

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

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JUN 23 1997

Federal Communications Commission
Office of Secretary

In the Matter of)	
)	
Implementation of Section 304 of the Telecommunications Act of 1996)	CS Docket No. 97-80
)	
Commercial Availability of Navigation Devices)	

REPLY COMMENTS OF ECHELON CORPORATION

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SUMMARY

The opening comments are virtually unanimous on one central point of particular relevance to this proceeding. Given the substantial growth of digital technology and the huge embedded base of analog CPE, the Commission should refrain from imposing any “commercial availability” requirements on analog devices, and instead focus solely on digital CPE in implementing Section 629 of the Act. Any other approach would contradict the Commission’s policy of aggressively transitioning to a digital television environment and risk stranding consumers with massive, unnecessary investment in soon-to-be-obsolete analog technology. As NCTA commented, by the time commercial availability issues can be resolved, “the analog world may be a relic.” In fact, both advocates and opponents of the so-called “decoder interface” standard now concur that any Commission decision on analog set-top boxes—which clearly must comply with the narrow standard-setting authority available under Section 301(f) of the 1996 Act—should only occur in the long-pending cable equipment compatibility docket (ET Docket No. 93-7).

In light of public policy dangers associated with government-imposed technical standards and Congress’ strong preference that the Commission defer to private, open industry standards-setting bodies, the Commission should not dictate architectural, interface or portability digital standards, but rather should leave these decisions to the marketplace. Industry is currently developing alternative mechanisms and system designs to support digital navigation device portability without jeopardizing security. Voluntary, consensus-based industry standards organizations (unlike the closed, FCC-created C3AG advisory committee working on cable compatibility) can and will

develop any necessary technical standards for digital CPE. While the government should encourage development of these market-based standards, it does not have the legal authority or the public policy justification to adopt or approve any one “solution,” including the “NRSS” digital standard.

In sum, the Commission should refrain from interfering in the voluntary standards-setting process, limit its involvement to adopting a performance rule requiring compliance with Section 629, and allow the marketplace the flexibility and incentives to continue developing mechanisms to ensure commercial availability of digital navigation devices.

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REPLY COMMENTS OF ECHELON CORPORATION

Echelon Corporation ("Echelon"), by its attorneys, respectfully submits these reply comments in connection with the Commission's Notice of Proposed Rulemaking ("NPRM")¹ on implementation of "commercial availability" for set-top boxes and other "navigation devices."

INTRODUCTION

Echelon has been an active and long-standing participant, before this Commission, Congress and standards-development organizations, on issues related to set-top box compatibility, technology and market competition.² Since the legislative debate leading to what became the Telecommunications Act of 1996 ("Act"), Echelon has argued that the marketplace should set technical standards for navigation devices

¹ *Implementation of Section 304 of the Telecommunications Act of 1996, Commercial Availability of Navigation Devices*, Notice of Proposed Rulemaking, FCC 97-53, CS Docket No. 97-80 (released February 20, 1997) ("NPRM").

² *See, e.g.*, Echelon Reply Comments, CS Docket No. 95-184 (filed April 17, 1996); Joint Petition for Reconsideration, ET Docket No. 93-7 (filed May 28, 1996); Echelon Ex Parte, ET Docket No. 93-7 (filed July 25, 1996); Echelon Reply in Support of Joint Petition for Reconsideration, ET Docket No. 93-7 (filed July 18, 1996); Echelon Ex Parte, ET Docket No. 93-7 (filed March 28, 1997). Echelon was an active supporter and advocate of Section 301(f) of the Telecommunications Act of 1996—the "Eshoo Amendment"—which took the extraordinary step of intervening in the Commission's pending cable compatibility proceeding to restrict the FCC's standard-setting authority.

and that set-top box “interoperability” can be achieved, in the digital environment, without government intervention. More recently, Echelon proposed in its opening comments in this proceeding that the Commission limit any commercial availability rules only to digital customer premises equipment (“CPE”) and that all issues associated with analog equipment—including the so-called “decoder interface” standard—should be decided in the ongoing cable compatibility docket (ET Docket No. 93-07). *See, e.g.*, Echelon Comments at i-ii, 5-6, 38-39.

These proposals have now been endorsed by a sweeping collection of commenters, who are virtually unanimous in recommending that the FCC should restrict any action under Section 629 to digital set-top box technology. Parties ranging from video programmers (*e.g.*, Viacom) and equipment manufacturers (*e.g.*, Motorola, Scientific-Atlanta, General Instrument, TIA) to telecommunications carriers (*e.g.*, Pacific Bell, Bell Atlantic) and high-technology concerns (*e.g.*, Computer & High-Technology Coalition (“CHTC”)) all agree that there is no justification to force multichannel video programming distributors (“MVPDs”) to incur the massive network reconfiguration costs that would be required (if it is possible at all) to support commercial availability of analog CPE. As CHTC explained, since it is by now clear that the “future of both the computing and television industries lies in digital technology,” the Commission should “promulgate forward-looking principles based on the new digital environment.”³

As to the analog decoder interface, there is no support at all for Commission consideration of that proposed standard under Section 629. As a policy matter, the

³ CHTC Comments at 9.

overwhelming weight of comments urge the Commission not to undertake a sidetrack down the road of analog navigation devices “during the very twilight of analog technology.”⁴ And in fact, the very proponents of the decoder interface themselves now concur that its appropriateness, and the question of its legality under Section 301(f) of the 1996 Act (Section 624A of the Act), should *not* be resolved in this proceeding.

