

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

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

**COMMENTS OF
THE CONSUMER ELECTRONICS ASSOCIATION**

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SUMMARY

The Consumer Electronics Association (“CEA”) is pleased to submit its comments in response to the *Further Notice* in this proceeding. In CEA’s view, the navigation devices rules, which the Commission adopted in 1998, have failed to satisfy the objectives of Section 629 of the Communications Act of 1934, as amended. The current navigation devices rules have not fostered the intended development of a competitive commercial market in set-top navigation devices so that consumers can obtain such appliances from multiple sources.

In adopting its navigation devices rules, the Commission improperly entrusted the cable industry with the responsibility to adopt standards that would facilitate competition and consumer choice. The cable industry, through CableLabs, made a commitment to undertake this development through the OpenCable project. The OpenCable process, however, has not been as “open” as its name suggests, resulting in the development of standards that favor the cable industry. In the CableLabs process, unlike traditional standards-setting organizations, there is no established “due process” procedure in place to ensure that manufacturers’ interests and concerns receive full and fair consideration. Consumer electronics manufacturers and retailers have been placed at a complete disadvantage under this process.

Furthermore, given the continuing lack of full technical specifications – and completed build-to standards -- for a wide variety of services that are needed to support competition in the provision of navigation devices from manufacturers, who would develop equipment independent from cable operators’ proprietary equipment, CEA is convinced that the cable industry has determined that it has no responsibility to achieve a true commercial market for navigation devices. This attitude, however, ignores both Congressional and Commission objectives with respect to implementation of Section 629 requirements. In keeping with the requirements of the

statute, the Commission must exercise its authority to correct the inherent deficiencies in this situation by amending its rules and policies and by invigorating its public, on-going oversight of the results of its policies.

At the outset, CEA points out that the only obligation that the cable industry has met thus far is to make point-of-deployment modules (“PODs”) “available.” Further, while the descrambling capabilities of PODs have been specified, essential information and standards that would allow non-proprietary devices to “navigate” through cable systems’ channels of video programming (and access services such as video on demand and electronic program guides) have not been realized. Additionally, while the cable industry has proceeded with a minimalist approach in its OpenCable process, it has pursued proprietary solutions for the delivery of digital cable services with much more vigor and focus – a “two-track” approach, if you will. The result is that the deployment of proprietary, non-OpenCable-compliant set-top boxes has accelerated, and threatens to foreclose the market for navigation devices before any independently-supplied devices can be designed or manufactured. The Commission should cut off cable’s “two track” approach, remove the incentives to stall and ignore solutions based on open standards, and establish clear standards for deeming an equipment “OpenCable-compliant.”

If, indeed, the Commission is serious about developing a robust commercial market for navigation devices, it must immediately revise its rules and the market incentives available to cable operators. CEA urges the Commission to take the following actions in order to spur the development of a retail market for digital set-tops.

First, the Commission must take immediate action to open and expand the standards-setting process for navigation devices and to ensure that this process produces meaningful results on a timely basis. For a viable commercial market to develop, it is time for the Commission to

revisit and affirm the importance of portability, and to ensure that consumers are able to purchase navigation devices that are nationally portable – *i.e.*, devices which will work reliably on virtually all cable systems. Completion of fully disclosed, open standards interfaces for navigation device interoperability that allows for portability cannot be delayed in anticipation of a “middleware” solution promised by the cable industry, but which assuredly remains years away. Moreover, the Commission should require that cable operators disclose all necessary technical and operational information for all new cable services such that commercially available devices can be designed to fully support these services at the same time as cable operators’ proprietary equipment does so.

Second, to ensure that effective standardization and disclosure requirements are put into place, the Commission should act now to terminate deployment of devices with embedded security as of January 1, 2002. In CEA’s view, with a prerequisite of standardization and disclosure requirements, it is clear that only such an earlier date to phase out integrated boxes will serve to create incentives for fulfillment of the law -- that is, the development of a truly commercial market for cable navigation devices.

