Before the
Federal Communications Commission
Washington, D.C. 20054

In the Matter of	)	
	)	
Implementation of Section 304 of the Telecommunications Act of 1996	)	CS Docket No. 97-80
	)	
Commercial Availability of Navigation Devices	)	
	)	PP Docket No. 00-67
Compatibility Between Cable Systems and Consumer Electronics Equipment	)	

COMMENTS

Genesis Microchip, Inc. ("Genesis"), by its counsel, and pursuant to Section 1.415 of the Commission's rules, hereby submits these comments in response to the Second Further Notice of Proposed Rulemaking in the above-captioned proceeding (the "Plug & Play" proceeding).[1] Due to the similarity of questions posed by the Commission in the Plug & Play proceeding and in the Further Notice of Proposed Rulemaking in MB Docket No. 02-230 (the "Broadcast Flag" proceeding), Genesis is filing identical comments in the Broadcast Flag proceeding.[2] These comments focus on the Commission's request for input on the "standards and procedures" to be employed in approving new technologies,[3] the "appropriate entity" for making approval determinations,[4] and whether a "unified

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[1] *In the Matter of Implementation of Section 304 of the Telecommunications Act of 1996, Commercial Availability of Navigation Device, Compatibility Between Cable Systems and Consumer Electronics Equipment*, Second Report and Order and Second Further Notice of Proposed Rulemaking, FCC 03-225 (rel. October 9, 2003) 30 Communications Reg. (P&F) 834 (2003).

[2] *In the Matter of Digital Broadcast Content Protection*, Report and Order and Further Notice of Proposed Rulemaking, FCC 03-273 (rel. November 4, 2003) 30 Communications Reg. (P&F) 1189 (2003).

[3] *See* Broadcast Flag Further Notice of Proposed Rulemaking at ¶ 61 and Plug & Play Second Further Notice of Proposed Rulemaking at ¶ 83.

[4] *See* Broadcast Flag Further Notice of Proposed Rulemaking at ¶ 64 and Plug & Play Second Further Notice of Proposed Rulemaking at ¶ 85 requesting comment on whether the Commission, a qualified third

regime" should be employed for the approval of new technologies.[5] Genesis submits that the only rational approach to DTV technology[6] adoption in these related proceedings is through an open and unified standards-making process. Open standards-making will avoid the potential for anticompetitive licensing practices and patent misuse, and a unified process will avoid the potential for inconsistent, redundant, costly, and confusing standards. As discussed in greater detail *infra,* Genesis also urges the Commission to establish a federal advisory committee to oversee the standards-making process and make new DTV technology recommendations to the Commission.

I. Background and Statement of Interest

Genesis is a leading supplier of display image processors. These products receive and process digital video and graphic images to enhance picture quality and provide display features not generally available from most other manufacturers. Genesis' customers include brand name manufacturers of LCD monitors and televisions, flat panel digital displays, CRT digital displays, DVD players and set-top boxes. In order to compete in these markets, Genesis' technology and products must be compatible with the DTV technologies and standards that have been adopted – *and those that will be adopted* – in the Plug & Play and Broadcast Flag proceedings.

Genesis filed petitions for reconsideration in both the Plug & Play and Broadcast Flag proceedings to apprise the Commission of the types of problems that arise when standards are developed by closed, private groups that control the intellectual property

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party, or an independent entity representing various industry and consumer interests should make approval determinations.

[5] *See* Broadcast Flag Further Notice of Propose Rulemaking at ¶ 61 and Plug & Play Second Further Notice of Proposed Rulemaking at ¶ 83 requesting comment on whether a unified regime should be employed in adopting standards and procedures for the approval of new technologies that receive digital television ("DTV") signals.

[6] As used in these comments, the term "DTV technology" refers to any technologies that are approved by the Commission pursuant to either the Plug & Play or Broadcast Flag proceedings.

rights to the underlying technologies.[7] Genesis described its general concerns about such industry groups that have the power to control standards development and manipulate technical specifications to serve anticompetitive ends. Genesis also stated its specific alarm with the anticompetitive manner in which the patented Digital Visual Interface ("DVI") specification – now required under both the digital cable[8] and digital broadcast[9] rules – has been licensed by the developers and owners of this technology.