The National Cable Television Association (“NCTA”), one of the two organizations sponsoring the decoder interface standard, agrees with Echelon that this docket “should apply only to digital CPE, not to cable’s analog set-top boxes,”⁵ and that the Eshoo Amendment’s “salutary approach” in fact applies to any Commission decision under Section 629.⁶ The Consumer Electronics Manufacturers Association (“CEMA”), the other developer of that standard, has not formally proposed that it be adopted or approved by the FCC in this proceeding. Consequently, while Scientific-Atlanta and others concur with Echelon that the decoder interface “clearly violates the Eshoo amendment,”⁷ there is no need for the Commission “to embroil [itself] in an entirely unnecessary dispute over the scope of its standards-setting powers” which is of “highly questionable legality” and only creates a substantial likelihood of appellate reversal.⁸

Based on the record, the Commission can faithfully execute the congressional policy underlying Section 629, honor the statute’s terms, and provide consumers with new marketplace options for navigation devices and related CPE with a “minimalist”

⁴ Scientific-Atlanta Comments at 26.

⁵ NCTA Comments at 8.

⁶ *Id.* at 31.

⁷ Scientific-Atlanta Comments at 26.

⁸ CHTC Comments at 3, 16.

approach to government standards and maximum reliance on market forces and competition. The Commission should:

- Refrain from adopting or approving any technical standards for navigation devices under Section 629, deferring instead to voluntary, consensus-based industry standards organizations;
- Limit its Section 629 regulations only to a “performance” rule, applicable to digital CPE, allowing individual MVPDs to determine whether to comply with the retail availability obligation through standards, licensing or some other option;
- Not mandate any architecture or design standards for set-top boxes, including any physical interface standards, and reject calls to mandate separation of security from non-security functions of Section 629 equipment;
- Decide all issues related to analog CPE, and the so-called decoder interface standard, in the cable compatibility proceeding, consistent with Section 301(f); and
- Reject any argument that it should impose standards for “national portability,” as Section 629 does not authorize Commission promulgation of portability requirements and it is impractical to mandate the interoperability of navigation device CPE among different MVPDs in the complex, security-intensive area of cable and related video delivery systems.

DISCUSSION

I. THE COMMISSION SHOULD CONTINUE TO MOVE AGGRESSIVELY TOWARD THE DIGITAL ERA AND LIMIT ITS REGULATIONS TO DIGITAL CPE

The opening comments are virtually unanimous in urging the Commission to focus its commercial availability regulations on digital applications.⁹ It is by now very clear that the multichannel video and broadcast markets are rapidly moving toward

⁹ See, e.g., US West Comments at 2; NCTA Comments at 8; Viacom Comments at 4; TIA Comments at 14; CHTC Comments at 11; Zenith Comments at 6; Pacific Bell Video Services Comments at 2; Scientific-Atlanta Comments at 26; GTE Comments at 5-6; Ameritech New Media Comments at 10; General Instrument Comments at 40.

digital technology.¹⁰ Making a “pit-stop” in the analog domain would retard this transition, send perverse investment incentives to consumers, and embroil the Commission in extremely complex (perhaps unresolvable) technical and product design problems.

A. Consistent With the Commission’s Policy to Aggressively Pursue the Development of Digital Technology, Commercial Availability Regulations Should be Limited to Digital CPE

The Commission’s advanced television (“ATV”) decision has bolstered progress toward the digital era by providing strong and positive market incentives to produce and invest in new-generation digital CPE by the year 2006.¹¹ As Echelon explained in its comments, the computer and television industries have already begun to incorporate digital technology into new products and services.¹² The most recent example of this trend is HBO’s announcement just two weeks ago that it will “begin offering digital high-definition programming next summer.”¹³

This transition to a digital environment has important consequences for the FCC’s commercial availability decisions. In order to participate in the new digital era, consumers must invest in digital televisions, VCRs and other receivers or converters. Given the “huge embedded base”¹⁴ of analog set-top CPE, the switch to digital technology will require a significant, and relatively quick, financial commitment on the

¹⁰ US West Comments at 2; CHTC Comments at 9.

