." While this may have been true several years ago, now that digital TV technology has been proven and deployed by pioneers such as GIC and others, technology solutions for this business are prevalent.

Second, DOJ suggests that the fact that only three DBS orbital locations can cover the entire United States constitutes another "barrier to entry."[13] However, DOJ's factual predicate is incorrect. As GIC notes at page 5, supra, 12 well-financed companies recently submitted Ka-band applications with the Commission. Ka-band distributors will be fully capable of providing comparable "wholesale" digital video satellite service directly to MVPDs, as will C-Band distributors once they go

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[13] Id. at 13.

digital.[14] In short, DOJ understates the size of the wholesale "DBS" industry. The fact is that many technology solutions will be available to facilitate entry, and many sophisticated and well-financed companies are already gearing up to enter. In addition, even if DOJ's assertion were factually correct, DOJ's conclusion does not follow. Indeed, GIC suggests that the three leading long distance providers -- AT&T, MCI, and Sprint -- would find mildly amusing DOJ's suggestion that a three-firm market cannot be competitive.

Third, DOJ claims that the Commission should be concerned that the first firm to provide wholesale DBS service could enjoy a "first mover" advantage. GIC fails to see the difficulty with this fact. It is basic economics that in an open market where there are no insurmountable barriers to entry the first firm to enter has a "competitive advantage." This first-firm "advantage" attracts other firms to enter the market, incents both existing and new firms to innovate and to compete with respect to price and product. Indeed, to the extent DOJ were correct that such a first-mover advantage should be a cause for concern in the wholesale DBS business, the Commission's decision to auction unused DBS slots would be a primary driver of this concern. Auctioning unused DBS spectrum places DirecTV and USSB at an unfair competitive advantage since they received their DBS slots

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[14] Indeed, there is also nothing to prevent individual programmers, such as Viacom, from individually digitizing their programming, leasing satellite transponder capacity, and providing their programming directly to MVPDs.

for free while all other competitors will have to pay substantial sums to win their DBS orbital slots through a competitive bidding process.[15] Equally important, DOJ's concern is premised on little more than unsubstantiated conjecture that different encryption technologies employed by various wholesale DBS providers will create an insurmountable bottleneck. As GIC demonstrates at page 17, infra, current marketplace evidence proves just the opposite -- GIC's video distribution system and equipment are consistent with a wide array of industry standards, and even those elements of the GIC system relating to encryption and access control have been licensed to GIC competitors.

In short, the DOJ proposed rule regarding wholesale DBS is predicated on little more than strained hypotheticals and claims which are without factual bases. It is telling, for example, that DOJ's entire comment is framed in phrases such as "would probably," "could," "may," "substantial likelihood," and other terms of supposition. Such prejudgments, predeterminations, and predictions should not be permitted to drive public policy decisionmaking. Indeed, the Sixth Circuit recently vacated a Commission attribution rule in the cellular context because the rule was based on little more than the same presuppositions that are at work here:

> However, this "predictive judgment" as to the possible future behavior of future marketplace entrants is highly suspect, makes little common sense, and the FCC provides to this Court nothing, no statistical data or even a general economic theory, to support its

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[15] See Comments of Continental Cablevision at 21.

> argument. The FCC claims that entities with reasonably large, yet non-controlling stakes in Cellular providers, will have a reduced incentive to compete in the wireless communications marketplace, primarily because the entity would not want to take away customers from the Cellular provider in which it holds an interest. We find this argument unpersuasive, unsupported as it is by any record evidence. ... What we do demand, however, is that the FCC provide at least some support for its predictive conclusions.[16]

GIC respectfully suggests that to avoid this problem in this proceeding the Commission should continue to monitor the DBS and wholesale DBS marketplace, and if the factual predicate assumed by DOJ or by the Notice eventuates, then the Commission should contemplate the adoption of rules and restrictions at that time. The Commission should deny DOJ's plea to intervene with the heavy hand of anticipatory regulation.