Third, the Commission must require the cable industry to remove major barriers to the development of a commercial market for navigation devices as soon as possible. Multiple System Operators (“MSOs”) should not be permitted to insist on unfair and unreasonable licensing requirements, and should not be allowed to introduce new services unless the specifications for the provision of those services have been made available simultaneously to independent manufacturers. MSOs should be required to rely on the same specifications that will be relied upon by their competitors.

Given the foregoing and the more detailed comments that follow, CEA implores the Commission to act expeditiously to counter the inactions and lackluster efforts of the cable industry to achieve a commercial market.

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The Consumer Electronics Association (“CEA”), by its attorneys and pursuant to Section 1.415 of the Commission’s Rules, 47 C.F.R. § 1.415, hereby respectfully submits its comments in response to the Further Notice of Proposed Rulemaking (“*Further Notice*”) issued by the Commission in the above-captioned proceeding.¹ As explained below, the Commission’s current Navigation Devices Rules have not been effective in motivating the cable industry to adopt standards that would facilitate competition and consumer choice in the navigation devices market. Accordingly, CEA strongly urges the Commission to undertake the several steps recommended below – which includes acceleration of the year of the phase-out date for integrated boxes provided by multichannel video programming distributors (“MVPDs”) from 2005 to 2002 -- that, in CEA’s view, will serve to ensure the achievement of the objectives of Section 629 of the Communications Act of 1934, as amended.

¹ See *In the Matter of Implementation of Section 304 of the Telecommunications Act of 1996: Commercial Availability of Navigation Devices, CS Docket 97-80, Further Notice of Proposed Rule Making and Declaratory Ruling*, FCC 00-341, 15 FCC Rcd 18199 (rel. Sept. 18, 2000) (“*Further Notice*”).

I. STATEMENT OF INTEREST

CEA appreciates the opportunity to submit its comments in response to the *Further Notice*. CEA is the principal trade association of the consumer technology industries.² CEA members design, manufacture, distribute and sell a wide variety of consumer electronics equipment and information technology equipment, including analog and digital televisions (“DTVs”), radios, computers, videocassette recorders (“VCRs”), and digital versatile disc (“DVD”) players. As such, many consumer electronics devices will be affected by the outcome of this proceeding.

CEA has actively participated in all phases of the FCC’s Navigation Devices rulemaking, including the proceeding that gave rise to the *Order on Reconsideration*.³ Additionally, CEA was an intervenor in support of the FCC’s positions in *General Instrument v. FCC*, a case in which the U.S. Court of Appeals for the D.C. Circuit upheld the Commission’s Navigation Devices Rules that were being challenged by the cable industry and their preferred set-top box manufacturers (*i.e.*, Motorola/General Instrument and Scientific-Atlanta, Inc.).⁴

II. INTRODUCTION

For many years, cable system operators and other MVPDs have required their subscribers to lease customer-premises-based equipment, such as “set-top boxes,” used with the MVPD’s systems. This equipment typically performs two functions. First, it enables MVPDs to

² CEA, along with the Telecommunications Industry Association and several other associations, are separately incorporated sectors of the Electronics Industries Alliance.

³ *See In the Matter of Implementation of Section 304 of the Telecommunications Act of 1996: Commercial Availability of Navigation Devices*, CS Docket No. 97-80, Order on Reconsideration, 14 FCC Rcd 7596 (1999) (“*Reconsideration Order*”).

⁴ *See General Instrument Corp. v. FCC*, 213 F.3d 724 (D.C. Cir. 2000).

protect system security by allowing only those subscribers who have paid the required charges to access programming carried over an MVPD's system. Second, this equipment provides "navigation" functions, such as cable channel tuning and electronic program guides, which allow subscribers to choose among different programs offered by their MVPD. Because only MVPDs can provide security functionality required for program access, the cable operators' practice of combining security and navigation functionality in the same devices effectively forces subscribers to use cable-provided equipment to obtain navigation functionality. Unfortunately, to this day -- four years after the passage of Section 629 -- consumers still do not have a choice of set-top box providers and other varieties of navigation devices fully compatible with cable systems. Immediate Commission action is required if retail markets are to begin to emerge as envisioned by the statute.