¹¹ *Advanced Television Systems and Their Impact Upon Existing Television Broadcast Service*, Fifth Report and Order, FCC 97-116, MM Docket No. 87-268 (released April 21, 1997) (“Fifth Report and Order”); *Advanced Television Systems and Their Impact Upon Existing Television Broadcast Service*, Sixth Report and Order, FCC 97-115, MM Docket No. 87-268 (released April 21, 1997). Under the Fifth Report and Order, broadcasters must transmit their signals in digital format by the year 2006. Fifth Report and Order at ¶ 56.

¹² Echelon Comments at 12-15.

¹³ “HBO To Offer High-Definition TV Next Summer,” *New York Times*, June 11, 1997.

¹⁴ NCTA Comments at 8; US West Comments at 4.

part of consumers. After encouraging manufacturers to develop and consumers to purchase digital television equipment, it “makes little sense”¹⁵ for the Commission to require engineering and production of a new generation of analog televisions and set-top boxes, a step that would only give rise to counterproductive incentives for consumers to invest in analog devices—which will enjoy a finite and very limited life span—and thus delay the transition to a digital broadcasting environment.¹⁶

As NCTA recognizes, because “it would be next to impossible to replace this [analog] equipment to comply with new rules adopted in this proceeding,”¹⁷ the Commission should “not deal in this proceeding with ‘commercial availability’ rules for analog cable set tops.”¹⁸ This is precisely the point made by the computer and high-tech industry members (3Com, Apple, Cisco Systems, Detroit Edison, Netscape, Novell, Sun Microsystems, etc.) of the CHTC.¹⁹ According to these technology companies, since analog equipment is the “last of its generation” and will rapidly become outpaced by digital devices, “the Commission should not promulgate any technical standards for

¹⁵ General Instrument Comments at 40.

¹⁶ Indeed, market trends suggest that consumers are already recognizing the limited utility of conventional, analog television equipment in an era of digital television. “American consumers are buying far fewer televisions this year than manufacturers had expected, because of fears that those sets may soon become obsolete . . . as broadcasters and manufacturers ready the nation for the next generation: digital high-definition television.” “TV Sales Weaken on Fears New Sets Will Soon Be Obsolete.” *New York Times*, June 23, 1997, at D1.

¹⁷ NCTA Comments at 8.

¹⁸ *Id.* at 12.

¹⁹ The CHTC members include: 3Com Corp., American Innovations, Ltd., Ascend Communications, Inc., Apple Computer, Inc., Central & South West Communications, Inc., Cisco Systems, Inc., Detroit Edison Company, Echelon Corporation, EUA Cogenix Corp. d/b/a EUA Day, Global Village Communications, Inc., Netscape Communications Corp., Novell, Inc., Silverthorn Group, Inc., Sun Microsystems, Inc., Venrock Associates, Wisconsin Public Service Corp. and WISVEST Corporation.

commercial availability of analog converters, set-top boxes or other navigation devices.”²⁰

Although the computer and television industries are battling in the marketplace, they agree on this point. Zenith, a leading manufacturer of analog televisions, recognizes that in light of the “deployment of digital technology,” it would not be “economically feasible to create a retail market for analog set-top devices.”²¹ Zenith proposes that by focusing “on emerging digital set-top technology,” the FCC’s regulations would address the deployment of digital set-top boxes and emerging digital cable standards, without rendering analog devices obsolete.²² Thus, there is no question under the overwhelming weight of the comments that by limiting its regulations to the digital arena, the Commission can facilitate an “orderly transition from analog to digital technology with a minimum impact to both consumers and providers.”²³

Only three parties even suggest that the Commission should consider regulations to ensure the commercial availability of analog navigation devices.²⁴ Two of these parties, CEMA and Circuit City, discuss analog issues but do *not* propose FCC adoption of technical standards for analog CPE. The other, the Consumer Electronics Retailers Coalition (“CERC”), asserts that the “Commission needs to require the adoption and support of a security module interface” for analog systems by a date certain.²⁵ In fact, CERC claims—without substantiation, and in conflict with NCTA—that the Commission “can, and must” promulgate regulations on analog systems “irrespective

²⁰ CHTC Comments at 11.

²¹ Zenith Comments at 4.

²² *Id.*

²³ *Id.*

²⁴ CERC Comments at 22-24; CEMA Comments at 4-5; Circuit City Comments at 33.

of” the Commission’s cable equipment compatibility proceeding.²⁶ By failing to appreciate the importance of the new emerging digital era, these comments are inconsistent with economic and technical realities, and the record, and should be disregarded by the Commission.

Any regulations targeting analog CPE will likely retard the deployment of emerging digital television technology.²⁷ “Since analog technology is increasingly giving way to digital technology,”²⁸ it would not “be sensible”²⁹ for the Commission to spend its precious and valuable resources to develop rules and standards for “waning analog technologies.”³⁰ Since “the digital world is at hand,”³¹ and it is “generally agreed that digital technologies will supplant analog over the relatively short term,”³² the FCC should encourage its advancement and success by applying its commercial availability regulations exclusively to digital navigation devices.