Genesis recounted how it began developing DVI-compliant products pursuant to a purportedly royalty-free licensing agreement (the "DVI Adopters Agreement") issued by the Digital Display Working Group ("DDWG"), only to be met with an infringement suit brought by Silicon Image, Inc. ("SII"), a key member of the private DDWG and holder of certain DVI-based patents. Under the DVI Adopters Agreement, which discloses no patents, the burden and risk of deciding which patent claims are necessary to implement the DVI specification are placed solely on the licensee. As a result, Genesis was "second-guessed" by SII as to which patent claims were, in fact, needed to implement DVI. More importantly, despite years of litigation, neither SII nor the DDWG has yet to publicly disclose which patents (or necessary claims) are needed to implement the DVI specification.

In its Plug & Play Petition, Genesis challenged the Commission's decision to blindly accept private standards (*i.e.*, DVI and HDMI) adopted by closed industry groups that did not have patent policies or license review procedures in place to protect industry competition. Genesis also emphasized how the adoption of such standards failed to comply with Section 629 of the Communications Act, which requires the Commission to consult with "appropriate standards setting organizations" such as the Institute of

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[7] *See* Genesis Petition for Reconsideration filed on December 29, 2003 ("Plug & Play Petition") attached as Exhibit A, and Genesis Petition for Reconsideration filed on January 2, 2004 ("Broadcast Flag Petition") attached as Exhibit B. The Plug & Play Petition and Broadcast Flag Petition are collectively referred to herein as the "Petitions."

[8] *See* Sections 15.123(b)(6) and 76.640(b)(4) of the Commission's rules.

[9] *See* Sections 73.9003(a)(7) and 73.9004(a)(6) of the Commission's rules.

Electrical and Electronics Engineers ("IEEE") or the American National Standards Institute ("ANSI") in developing standards for cable navigation devices.[10]

In the Broadcast Flag Petition, Genesis challenged the Commission's decision to approve the DVI specification as one of the permitted display interface standards for computers that incorporate DTV tuners (so-called "covered demodulator products"). Genesis asserted that vendors of digital image processors will now be required to license undisclosed patents whose claims read on the DVI technology in order to compete in the digital broadcast business – and that the Commission was, in effect, duped into sanctioning a private licensing scheme that is fraught with anticompetitive abuse. Moreover, SII has taken the position that DVI is not available for use with consumer electronics products, which would presumably include the covered demodulator products, without paying additional royalties.

In both Petitions, Genesis requested that the Commission modify its orders to require, for adopted and newly authorized DTV technologies,[11] a full disclosure, <u>on the record,</u> of all relevant (1) patents and pending patent applications, (2) "necessary" patent claims, and (3) licensing terms and conditions. Furthermore, Genesis urged the Commission to ensure that all standards-setting activities associated with these proceedings be conducted under the auspices of an ANSI-accredited or similar organization with open participation and a strict policy requiring early disclosure of potential patent claims.

Because the concerns raised by Genesis in its Petitions are relevant to *any* new technologies adopted for DTV products, it is important that they also be addressed in the context of this rulemaking. <u>Genesis submits, therefore, that unless the DTV technologies</u>

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[10] Section 629 of the Communications Act states in relevant part that: "The Commission shall, ***in consultation with appropriate standards-setting organizations***, adopt regulations to assure the commercial availability, to consumers of multichannel video programming and other services offered over multichannel video programming systems…" 47 U.S.C. § 549(a) [Emphasis added].

[11] Genesis cannot understand how the Commission can justify disclosure and licensing policies for new DTV technologies that are more stringent than that which was required for the technologies adopted in the rulemakings. *See e.g.*, Section 73.9008 of the Commission's rules which requires detailed information on patents and licenses of new technologies adopted under the broadcast flag rules.

and standards adopted by the Commission are removed from the control and influence of private patentees, licensing abuses will continue and industry competition will be harmed.[12] Going forward, these problems can be rectified only if the Commission takes decisive action to ensure that all mandatory standards and DTV technologies are developed in an open environment.