A. Congress Envisioned a Competitive Market for Navigation Devices.

It was in 1996 when Congress adopted Section 629 of the Communications Act in order to create a competitive market for navigation devices. Congress recognized that this would benefit consumers. As the House Committee Report observed, "[c]ompetition in the manufacturing and distribution of consumer devices has always led to innovation, lower prices and higher quality."⁵ Congress thus directed the FCC to adopt rules that would allow consumers to obtain "navigation devices," such as cable set-top boxes, remote control units and other equipment, from commercial sources other than their cable providers.⁶

⁵ H.R. Rep. No. 102-204, 104th Congr., 1st Sess. 112 (1995).

⁶ See 47 U.S.C. § 629.

B. The Commission’s Rules Anticipate the Creation of a Retail Market for Navigation Devices.

In 1998, the Commission adopted navigation devices rules with the objective of improving consumer choice by fostering a competitive retail market for this equipment.⁷ It appears, however, that the downfall of the Commission’s navigation devices rules and policies is that their anticipated success was based largely on a decision to entrust the cable industry with the responsibility for adopting standards that would facilitate competition and consumer choice in the navigation devices market. As further explained below, the cable industry’s efforts in this regard have served to hold off, not foster, commercial availability of navigation devices, while cable operators pursue proprietary strategies that will serve to foreclose the market for independent suppliers. In the 1998 *Report and Order*, the Commission stated that it would monitor the development of the commercial availability of navigation devices and commence a proceeding in the year 2000 to review the effectiveness of the rules and consider any necessary changes.⁸

C. The Commission Now Seeks Comment on the Effectiveness of its Navigation Devices Rules.

The *Further Notice* initiates a review of the effectiveness of its navigation devices rules, and thus seeks comment on several issues. The Commission raises three general issues to which CEA provides brief responses here that are more fully explained below.

- (1) Do the interface specifications developed by CableLabs (Cable Television

⁷ See *In the Matter of Implementation of Section 304 of the Telecommunications Act of 1996: Commercial Availability of Navigation Devices*, CS Docket No. 97-80, Report and Order, 13 FCC Rcd 14775 (1998) (“*Report and Order*”).

⁸ *Id.* at 14782.

Laboratories, Inc.) allow consumer electronics manufacturers to build equipment that provides consumers a viable alternative to the equipment provided by their cable operator?⁹

Answer: No. While the descrambling capabilities of point-of-deployment modules (“PODs”) have been specified and demonstrated, essential information and standards that would allow non-proprietary devices to “navigate” through cable systems’ channels of video programming and to access advanced services now being offered (such as video-on-demand) have not been realized.

(2) What is the effect that operator provision of integrated equipment has on achieving a competitive market, and does the 2005 date for the phase-out of integrated boxes remain appropriate?¹⁰

Answer: While the cable industry has duly proceeded with the OpenCable process, it has pursued proprietary solutions for the delivery of digital cable services with much more vigor and focus. The result is that the deployment of proprietary, non-OpenCable-compliant set-top boxes has accelerated, and threatens to saturate and thereby foreclose the market for navigation devices before any independently-supplied devices can be designed or manufactured. The Commission should terminate cable’s “two-track” approach and remove the incentive to stall and ignore solutions based on open standards. The Commission should accomplish this by moving the phase-out date from 2005 to 2002 and by requiring cable operators to disclose fully the technical parameters of all new cable services so that manufacturers can design and develop navigation devices that are fully interoperational.

⁹ See *Further Notice* at ¶ 9.

¹⁰ *Id.* at ¶¶ 10-11.

(3) What are the obstacles or barriers that are preventing or deterring the development of a retail market for navigation devices; and what actions, if any, should the Commission initiate to achieve the statutory objective of competition in the navigation devices market?¹¹

Answer: In addition to removing the cable “two-track” approach and creating proper incentives for cable to expedite the deployment of navigation devices based on open standards, the Commission should act to resolve the copy protection issues presented by POD-host interface (“PHI”) licensing; clarify its rules to ensure cable delivery of program and event information needed for navigation of cable services, and address the issue of manufacturers that thus far have not been able to fully participate in the OpenCable process.