B. Even if the Commission Decides to Address Analog Issues, those Efforts Should be Dealt With in the Cable Compatibility Proceeding and Must Comply With the Limitations of Section 301(f)

If the Commission decides to invest its resources in promulgating regulations for analog systems, it should consider those issues exclusively in its long-standing cable compatibility proceeding. Since its inception in 1993, the cable compatibility proceeding

²⁵ CERC Comments at 22-24.

²⁶ *Id.* at 22.

²⁷ NCTA Comments at 13.

²⁸ General Instrument Comments at 40.

²⁹ Zenith Comments at 7; *see* NCTA Comments at 13; Pacific Bell Video Services Comments at 2; Scientific-Atlanta Comments at 12.

³⁰ Ameritech New Media Comments at 3.

³¹ NCTA Comments at 13.

³² Ameritech New Media Comments at 10.

has focused on the issues surrounding analog cable CPE.³³ As Echelon, NCTA, and other commenters now agree, the Commission should not clutter this proceeding with the unique conditions of increasingly obsolete analog technology.³⁴

Any FCC regulations for set-top boxes must comply with the standard-setting principles established in Section 301(f)—the Eshoo Amendment. Under Section 301(f), the Commission must use “narrow” technical standards that require only a “minimum” degree of common interoperability in order to “maximize” innovative and robust competition.³⁵ In addition, Section 301(f) prohibits Commission adoption of any standard that “affects” home automation, computer networks or other unrelated products. As Echelon has explained in detail in several FCC filings, the analog decoder interface incorporates the CEBus® communications protocol, a home automation standard completely unrelated to the specific equipment compatibility problems that the Commission is authorized to resolve.³⁶ By including the CEBus protocol, the decoder interface is not a “narrow” technical standard, it requires more than a “minimum degree” of interoperability, and it “affects” competition in the home automation and computer markets.³⁷ As Scientific-Atlanta explained, “[g]iven how the

³³ *Implementation of Section 17 of the Cable Television Consumer Protection and Competition Act of 1992—Compatibility Between Cable Systems and Consumer Electronic Equipment*, Notice of Inquiry, ET Docket No. 93-7, 8 FCC Rcd. 725 (released Jan. 29, 1993).

³⁴ NCTA Comments at 11.

³⁵ 47 U.S.C. §§ 544a(a)4); 544a(c)(2)(D); 544a(c)(1)(A).

³⁶ Echelon Comments at 35; *see* Echelon Reply Comments, CS Docket No. 95-184 (filed April 17, 1996) at 13; Joint Petition for Reconsideration, ET Docket No. 93-7 (filed May 28, 1996); Echelon Ex Parte, ET Docket No. 93-7 (filed July 25, 1996) at 3-4; Echelon Reply in Support of Joint Petition for Reconsideration, ET Docket No. 93-7 (July 18, 1996) at 8.

³⁷ CHTC Comments at 13; Echelon Comments at 35-36.

decoder interface is currently configured, such a requirement would clearly violate the Eshoo Amendment.”³⁸

Moreover, the decoder interface is “neither voluntary nor a private industry standard.”³⁹ For this reason, Bell Atlantic (one of the many interested parties excluded from the development of the standard) agrees that “the Commission should not ‘approve’” the decoder interface standard.”⁴⁰ While CERC and CEMA now attempt to revise history to recast the decoder interface as a “private sector standard,”⁴¹ nothing could be further from the truth. The C3AG (which is developing the standard) is not an ANSI-accredited voluntary standard-setting body. Rather, the C3AG was established as an *ad hoc* “advisory group” to the Commission, specifically formed by only two industries to meet a regulatory requirement.⁴² Furthermore, the C3AG’s “activities in developing the decoder interface have not been open to other potentially affected industries,” which were “permitted no technical or substantive role in the development” process.⁴³ As US West emphasizes, “accredited standards setting bodies . . . operate in an open forum, giving stakeholders an opportunity to participate in the standard setting process.”⁴⁴ Thus, because the decoder interface is concededly not the

³⁸ Scientific-Atlanta Comments at 26; Motorola Comments at 24; Echelon Comments at 33-37.

³⁹ Scientific-Atlanta Comments at 3.

⁴⁰ Bell Atlantic Comments at 4.

⁴¹ CERC Comments at 21; CEMA Comments at 5.

⁴² Echelon Comments at 44-45. Proponents of the decoder interface, who now seek to characterize the C3AG as a “voluntary” industry standards group, have unabashedly proclaimed its FCC-sanctioned composition when confronted with the possibility that consensus industry standards might be inconsistent with the C3AG approach. Thus, as CEMA itself has stated in response to proposed alternatives for “cable ready” TV rules, *the C3AG is an “FCC-created” organization*. CEMA Engineering Bulletin, June 13, 1997 (urging members to cite “FCC-created” C3AG in response to “a letter from CableLabs which allegedly spells out what is expected from TV set manufacturers to build a cable ready digital TV set”) (emphasis supplied).