II. All New DTV Technologies Should be Approved by ANSI-Accredited or Open Standards-Setting Organizations that Report to a Federal Advisory Committee.

Until this proceeding, the Commission had only adopted technical standards that were developed by an accredited standards setting organization, the work of a federal advisory committee, or the result of an open Commission proceeding in which the proposed standard was carefully analyzed by the Commission staff and subjected to public scrutiny.[13] In its haste to facilitate the transition to DTV, however, the Commission appears to have deviated from 50 years of precedent by adopting privately developed standards that now threaten industry competition. Genesis urges the Commission to

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[12] Adoption of standards that are developed and maintained by a small private group of patentees raises the risk that the standards will be manipulated for anticompetitive gain. Competition in the digital display market can be harmed by the failure of private working groups to disclose in timely manner, patents and pending patents which claim the specifications, "necessary claims" in such patents that are required to implement the specifications, and the licensing terms and conditions in such patents. For example, in the Plug & Play proceeding, the Commission adopted the DVI and HDMI interface standards but failed to require a disclosure of required patents or to specify which *versions* of these standards are required to be followed. These standards could be modified at any time to raise barriers to market entry, deny intellectual property rights to manufacturers, and give a competitive advantage to a select group of patentees. *See* Genesis Plug & Play Petition at 17 attached as Exhibit A. Similarly, in the Broadcast Flag proceeding, the Commission's new rules provide that when demodulators are incorporated into a computer product, digital content may only be passed to an unprotected output operating in a mode compatible with the DVI Rev. 1.0 specification. *See* Broadcast Flag Proceeding, Appendix B, Section 73.9003(a)(7). Once again, however, the Commission fails to require full public disclosure of the patents, pending patents and "necessary claims" required to implement the DVI Rev. 1.0 specification. In point of fact, Genesis is aware of two issued patents which Silicon Image Inc. asserts read on the DVI specification and contain claims that are not licensed under the DVI Adopters Agreement. *See* Genesis Broadcast Flag Petition at 5 attached as Exhibit B.

[13] Indeed, the Commission repeatedly has touted the benefits of accredited standards setting organizations, while subjecting the work of closed private organizations to increased scrutiny. *See e.g., 2000 Biennial Regulatory Review of Part 68 of the Commission's Rules and Regulations,* 15 FCC Rcd. 24,944, 24,964 (2000) ("We conclude that only standards development organizations that meet the due process requirements for ANSI accreditation for either Organizations or Standards Committees may develop technical criteria [for interoperability]…").

return to the decision making processes that have so successfully guided it in prior proceedings.

In response to the Commission's specific request for comment on the "standards and procedures"[14] to be employed to facilitate the adoption of new DTV technologies, Genesis urges the Commission to consider only those new DTV technologies that are the product of an ANSI-accredited standards-setting organization or an open standards group with ANSI-equivalent policies. The benefits of relying upon such organizations are many: such organizations have guidelines to ensure that due process is followed; they have policies and procedures to protect against competitive abuses by conducting their activities in the open; they enforce a patent policy grounded on full disclosure of both issued and pending patents; and they encourage cross-communication among industries by ensuring that all interested parties have an equal footing in the standards development process.[15] A summary of the "due process" policies and procedures which are recommended and routinely followed in order to obtain ANSI accreditation is set forth in Exhibit C. Genesis urges that the Commission make these policies and procedures mandatory for any organization that submits new DTV technologies for Commission approval.[16]

Where a new DTV technology is offered publicly, the terms and conditions of such license should be fully disclosed particularly where patents are involved. Public disclosure will permit both the licensees and the Commission to determine whether the technology is being offered on reasonable and non-discriminatory terms or whether it is being licensed for anti-competitive purposes. The Commission's interim approval

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[14] *See* Broadcast Flag Further Notice of Proposed Rulemaking at ¶ 61 and Plug & Play Second Further Notice of Proposed Rulemaking at ¶ 83.