III. THE COMMISSION MUST MOVE QUICKLY TO CREATE THE PROPER INCENTIVES FOR THE CABLE INDUSTRY THAT WILL ENABLE A COMMERCIAL MARKET FOR NAVIGATION DEVICES TO DEVELOP.

The Commission must mandate certain incentives for the cable industry to enable a commercial market for navigation devices to develop. The current rules simply fail to motivate cable operators to create a competitive market for consumers. Given the cable industry’s economic motivations to maintain control over virtually every aspect of the delivery of cable services, the Commission, in retrospect, should not have been so quick to entrust the cable industry with the responsibility to adopt standards that would facilitate competition and consumer choice in the navigation devices market.

The current process has not produced results that would enable manufacturers to design and manufacture equipment that will be compatible with all digital cable services. The cable industry has interpreted the Commission’s rules narrowly so that it can claim compliance by virtue of the OpenCable process, when, in reality, the spirit of the statute and the Commission’s

¹¹ *Id.* at ¶ 12.

rules – and their underlying purpose – are not being met. The OpenCable specifications do not meet the objectives of Section 629 because they are merely a sub-set of cable’s “two-track” approach: On the one hand, the multiple systems operators (“MSOs”) and their preferred providers (*i.e.*, Motorola and Scientific Atlanta) have been developing a series of proprietary specifications for MSO-provided devices; on the other, CableLabs has been developing another set of specifications for devices to be offered by competitive entrants. The MSOs have individually developed strategies to deliver a variety of new services, described variously as broadband, transactional, impulse, video-on-demand, and near video-on-demand, but the strategies are proprietary, and thus are designed to preclude the deployment of navigation devices based in open standards. A primary example of the “two-track” approach at play is the situation involving electronic program guides (“EPGs”), where essential information and standards necessary for independent devices have not been forthcoming, while proprietary EPG solutions are routinely incorporated in the devices manufactured by preferred providers and deployed by cable operators. Another example is the imposition of copy protection requirements (as yet unspecified – despite Commission requirements) on independent manufacturers as a condition for licensing the POD-host interface (“PHI”) technology needed for successful interoperation, which has stymied the design process for competitively-provided navigation devices while proprietary set-top boxes are designed, manufactured and deployed based on embedded security architecture and undisclosed copy protection arrangements with content providers.

The viability of the “two-track” approach has thus fostered incentives for the cable industry to participate in, but not resolve, PHI standard-setting and other inter-industry information flows and consensus-building efforts. CEA believes that only the imposition of

overriding market incentives (*i.e.*, the imperative for interoperational equipment to deliver new services) will motivate the cable industry to act within the spirit of Section 629. To correct this problem, the Commission should require cable operators to rely on uniform, open standards for the interconnection and interoperation of set-top boxes and other navigation devices, and that full compliance with those standards, such that all new cable services will be delivered through equipment based on such standards, should be accelerated to January 1, 2002.

IV. THE COMMISSION MUST TAKE IMMEDIATE ACTION TO OPEN AND EXPAND THE STANDARDS-SETTING PROCESS FOR NAVIGATION DEVICES AND TO ENSURE THAT THIS PROCESS PRODUCES MEANINGFUL RESULTS ON A TIMELY BASIS.

Section 76.1204(a)(1) of the Commission's Rules requires MVPDs to make available by July 1, 2000 conditional access or security capabilities on a separate basis from the other functions of the navigation devices used with their distribution systems.¹² The separation of security functions from the other functions required the development of an interface specification between host devices and PODs. The cable industry, through CableLabs, made a commitment to undertake this development through the OpenCable project. It was expected that the results of OpenCable would lead to standardization, design, production and deployment of PODs and permit the design, production, and distribution of the associated host devices for retail sale. These anticipated results have not happened.