⁴³ CHTC Comments at 13-14.

⁴⁴ US West Comments at 12.

product of an open, consensus-based accredited standards process, it cannot be endorsed or adopted by the Commission as an “industry” standard. Indeed, the law is clear that federal agencies can *only* use “consensus” standards,⁴⁵ and that communications standards developers must adhere to due process protections.⁴⁶ C3AG meets neither of these threshold requirements for voluntary industry standards setting.

Contrary to CERC’s contentions,⁴⁷ the Eshoo amendment’s narrowed scope of standard-setting authority was intended to apply to commercial availability. CERC baldly states, relying upon the House Report, that the “Eshoo Amendment neither limits nor circumscribes Commission authority” under Section 629.⁴⁸ Yet, the House “competitive availability” provision was soundly rejected by the Senate, in a vote of 64-30,⁴⁹ out of concern that the Commission would react by issuing “standards governing set-top boxes.”⁵⁰ The Conference Committee only “adopt[ed] the House provision with *modifications*,” and did not endorse the House Report language. Thus, the “House report is not really applicable” and its characterizations of Section 629 are hardly authoritative.⁵¹

By interpreting Section 629 to require “competitive availability,” CERC and its allies are now seeking to regain the concessions they made to the Conference

⁴⁵ 15 U.S.C § 272(d)(1) (emphasis supplied). Under this provision of the National Technology Transfer and Advancement Act of 1995, “all Federal agencies and departments shall use technical standards that are developed or adopted by *voluntary consensus standards bodies*” (emphasis supplied).

⁴⁶ 47 U.S.C § 274(d)(4)(A). As TIA explained, “Congress’ clear policy favoring private industry standards is intended to further the pro-competitive, open processes used by voluntary standards-setting organizations such as TIA and other ANSI-accredited bodies.” TIA Comments at 5.

⁴⁷ CERC Comments at 22 n.20.

⁴⁸ CERC Comments at 22 n.20, *citing* H.R. Rep. No. 104-204, 104th Cong., 1st Sess. 111 (1995).

⁴⁹ 141 Cong. Rec. S8000-01; Echelon Comments at 25-26.

⁵⁰ 141 Cong. Rec. S7993, S7997 (remarks of Sen. Pressler) (daily ed. June 8, 1995); Echelon Comments at 25-26.

⁵¹ Scientific-Atlanta Comments at 26.

Committee.⁵² If CERC were correct, then the Conference Committee—after fundamentally changing the scope of the statute—would have silently agreed to a loophole that completely swallowed the carefully-crafted limitation of Section 301(f). Yet, there is nothing indicating that Congress wanted to authorize the FCC to achieve a result under Section 629 (the decoder interface) that it had outlawed in Section 301(f). As NCTA agrees, the House Report language should be disregarded because the Eshoo amendment’s “salutary approach” illustrates “Congress’ view that government standard-setting in a dynamic industry should be minimized.”⁵³

In the face of both the increasing obsolescence of analog technology and adoption of the Eshoo Amendment’s limitations on the Commission’s standard-setting authority, the decoder interface is rapidly becoming irrelevant. NCTA, one of the standard’s founding sponsors, now recommends that the FCC adopt only a conduct or performance rule, and cautions that the analog decoder interface “will not necessarily provide a solution” for digital CPE.⁵⁴ While CEMA discussed the decoder interface, it

⁵² See Echelon Comments at 26-28.

⁵³ NCTA Comments at 31. In fact, the relevant legislative history demonstrates that Congress intended for the Eshoo provision’s standard-setting principles to apply to the Commission’s regulations on commercial availability. The exchange between Sens. Burns and Faircloth, during the debate on Section 629, reveals the understanding that because “the FCC is not a standards-setting organization” and FCC involvement could have a “freezing or chilling” effect on the market, Section 629 “does not authorize the FCC to set a standard for interactive video equipment.” 142 Cong. Rec. S700 (daily ed. Feb. 1, 1996); CHTC Comments at 18-19. The colloquy then used the Eshoo amendment as “[o]ne such example” of how Congress has limited the Commission’s standard-setting authority.” *Id.* Thus, the Eshoo-based limitations on authority were intended to apply to the Commission’s regulations on commercial availability of navigation devices. Since the standard-setting principles of Section 301(f) apply to commercial availability, and the decoder interface violates those principles, any adoption of the decoder interface in this proceeding would be a clear violation of Congressional intent. Echelon Comments at 33-39.