C. Imposition of the Proposed Restrictions on Cable-Affiliated DBS Providers Could Negatively Impact Other Industries, Such as the Equipment Industry

Cable operators are among the most active, innovative, and successful participants in the video distribution marketplace in general and (through PRIMESTAR) in the DBS business in particular. To the extent the Commission imposes restrictions on cable participation in the DBS business, it may very well reduce the level of dynamic and innovative competitive activity in this marketplace which would negatively impact not only consumers but also the suppliers of the DBS industry, such as GIC and other equipment manufacturers. In short, as the Commission approaches the questions posed in the Notice, it must be mindful of the fact

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[16] Cincinnati Bell Telephone Company v. FCC, No. 94-3701, slip op. at 12 (Sixth Cir. Nov. 9, 1995).

that in this highly complex and interrelated marketplace, the imposition of regulatory restrictions on video distributors could have unforeseen negative consequences. Given the potential for such negative residual effects, and particularly in the absence of a factual predicate for regulatory intervention, GIC urges the Commission to refrain from imposing the structural or behavioral restrictions proposed in the Notice on cable-affiliated DBS providers.

III. THE COMMISSION SHOULD REJECT VIACOM'S SUGGESTION THAT THE COMMISSION CONTROL OR REGULATE THE USE OF DIGITAL VIDEO DISTRIBUTION TECHNOLOGY AND EQUIPMENT

Viacom focuses on preventing distributors from using "proprietary distribution technology" so as to restrict the ability of programmers to reach consumers.[17] If all Viacom is asking is that the Commission make clear that technology cannot be <u>used</u> in an anticompetitive manner to disadvantage certain programmers, GIC agrees. GIC's opposition to the anticompetitive use of technology is amply demonstrated (as discussed below) by its active licensing of proprietary GIC technology and by the fact that GIC supplies video distribution equipment to various MVPDs -- for example, cable, telcos, DBS -- many of which compete directly with each other.

However, GIC is concerned that Viacom's recommendation to the Commission to "prevent the emergence of such closed systems" might be intended or used to justify Commission establishment of

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[17] <u>See</u> Comments of Viacom at 5-8.

digital video transmission standards for MVPDs. GIC strongly opposes government imposition of such standards. While GIC has fully documented its position on this issue in other Commission proceedings,[18] we summarize this position below.

A. The Marketplace, Not Government, Should Set Technical Standards

As a general matter, the government should not set technical standards. Instead, it should rely on the marketplace to drive these decisions. The desirability of market-driven as opposed to government-prescribed standards is strongly supported by an economic analysis of technological standards done by two divisions of the FTC and submitted in the FCC's digital audio broadcasting proceeding ("FTC Standards Analysis").[19] The FTC Standards Analysis urged the Commission to leave decisions on technological standards to the market:

> The staff believes that the FCC should consider leaving decisions on technological standards to the market. Our conclusion follows from an analysis of the current literature on standard-setting discussed below. In many instances the market will operate to resolve efficiently the standard-setting issues. Furthermore, in those instances where the market will not achieve the efficient result, there is no reason to believe that a regulatory selection will achieve a preferable outcome. Since it is not possible in this context to identify situations in which markets will operate

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[18] See, e.g., Comments of General Instrument Corporation, filed in Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming, CS Docket No. 95-61, June 30, 1995, at 11-21.

[19] Comments of the Staff of the Bureau of Economics and the San Francisco Regional Office of the Federal Trade Commission, submitted in Establishment and Regulation of Digital Audio Radio Services, Gen. Docket No. 90-357, January 25, 1991 (published at 1991 FCC LEXIS 638).

> efficiently from those in which it will fail, this suggests that consumers would likely benefit most from a general FCC policy that leaves the determination of standards to the market.[20]

Other analyses of this issue have resulted in equally strong opposition to efforts to micromanage technological change through government-mandated technical standard setting. For example, a recent white paper by the Alliance to Promote Software Innovation and the Business Software Alliance concluded:

> [O]verly broad regulatory standard setting proceedings could create an "aversion" to technological progress and capital formation, thus undermining the incentive of companies to invest in new technologies ... [R]egulatory intervention could drastically change today's successful, open, voluntary, marketplace-driven, private-sector-led, consensus standards development process in the technology critical for the successful development of the information marketplace.[21]

Marketplace forces are simply a better, more efficient, arbiter for setting technical standards.