In the *Further Notice*, the Commission seeks comment on whether the efforts of CableLabs to develop an interface standard have achieved the desired result, and whether the entities outside of the membership of CableLabs have been able to participate effectively in the

¹² See 47 C.F.R. § 76.1204(a)(1).

process.¹³ In this regard, the Commission asks whether interface specifications developed by CableLabs allow consumer electronics manufacturers to build equipment that provides consumers a viable alternative to the equipment provided by their cable operator.¹⁴ As explained below, CEA submits that the efforts of CableLabs have failed to produce meaningful results because it continues to operate in a closed process.

A. The OpenCable Process Has Not Been as “Open” as Its Name Suggests, Resulting in the Development of Standards That Favor the Cable Industry.

The Commission, in the *Further Notice*, noted that the July 2000 Status Report submitted by the cable consortium stated that cable operators met the July 1, 2000 deadline to have digital separate security modules available for customers and also made available “build to” specifications that would allow manufacturers of retailer-supplied boxes to manufacture and market host devices.¹⁵ To this day, however, manufacturers are still unable to build devices that are guaranteed to work. Four months after the prescribed deadline *to make PODs available*, POD interface *specifications* are still not final. Moreover, the POD module encapsulates security/descrambling functions, nothing more. The POD module does not, by itself, provide navigation functions such as EPG or advanced services such as video-on-demand. For these functionalities, intelligence in the host device is required, and therefore standards are needed if fully functional navigation devices are to be designed and deployed in a commercial market.

Given the lack of full and complete results in achieving commercial availability of navigation devices, the Commission, perhaps, should not have been so quick to accept the offer

¹³ See *Further Notice* at ¶ 9.

¹⁴ *Id.*

¹⁵ *Id.* at ¶ 7 (citing July 7, 2000 “Status Report” filed in CS Docket No. 97-80 (“*July 2000 Status Report*”)).

of the cable industry’s consortium, CableLabs, to develop the interface necessary for the separation of security and navigation functionality. The Commission’s continued reliance on CableLabs does not satisfy the statutory requirement that the Commission consult with “industry standards-setting organizations.” CableLabs is not a standard-setting organization; it is a cable industry consortium – established, funded, and run by select members of the industry – that sets specifications for equipment purchased by cable MSOs. CableLabs plainly does not represent the interest of all affected industries.

The Commission has stated that it would “reevaluate [its] reliance on the cable consortium if its specification-setting process excludes the participation of particular interests.”¹⁶ In the CableLabs process, unlike standards-setting organizations, there is no established “due process” procedure to ensure that manufacturers’ interests will receive full and fair consideration. Ordinarily, a standard is derived based on the consensus activities of a group of companies or industries mutually interested in and affected by a proposed standard. Participation in such a group is an important protection against antitrust liability, provided the group follows procedures designed to ensure due process is observed and that the procedures will not be perverted to serve the anticompetitive aim of excluding competitors from a given field. Those procedures, however, are not followed in the OpenCable process.

The specifications that CableLabs has referred to an accredited standards setting body (*i.e.*, Society of Cable Telecommunications Engineers or “SCTE”) reflect the views only of the cable industry – which has long sought to thwart competition in the equipment market. The agenda for SCTE’s standardization process is thus set by the major MSOs in a manner that does not comport with the ordinary “due process” found in accredited standards-making bodies. The

¹⁶ *Report and Order*, 13 FCC Rcd at 14823.

fact that “entities outside the membership of CableLabs will be able to participate in the eventual standards setting process”¹⁷ does not cure this defect. At that point, it may be too late for the consumer electronics industry and other parties to have a meaningful and fair impact on the final standard. The end results have been, in many cases the adoption of standards that favor the cable industry position, or stagnation of the process, to the detriment of consumers and independent manufacturers. The Commission should take whatever action is necessary to prevent this from continuing.

B. The Cable Industry Has Effectively Established Control Over the Standardization Process While It Proceeds with the Development of Proprietary Architecture, Which Serves to Deter Manufacturers from Making, Retailers from Selling, and Consumers From Buying Navigation Devices Equipment.