⁵⁴ NCTA Comments at 34.

did *not* recommend that the Commission use this standard under Section 629,⁵⁵ but merely encouraged the Commission to “move promptly to ensure that new deployment of set-top and converter boxes” follows a separation model.⁵⁶ Finally, Circuit City limited its discussion of the decoder interface as being “a draft industry standard,” and declined to advocate its adoption.⁵⁷

The refusal of the decoder interface’s inventors and past supporters to recommend Commission adoption of this standard demonstrates that the Commission should not waste its limited resources on regulating outdated analog technology in this proceeding. As Scientific-Atlanta pointed out, any effort by the Commission to adopt the IS-105 standard would have no real practical “effect on the commercial availability of any navigation devices” since the “decoder interface would only become available during the very twilight of analog technology.”⁵⁸ NCTA emphasized that “[b]y the time [commercial availability] issues are resolved, the analog world may be a relic.”⁵⁹ Therefore, the proper administrative approach is for the Commission to limit its regulations on commercial availability to digital navigation devices, and focus its attention on fostering the development of the emerging digital era.

⁵⁵ CEMA Comments at 18.

⁵⁶ *Id.*

⁵⁷ Circuit City Comments at 33.

⁵⁸ Scientific-Atlanta Comments at 26. Moreover, because the decoder interface would require disclosure of all non-security functions, it is “inappropriate” for commercial availability “because MVPDs need flexibility to provide non-security, non-access functions in order to differentiate their equipment from competitors’ equipment.” Ameritech New Media Comments at 17.

⁵⁹ NCTA Comments at 13.

II. GOVERNMENT SHOULD DEFER TO THE MARKETPLACE TO DEVELOP THE OPTIMAL ARCHITECTURAL DESIGN AND ANY STANDARDS FOR SECURITY AND PORTABILITY OF DIGITAL NAVIGATION DEVICES

A. The Record Demonstrates that Government-Imposed Standards are Poor Public Policy

There is wide agreement among the commenters that government-imposed standards are poor public policy.⁶⁰ Government-mandated standards will impede competition, undermine technological development and harm consumers. For these reasons, the Commission's traditional policy, and its preferred approach in this proceeding, is to refrain from setting technical standards and rely on industry-based standards.⁶¹

The evidence is clear that government-imposed standards "stifle innovation" and "lock in" current technologies.⁶² As the CHTC emphasized, government-imposed standards would be "particularly dangerous" in the high technology industry.⁶³ Explaining that the "set-top box is in every sense a computer" and has the same potential for "rapid innovation" that has marked the personal computer industry, Scientific-Atlanta emphasized that government-imposed standards on navigation devices could "freeze the marketplace."⁶⁴ Thus, if standards are necessary to promote the commercial availability of navigation devices, as Motorola suggests they should be

⁶⁰ Echelon Comments at 15-23; CHTC Comments at 4-8; Motorola Comments at 20-26; Scientific-Atlanta Comments at 20-22; Bell Atlantic Comments at 4; General Instrument Comments at 29-37; ITI/CompTIA Comments at 14.

⁶¹ See NPRM at ¶ 73.

⁶² See, e.g., Scientific-Atlanta Comments at 21; Motorola Comments at 20; CHTC Comments at 14-19; Echelon Comments at 29-31.

⁶³ CHTC Comments at 6-8.

⁶⁴ Scientific-Atlanta Comments at 21, *citing*, Bill Gates, *The Road Ahead*, at 234-35.

the product of “voluntary, private industry efforts, rather than any Commission mandate.”⁶⁵

Congress has consistently made clear that the Commission should defer to private standards-setting bodies rather than prescribe standards.⁶⁶ In Section 301(f), Congress directly limited the Commission’s standard-setting authority by requiring the FCC to achieve cable equipment compatibility with “narrow technical standards” requiring only a “minimum degree of common design and operation.”⁶⁷ Similarly, Section 629 specifically limits the Commission’s role to one of “consultation” with “appropriate industry standards-setting organizations,”⁶⁸ and the legislative history of Section 629 “emphasizes the importance of using industry-based standards organizations,”⁶⁹ while Section 256 allows the Commission only to “participate” in the development of standards by “appropriate industry standard-setting bodies.”⁷⁰

Congress’ underlying message is unmistakable; the FCC “should not adopt, approve, reference, or otherwise endorse any technical standards for navigation devices.”⁷¹ TIA succinctly articulated this point by recommending that the “Commission adopt a straightforward ‘right-to-attach’ rule, leaving to the marketplace the myriad of business decisions involving standards” that may be necessary to implement competitive availability.⁷² Because “the market, not regulators should

⁶⁵ Motorola Comments at 20.

⁶⁶ CHTC Comments at 14-19; Motorola Comments at 22-25; TIA Comments at 7-8; Echelon Comments at 29-31; General Instrument Comments at 30-32.

⁶⁷ 47 U.S.C. § 544a(a)(4). See Echelon Comments at 29-30; CHTC Comments at 14-15.

⁶⁸ 47 U.S.C. § 549(a).

⁶⁹ Motorola Comments at 22.

⁷⁰ 47 U.S.C. § 256.