[15] *See e.g.,* ANSI Essential Requirements: Due Process Requirements for American National Standards (2003), available at http://public.ansi.org/ansionline/Documents. A summary of these essential requirements is contained in Exhibit C.

[16] It would be the role of the federal advisory committee, discussed *infra*, to ensure that these due process requirements are met. The federal advisory committee could also correct any due process deficiencies through its own processes before proposing a new technology for Commission approval.

procedures, adopted in the Broadcast Flag proceeding, provide a sound and workable model that should be applied to all new DTV technologies. These procedures, which Genesis strongly supports, require full disclosure of "the license terms, and fees, as well as evidence demonstrating that the technology will be licensed on a reasonable, non-discriminatory basis."[17] Although it is difficult to develop objective standards or guidelines which measure reasonableness or non-discrimination, there are some licensing provisions that warrant special attention due to their highly anti-competitive effects. A partial list of these, against which every technology license should be measured, is set forth in Exhibit D and come directly from the DVI and/or HDMI Adopters Agreements. Genesis urges that the Commission make specific reference in its rules as to these, and perhaps other, terms and conditions which raise fundamental questions of reasonableness and non-discrimination in technology licenses. Genesis further urges that the license disclosure requirements of Section 73.9008(a)(4) be adopted on a permanent basis for both existing and future DTV technologies approved by the Commission.

In response to the Commission's request for comment on the "appropriate entity" for making approval determinations,[18] Genesis urges the Commission to establish a standing federal advisory committee whose function would be to evaluate new DTV technologies that are recommended by either an ANSI-accredited standards-setting organization or an open standards group with ANSI-equivalent policies. Several important benefits would result from the establishment of a federal advisory committee. First, the Commission would be the beneficiary of expert advice. Second, it could structure the committee to be inclusive so that its members would be representative of a broad range of interests. Finally, meetings would be open to the public. Thus, instead of being presented with a "take it or leave it" standard from closed industry groups, the Commission would have at

[17] Section 73.9008(a)(4) of the Commission's rules.

[18] *See* Broadcast Flag Further Notice of Proposed Rulemaking at ¶ 64 and Plug & Play Second Further Notice of Proposed Rulemaking at ¶ 85 requesting comment on whether the Commission, a qualified third party, or an independent entity representing various industry and consumer interests should make approval determinations.

its disposal the work product of a broadly selected group of technical and public policy experts.[19]

In the Plug & Play proceeding, the Commission has asked what role CableLabs – a private organization created to serve the interests of cable operators -- should play in the development of new DTV technologies.[20] Quite simply, Genesis does not believe that any private organization should be given the power to screen, or decide, which new DTV technologies should be presented to the Commission for adoption. In saying this, Genesis does not question CableLabs' competence or technical capabilities – only its role, or the role of any private organization, in the process by which DTV technologies are imposed on others in the industry.[21]

III. The Commission Should Establish a Unified Regulatory Regime for the Adoption of Standards in the Broadcast Flag and Plug & Play Proceedings.

The Commission has requested comment on whether a unified regime should be employed in adopting standards and procedures for the approval of new DTV technologies. Because multiple products cutting across multiple industries will be affected by the DTV standards-making process, Genesis supports the use of a unified regulatory regime to advise the Commission on standards. Specifically, the Commission should instruct the newly established federal advisory committee discussed *supra*, to review and recommend standards that are compatible with the content protection goals of both proceedings. Coordinated action by an overarching advisory committee will avoid the potential for inconsistent, redundant, or conflicting standards.

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[19] The availability of broad based expertise is especially important because the Commission does not have the time or expertise to take on the task of approving new connection technologies. The Commission's technical staff is already stretched thin in support of rulemaking and licensing activities. It simply does not have, and has never had, a technical staff whose sole purpose is to evaluate standards.