The failed efforts thus far to achieve commercial availability of navigation devices and to develop interface specifications should not at all be a surprise to the Commission. What many participants in the standard-setting process and users of standards have long discovered by experience is the following maxim: control the standard and be the master of your own success. This is precisely what the cable industry has accomplished. The cable industry has effectively established control over the process for the development of open standards for navigation devices, which has resulted in its stagnation, while individual MSOs roll-out new services and new set-top-boxes based on proprietary architectures and technologies.

By focusing only on its obligations to produce PODs, the cable industry has failed to provide technical specifications for interactive and non-interactive OpenCable host devices in time to support competitive entry by major manufacturers into a commercial market for navigation devices by July 1, 2000. Thus, there is not a single commercially available set-top

¹⁷ *Id.* at 14781.

product that has emerged which is competitive with set-top boxes provided by entrenched industry suppliers. For the development of EPG functionality, for example, there are no open standards for the provision of program and event information that is equivalent to the information commonly provided to proprietary set-top boxes. Additionally, cable operators are pursuing interactive services through proprietary means, yet they are resistant to the creation of standards that allow for two-way interactivity. CEA has developed a standard for receivers using two-way cable services, EIA/CEA-819,¹⁸ in an open standards-setting process in which members of the cable industry have refused to participate.

CEA contends that the foregoing anticompetitive actions of the cable operators are in violation of Section 76.1204(c), which states:

No multichannel video programming distributor, shall by contract, agreement, patent, intellectual property right or otherwise preclude the addition of features or functions to the equipment made available pursuant to this section that are not designed, intended or function to defeat conditional access controls of such devices or to provide unauthorized access to service.¹⁹

This requirement entails much more than the development of a separable device that can descramble scrambled video transmissions. The Commission should clarify that this rule creates an affirmative obligation on the part of cable operators (1) to cease preclusion of the development of fully functional navigation devices (those that can provide fully developed EPGs, transactional and interactive services) based on open standards; and (2) to cooperate fully in industry standards-setting processes (including those outside the OpenCable specification process) that can result in the development open standards, so that video programming and all

¹⁸ The EIA/CEA-819 standard was adopted on November 10, 2000.

¹⁹ 47 C.F.R. § 76.1204(c).

new cable services such as those described above can be delivered to consumers via devices that are available in a commercial marketplace.

It is obvious that OpenCable is following an agenda that is contrary to the Commission's overall intent. The results of the OpenCable process have been inadequate and disappointing. These missteps should either be remedied immediately or the Commission should cease to rely on the efforts of CableLabs. To deter continuing problems with the CableLabs process, the Commission should establish certain expedited standard-setting milestones; and if the milestones are not met, the Commission should prepare to recognize that fact and require CableLabs to substitute alternative standards (*e.g.*, EIA/CEA-819). Further, the Commission should be prepared to penalize non-complying MSOs with cease and desist orders requiring no deployment of digital set-top boxes or PODs until compliance is achieved.

C. Consumers Must Be Able to Obtain Navigation Devices That Are Nationally Portable.

Consistent with the requirements of Section 629, the Commission must ensure a national competitive navigation devices market. In order to achieve that objective, navigation devices – such as set-top boxes -- must be portable across a national MVPD system nationwide. The Commission must require MSOs to meet that requirement. Without Commission-imposed mandatory specifications that ensure portability, there will be little incentive for independent manufacturers to enter into the navigation devices marketplace. Additionally, there will be little incentive for retailers to sell them and, most importantly, for consumers to buy them. This result would contravene Congressional intent in adopting Section 629. As the Commission recognized in the *Navigation Devices Report & Order*:

Any significant disparity among cable operators . . . undermines the commercial availability of equipment. Subscribers are more likely to purchase, and not lease from a provider, if they can use the navigation devices when they move to an area served by a

different operator. . . . Geographic portability will enhance the commercial availability of navigation devices and should result in wider choice and lower prices to consumers.²⁰