B. Government Standards Are Particularly Ill Advised in Highly Dynamic and Evolving Markets

Pursuing a market-driven approach to standard-setting is especially critical in highly dynamic and evolving industries. In such industries, where technological change is rapid,

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[20] Id. at 32. The FTC Standards Analysis should be accorded considerable weight in this context given the FTC's responsibility for maintaining competition and safeguarding consumer interests, as well as its expertise on matters concerning the selection of technological standards. See id. at n.7 (identifying those FCC proceedings in which the FTC has submitted comments on the selection of technological standards).

[21] The Information Marketplace: The Perspective of the Software and Computer Industry, Special Focus Paper, Spring 1995, at 11.

standards freeze the current level of technology in place and stifle the development of new technologies. The lesson of the personal computer industry is instructive on this point. During the past decade, American companies dominated the worldwide personal computer market. They rewrote the rules of technological innovation; created new paradigms for education, business, and entertainment; and in the process put thousands of Americans to work in high-skilled jobs. And during this time the government showed great wisdom. It stayed out of the way.

When the government permits the market to operate unfettered, innovators innovate, competition flourishes, consumer choices increase, and prices plummet. When the technology "settles down," standards will be established by the market or industry bodies.[22] As Drs. Besen and Johnson, two prominent experts on technological standards, aptly conclude on this point:

> [T]he government should refrain from attempting to mandate or evaluate standards when the technologies themselves are subject to rapid change. A major reason for the Commission's difficulty in establishing the first color television standard was the fact that competing technologies were undergoing rapid change even during the Commission's deliberations. It is only after the technologies have "settled down" that government action is most likely to be fruitful, as illustrated in the TV stereo case.[23]

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[22] For example, the cable TV channel plan was developed by the cable and consumer electronics industries cooperatively in the EIA/NCTA Joint Engineering Committee and implemented in both industries at essentially the same time.

[23] Stanley M. Besen and Leland L. Johnson, "Compatibility Standards, Competition, and Innovation in the Broadcasting Industry," Rand Corporation, November 1986, at 135. See also EIA and TIA White Paper on National Information Infrastructure, 1994, at 9 ("In areas of rapidly changing technology, premature

Of course, this is precisely the approach the Commission took in the licensing of PCS spectrum where it decided that, given the rapid technological change inherent in PCS development, a flexible regulatory approach to PCS technical standards was warranted:

> [M]ost parties recognize that PCS is at a nascent stage in its development and that imposition of a rigid technical framework at this time may stifle the introduction of important new technology. We agree, and find that the flexible approach toward PCS standards that we are adopting is the most appropriate approach.[24]

Predictably, this decision has fostered a vigorous level of innovation and competition among vying PCS transmission schemes.[25]

The MVPD marketplace is currently undergoing the most dynamic period of technological innovation and experimentation in its history. The diverse innovative approaches currently being pursued by various cable industry players with respect to the

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adoption of a standard can impede innovation"); The Information Marketplace: The Perspective of the Software and Computer Industry, Special Focus Paper, Spring 1995, at 11 ("[S]etting standards too early in the development of the information marketplace would lock us into technologies which ultimately will retard the efficient evolution and use of these networks"); Peter Pitsch and David C. Murray, " A New Vision for Digital Telecommunications," A Briefing Paper, No. 171, The Competitiveness Center of the Hudson Institute, Indianapolis, IN, December 1994, at 2 ("[G]overnment is ill-equipped to regulate tightly a fast-paced environment characterized by rapid technological change and continuous innovation in services. If it tries, its efforts will almost certainly backfire").

[24] PCS Second Report and Order, 8 F.C.C.R. 7700 (1993).