⁷¹ CHTC Comments at 19.

⁷² TIA Comments at 3.

determine equipment features and design,” the Commission need only promulgate a “performance rule” that requires all “subscribers to connect any compatible equipment.”⁷³

B. The FCC Should Not Dictate Architecture Standards, but Rather Defer to Market-Based Solutions For Commercial Availability

1. *Industry is Better Equipped to Determine Optimal Navigation Device Architecture*

The opening comments are, in large part, strongly opposed to any Commission-mandated separation requirement, because this would inject the FCC directly into complex product design issues directly affecting programming security. The market is plainly better equipped than the Commission to determine, on an evolving basis, what is the most appropriate architecture for navigation devices. Any Commission unbundling or separation requirement would have a substantial and negative impact on manufacturers’ cost and design constraints, harming consumers and straight-jacketing innovation.⁷⁴ In passing Section 629, Congress did not intend “nor is it in the public interest for the government to interject itself into the design of various conditional access or security options demanded by operators.”⁷⁵

The market is currently pursuing a variety of different solutions to satisfying Section 629’s requirement for commercial availability of navigation devices in an environment that also protects signal security. It may well be that separation of feature and security functions is the most appropriate approach, but this decision should be left

⁷³ Motorola Comments at 7-10; TIA Comments at 12.

⁷⁴ See TIA Comments at 17.

⁷⁵ Motorola Comments at 27.

to industry.⁷⁶ As the comments reveal, providers may choose to use digital scrambling with an industry interface standard, such as NRSS, to allow signals to be decoded by set-top boxes supplied by other vendors.⁷⁷ Other providers, however, have serious and legitimate security concerns in an unbundled environment and may prefer to license proprietary security systems to competing set-top box vendors.⁷⁸

Unbundling of security functions could clearly “jeopardize security” under Section 629 by opening navigation devices to greater risks of piracy. According to Scientific-Atlanta, a “more embedded type of security function” is much more secure, and thus “any effort to separate out security functions” would violate the Commission’s obligation not to jeopardize signal security.⁷⁹ In order to satisfy this protection requirement, the Commission should give MVPDs “maximum flexibility” to design and implement their security technology.⁸⁰ As Motorola explained, because “[o]perators place their investment at risk,” they should have “the right to decide what conditional access and security products to deploy.”⁸¹

A Commission-mandated separation requirement would also unnecessarily increase the cost of navigation devices.⁸² If an unbundled architecture is prescribed,

⁷⁶ Advocates of mandatory unbundling have had no difficulty endorsing the free market when it serves their interests in avoiding regulation of their own manufacturing and marketing practices. For instance, CEMA opposed a recent legislative proposal for banning sale of analog televisions after 2002 on the ground that “[t]he free-market works -- consumers want choice and they want the freedom to express that choice.” CEMA Press Release, “Rep. Markey Proposal to Outlaw TVs is Preposterous,” June 6, 1997, at 1.

⁷⁷ NCTA Comments at 32; CEMA Comments at 18; Circuit City Comments at 32-33; CERC Comments at 19-20.

⁷⁸ Scientific-Atlanta Comments at 25.

⁷⁹ *Id.*

⁸⁰ *Id.*; see ITI Comments at 14.

⁸¹ Motorola Comments at 27.

⁸² *Id.* at 28.

consumers will need to invest in new features and interfaces and will have to modify their existing equipment to accommodate the new design.⁸³ Congress has not authorized the Commission to promote the public interest by *increasing* consumer cost.

Moreover, if the FCC engages in mandating separation of functions, it must enforce that policy consistently across all navigation devices, not just set-top boxes. For example, televisions are navigation devices that currently bundle monitor and control functions. If the Commission implements a stringent separation rule, then it should apply these regulations consistently across all navigation devices—requiring television manufacturers to reconfigure their products to “unbundle” the receiver, monitor, and navigation controls. Yet, just as Congress did not intend for the Commission to engage in this level of interference in TV product design, it did not authorize the Commission to set standards dictating the architecture of other navigation devices. This is precisely the type of “marketplace” and “private standard-setting” development that Congress directed the Commission to “take cognizance of” in promulgating its regulations.⁸⁴ Because the marketplace is already moving to achieve the Section 629 goals, “separation should be an option, but not a requirement.”⁸⁵

2. *The Commission Should Not Mandate any Particular Interface Standard*

As the record in this proceeding reveals, industry has developed and continues to design digital interface standards. For example, several parties noted the development of the National Renewable Security Standards (“NRSS”), a digital interface standard, and related digital standards such as MPEG-2, DAVIC and PC Card

⁸³ *Id.*

⁸⁴ Conference Report at 181.

⁸⁵ Scientific-Atlanta Comments at 3.

(PCMCIA) or SmartCards.⁸⁶ While the FCC should encourage these sort of industry-based solutions, the government should not adopt any of these standards.