To achieve national interoperability, the MVPD system needs to support a national security interface. In the *Navigation Devices Report & Order*, the Commission stated:

[I]n requiring the separation of security devices, we seek to expand the portability of equipment, thereby permitting consumers to purchase navigation devices with some assurance that the equipment can be used beyond its present location. . . . Our rule provides that when MVPD supports navigation devices that are portable throughout the continental United States, and are available from retail outlets and other vendors, the requirement for separation of functions is not applicable. We note, however, that a device that is usable on all systems of one particular cable multiple system operator only, for example, would not be considered portable throughout the continental United States.²¹

Further, there must also be some commonality among varying digital transmission systems. If not standardized on a national level, the Commission must require that unique and proprietary features and functions that MSOs intend to offer be disclosed to independent manufacturers. If intellectual property rights are asserted with respect to these proprietary services, the Commission must require cable operators to license these services in a fair, reasonable and nondiscriminatory basis in order to achieve a competitive market in the provision of those services. In this regard, the Commission should prescribe standard licensing agreements. In no uncertain terms must the Commission allow cable operators to continue to insulate themselves from navigation devices competition.

The configuration and capabilities of specific navigation devices, however, should be left to the design and discretion of independent manufacturers. The Commission need only ensure, through its adoption of requirements for adherence to enabling standards, that independent manufacturers are able to make devices that can access all systems and functions. It will then be

²⁰ *Report & Order*, 13 FCC Rcd at 14799.

²¹ *Id.* at 14801-802.

left to individual retailers to decide which navigation devices to offer the public. CEA believes that a robust commercial market for navigation devices can develop so long as disclosure requirements are in place that will allow independent manufacturers to develop competing services.

D. POD Architecture That Allows for Portability Cannot Be Delayed in Anticipation of a “Middleware” Solution.

The cable industry represents that CableLabs is developing further extensions to the current POD-Host specifications, which will include specifications for standardized Application Programming Interfaces (“APIs”) or “middleware,” which they assert is designed to enhance the portability of OpenCable products across brands and operating systems.²² This “middleware” initiative, however, is behind schedule. Industry observers estimate that such a solution is years away from completion; and some argue that it may never materialize, given the cable industry’s relentless contention that portability of navigation devices is not an FCC requirement.²³ There is also the additional concern that “middleware” specifications to be developed exclusively by the cable industry will force independent manufacturers to develop equipment that is indistinguishable from competitive offerings in functionality and presentation,²⁴ a concern that has been raised with CableLabs and which it has not addressed.²⁵

²² See *July 2000 Status Report*, at 9.

²³ *Id.* at 10.

²⁴ See Brian Quinton, *Attack of the PODs*, TELEPHONY, June 5, 2000 (citing Mark Eyer, Director of Systems Engineering, for Sony Electronics’ Digital Media of America.).

²⁵ The Advanced Television Systems Committee (“ATSC”), however, is about to conclude its specifications for a “middleware” implementation in terrestrial television. The ATSC, this date, is considering how to ballot its DASE (DTV Application Software Environment) standard that culminates years of work in its development.

The Commission, however, cannot take a “wait-and-see” attitude on this issue. The time between now and the creation of a purported “middleware” solution will provide MSOs with enough time to create proprietary solutions and entrench the market with an embedded base of equipment that will be difficult for independent manufacturers to penetrate. The Commission must insist that the CableLabs-led standardization process be completely open. Competitive entry simply cannot materialize unless OpenCable specifications adequately support “host devices” for the delivery of new cable services. For this to have a realistic chance of success, the Commission must act to foreclose proprietary options and require the open standards approach as the uniform means for the delivery of new services.