[25] See "CDMA Wins Major Backer in Bells' PCS Primeco," Multichannel New, June 12, 1995, at 1A.

implementation of interactive digital video alone necessitates a rethinking of any attempt to lock down this industry by setting digital standards.[26]

The establishment of digital video standards is also problematic because of the fact that there are multiple technologies for distributing multichannel video programming, each of which is evolving in its own way and at its own speed. DBS already has launched its digital video systems and has sold over one million digital satellite receivers to consumers. Telcos have continued to explore whether Asymmetric Digital Subscriber Line ("ADSL"), hybrid fiber coax ("HFC"), or switched digital video ("SDV") will be their video platform of choice. MMDS operators are at the brink of implementing digital compression in their systems.

In short, the MVPD marketplace is characterized by multiple technologies engaged in an explosion of creativity and innovation. The results will enrich the lives of consumers and ignite economic growth. It would be tragic if the Commission were to call a halt to this activity by precipitously imposing digital video standards on any or all MVPD technologies.[27]

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[26] See "Tech Debate Blurs Digital Agenda," Multichannel News, June 12, 1995, at 1A.

[27] For example, contrary to Viacom's suggestion, forcing common equipment and technology design may result in higher prices for consumers because the market is constrained and competition among technology competitors is not permitted to drive lower prices.

C. The Marketplace is Successfully Solving Issues of Interoperability

Government standards in the MVPD marketplace are especially ill advised given that the marketplace is already developing interoperability solutions. GIC is a prime example of this phenomenon.

GIC's digital video distribution system and equipment are based on a technology that implements existing industry standards, including MPEG-2 video compression, Dolby AC-3 audio compression, MPEG-2 transport, ATSC/ABSOC System Information, ITU trellis-coded QAM modulation, and DES encryption. While GIC's DigiCipher® access control technology is proprietary in order to maximize the secure transmission of content, GIC makes even this core technology available for license by qualified manufacturers.[28] Indeed, GIC has implemented quite an extensive licensing program of its DigiCipher® II/MPEG-2 technology. System licensees, able to design and manufacture interoperable products, include Hewlett Packard, Zenith, and Scientific Atlanta, while semiconductor component licensees include Motorola, LSI Logic, C-Cube Microsystems, SGS Thomson, Samsung

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[28] GIC maintains that proprietary access control technologies are in the public interest. Without the ability to develop and secure such critical technologies, distributors could not be confident that the content delivered over their systems would be protected. Investment in digital technology may be diminished if investors are not confident that content will be safeguarded. Similarly, information providers will be less inclined to market their creative works to such networks if they fear that their work will be pirated. In either case, consumers lose by being deprived of advanced telecommunications infrastructures or new and diverse programming.

Electronics, and Broadcom Corporation. Thus, MVPDs not only have access to a wide variety of manufacturers offering a broad array of technologically superior products, they also have multiple sources of supply for the same technology, which allows them to find the best price/feature mix.

In addition, there seems to be a misperception over proprietary intellectual property. Much of technology is proprietary because it is owned by a private company. What Viacom is principally concerned about is closed proprietary intellectual property in the MVPD context. Since, as GIC has demonstrated above, even its core proprietary access control technology is open to other firms, including GIC competitors. Viacom's concern should not be an issue.

Equally important, various industry standards groups continue to work on developing and implementing interoperability standards. GIC is active in the key groups resolving digital standards, video as well as interactive. That includes ATSC, MPEG, ITU-R, and DAVIC. Much progress is being made in this area.

In short, the MVPD marketplace is becoming an increasingly open technology environment in which licensing of core proprietary technologies to competitors and industry-developed interoperability standards are the norm. In this environment, the concerns of Viacom and DOJ are theoretical at best and certainly should not serve as the basis for precipitous government intervention.

CONCLUSION

For the foregoing reasons, GIC respectfully urges the Commission to: (1) refrain from imposing any structural or behavioral restrictions on cable-affiliated DBS providers; and (2) refrain from imposing digital transmission standards in the MVPD marketplace.

Respectfully submitted,

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