The Commission should reject CERC and CEMA's position that it require use of a "version of the NRSS" by January 1, 1999.⁸⁷ Even if unbundling or standard-setting were permissible under Section 629, this specification is incomplete and not the product of an open, voluntary standards process. Circuit City acknowledges that instead of security standards, by requiring performance "the Commission should not have to engage in the *actual adoption* of private sector standards."⁸⁸ This is no less true for NRSS, which many set-top box manufactures believe is a flawed, costly and incomplete specification.

Indeed, the Commission should reject any argument that it require a particular digital interface standard, but rather rely on its stated "preference" and adopt only a performance or conduct rule. As TIA points out, a performance rule would allow MVPDs to achieve commercial availability by licensing, by adoption of an industry standard (whether or not NRSS), or by disclosure of network specifications.⁸⁹ This choice, in the increasingly competitive video programming marketplace, should be left to the service provider. Digital technology and services are "extremely complex" and are evolving rapidly.⁹⁰ It remains uncertain what technologies and services digital systems will require on a going-forward basis. Industry and the marketplace are best positioned to identify and adopt the solutions to these needs. It is important that the

⁸⁶ CERC Comments at 17-18; CEMA Comments at 19-20; Circuit City Comments at 32-33. Scientific-Atlanta Comments at 10.

⁸⁷ CERC Comments at ii-iii, 17; *see* CEMA Comments at i, 18.

⁸⁸ Circuit City Comments at 27-28 (emphasis supplied).

⁸⁹ TIA Comments at 12-13; *see* Echelon Comments at 31-32.

FCC not dictate the particular standard, but give the market the flexibility to adopt and develop its own interface standards.

C. Portability and Interoperability are Beyond the Scope of the Commission's Commercial Availability Authority

Some standard-setting advocates are seeking to use the Commission's inquiry on portability⁹¹ as a vehicle for justifying government-imposed technical standards for set-top boxes⁹². In order to make this argument, these parties must ignore Congress' explicit language in Section 629 and misinterpret the provision to require "*competitive availability*" rather than "*commercial availability*" of navigation devices. Indeed, throughout its comments, CERC urges the Commission to focus on "eliminating the main technical and regulatory obstacles to *competitive availability*."⁹³ By unilaterally substituting the word *competitive* for *commercial*, these parties argue that "there can be no competitive national market for CPE if the technical interfaces characteristic of MVPDs vary widely from system to system."⁹⁴ Thus, the argument continues that if standards are necessary to achieve portability, then "the Commission should adopt standards."⁹⁵

CEMA and CERC attempt to cloak their position by suggesting that any necessary portability standards should be developed by the "private sector."⁹⁶ The Commission should be highly skeptical of these seemingly benign assurances. First,

⁹⁰ Scientific-Atlanta Comments at 17.

⁹¹ NPRM at ¶ 66.

⁹² CEMA Comments at 7-8; Circuit City Comments at 27-28; CERC Comments at 7-8.

⁹³ CERC Comments at 7-8 (emphasis supplied).

⁹⁴ CEMA Comments at 8.

⁹⁵ Circuit City Comments at 27.

⁹⁶ CERC Comments at 15-24; CEMA Comments at 8-9.

while CERC and CEMA pay lip service to private, voluntary standards, their underlying message is that the FCC should “specify” and “adopt” particular standards for both analog and digital devices.⁹⁷ Second, these parties argue that the C3AG standards are “private sector” standards, when the reality (as they admit elsewhere) is that this body is an “FCC-created” advisory committee,⁹⁸ not an “appropriate” standards-setting body under Section 629.⁹⁹

As a legal matter, Section 629 does not authorize portability. Several of the parties noted cogently that there is no reference to “portability” in either the statute itself or the Conference Report.¹⁰⁰ If Congress had intended to include a portability requirement, it would have done so explicitly, as it did “in other areas of the 1996 Act when it intended to require interoperability among different networks.”¹⁰¹ The FCC should not impose its own policy objectives where such action is not authorized. Regardless of whether portability is good public policy, the Commission does not have the statutory authority to impose portability regulations. If portability is desirable, it must, and will, come from the marketplace rather than government regulation. In fact, as General Instrument explained, marketplace forces are “already driving” to portability outcomes “where they are economically feasible and pro-consumer.”¹⁰²

Moreover, Commission regulations dictating portability or interoperability would cause significant technological problems. Currently, system operators use a

⁹⁷ CERC Comments at 19-24; CEMA Comments at 18.

⁹⁸ See note 42 and accompanying discussion above.

⁹⁹ Section 629 requires the Commission to “consult” with “appropriate industry standard-setting organizations.” 47 U.S.C. § 629(a).

¹⁰⁰ TIA Comments at 16, Direct TV Comments at 13; General Instrument Comments at 29-30; see Echelon Comments at 24-28.

¹⁰¹ General Instrument Comments at 29, *citing* 47 U.S.C. § 256.