[20] *See* Plug & Play Second Further Notice of Proposed Rulemaking at ¶ 85.

[21] CableLabs technical input will not be stifled by these recommendations. It can participate in, or even chair, an accredited standards committee and it can seek membership on the federal advisory committee that Genesis recommends be established to review and present new DTV technologies for Commission adoption.

The foundation of both the Plug & Play and Broadcast Flag proceedings is high definition ("HD") digital video signal processing. Whereas the Plug & Play proceeding is concerned with the transmission of HD video by multichannel video programming distributors such as cable and satellite, the Broadcast Flag proceeding is concerned with the transmission of HD video by over-the-air broadcasters. Irrespective of the transmission source, however, manufacturers of DTV processing[22] technologies, such as Genesis, will need to ensure that their products are compatible with all new technologies that are approved in either proceeding. Accordingly, it is imperative that any technologies recommended for Commission adoption be evaluated in terms of their impact on DTV products that process both digital cable and flag-protected transmissions. Unless the approval process is centrally coordinated or takes place under an umbrella organization, manufacturers could be subject to conflicting or redundant standards. This, in turn, will result in unnecessary costs being passed on to consumers.

For example, Genesis as well as other manufacturers are in the process of developing a next-generation digital display interface which is targeted for use with PCs, monitors, notebooks and other consumer electronics devices. If the Commission's DTV technology approval process is not coordinated and unified, this standard will have to be presented to, and reviewed by, separate "adopters" groups – one focused on digital cable technologies and the other on digital broadcast technologies – with potentially conflicting goals. Such a process will not only involve a duplication of efforts but also an increase in the development costs and delays in implementation – all to the detriment of DTV consumers.

Already, there are numerous products on the market that are impacted by both the Plug & Play and Broadcast Flag proceedings.[23] "Monitors" are now being sold that receive off

[22] "Processing" technologies refer to any technology that must be compatible with DTV signals from the initial transmission through final end user display.

[23] Currently, Sharp Electronics Corp. markets a "computer monitor" that includes a built-in TV tuner that may be used to display cable, satellite, and broadcast signals. *See WXGA LCD Monitor with integrated TV Tuner* at http://www.sharpsystems.com/products/lcd_monitors/lcd_tv_monitors/. Moreover, a Toshiba Satellite Notebook Computer includes a TV tuner that can accept cable, satellite, and broadcast signals. *See* http://www.csd.toshiba.com/cgi-bin/tais/pc/pc_prodList.jsp?comm=CS&plin=Portable%20Computers.

the air broadcasts and have interfaces for cable and satellite signals, and laptop computers are sold with similar capabilities. Under the Commission's new rules, these devices are considered to be both a "television"[24] and a "computer product"[25] thus, subject to possibly conflicting DTV standards.[26] Such conflicts can be avoided by creating a unified regime to oversee the approval of all new DTV technologies.

IV. Conclusion

All new DTV standards and technologies presented to the Commission for authorization should be the product of an ANSI-accredited or similar open standards setting-organization, which ensures due process, has a written patent policy based on early disclosure of issued and pending patents and requires reasonable, non-discriminatory licensing terms that are made public. Because multiple products cutting across multiple industries will be affected by the adoption of new DTV technologies, the Commission should create a unified regime to oversee these activities to ensure consistency, avoid conflicts and minimize costs. Accordingly, Genesis urges the Commission to establish a standing federal advisory committee whose function is to evaluate and recommend to the Commission, new DTV standards and technologies that are compatible with cable as well as broadcast transmissions.

Respectfully Submitted,

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/s/ Robert J. Ungar

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[24] *See* Section 15.123(b)(6) of the Commission's rules

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[25] *See* Sections 73.9003(a)(7) and 73.9004(a)(6) of the Commission's rules.

[26] The DVI specification, as noted throughout these comments, is required in different implementations by different rules. *Compare e.g.,* Section 15.123(b)(6) with Section 73.9003(a)(7) of the Commission's rules.