V. THE COMMISSION SHOULD TERMINATE DEPLOYMENT OF DEVICES WITH EMBEDDED SECURITY BY JANUARY 1, 2002.

In the *Further Notice*, the Commission asks for comment on the effect that MVPD-provided integrated equipment has had on achieving a competitive market and whether the January 1, 2005 date for the phase-out of integrated boxes is appropriate.²⁶ Section 76.1204(a)(1) prohibits MVPDs from selling or leasing new integrated equipment after January 1, 2005.²⁷ In the *Further Notice*, the Commission has suggested moving the date from the year 2005 to 2003.²⁸ CEA, however, recommends that, in the interest of consumers and in accordance with the objectives of Section 629, the Commission act more aggressively on this issue by moving the phase-out date to January 1, 2002. As the Commission recognized at the outset of the navigation devices rulemaking, “the continued ability of [MVPDs] to provide

²⁶ See *Further Notice* at ¶¶ 10-11.

²⁷ See 47 C.F.R. § 76.1204(a)(1).

²⁸ See *Further Notice* at ¶ 11.

integrated equipment is likely to interfere with our statutory mandate of commercial availability.”²⁹ Continued bundling, the Commission added, “is an obstacle to the functioning of a fully competitive market for navigation devices” because it “imped[es] consumers from switching to devices that become available through retail outlets.”³⁰

The Commission can no longer afford to allow MVPDs to delay the phase-out of integrated equipment until 2005. The requirement of Section 629(a) is unambiguous: the Commission’s regulations must “assure the commercial availability” of navigation devices. The late phase-out date of 2005 has served to provide cable operators the ability to “stockpile,” and deploy in large numbers, integrated devices. Commissioner Ness, in her separate statement in the *Navigation Devices Order on Reconsideration* anticipated this potential problem, stating:

[T]he directive of Section 629 of the Communications Act that our rules enable the commercial availability of these devices has potential consequences well beyond the provision of multichannel video. . . . I write separately to highlight my concern over a potential loophole that remains. As of January 1, 2005, our rule prohibits MVPDs from placing in service new navigation devices that have security integrated with other features. But our rules apparently would allow an MVPD to stockpile integrated devices even after separated security modules become widely available, and to deploy unlimited numbers of integrated devices on the eve of the phase-out deadline.³¹

An earlier date to phase-out integrated boxes certainly will serve to curtail the cable industry action that Commissioner Ness correctly predicted. CEA, therefore, urges the Commission to move up the date for full compliance with OpenCable specifications by MSO-provided boxes to January 1, 2002.

²⁹ *Report and Order*, 13 FCC Rcd at 14803.

³⁰ *Id.*

³¹ *Reconsideration Order*, 14 FCC Rcd at 7631.

A. A Decision Not to Accelerate the Phase-Out Date Is Likely to Deter the Creation of a Retail Market for Navigation Devices.

Allowing MVPDs to continue to provide bundled equipment until 2005 would impede Congress's effort to ensure that consumers realize the benefits of a competitive market for navigation devices. Furthermore, a decision not to accelerate the phase-out date would likely deter new entries and would give MVPDs the incentive and the ability to "lock up" the navigation devices market by 2005, as suggested in the information provided in Table 1, below. Thus, an earlier phase-out date than the one suggested by the Commission is more likely to prevent the cable industry from permanently entrenching their proprietary technologies for new cable services utilizing set-top boxes supplied by preferred providers. To be effective, however, the Commission must supplement the advanced phase-out date with an equally rapid implementation of open standards requirements for the delivery of new services.

Estimates of the deployment of digital set-top boxes vary widely, but all indicate that cable operators are deploying this equipment on a rapid and wide-scale basis. For example, it is reported that "11 million Internet-ready set-top boxes will be in cable homes by the end of [1999]," and that number is expected to climb to more than 30 million by the close of 2002.³² Table 1 below sets forth another estimate of the number of households with digital cable set-top boxes in 1999 and 2000, and the projection for 2006.

³² Alan Breznick, *Excite@Home Gets AT&T Content Deal*, CABLEWORLD, August 23, 1999, at 1. CEA notes that this total may also include stand-alone cable modems.

Table 1: U.S. Households with Digital Cable Set-Top Boxes³³:

<u>YEA R</u>	<u>NUMBER</u>	<u>PERCENTAGE OF HOUSEHOLDS</u>
1999	2.8 million	4%
2000	9.8 million	14%
2006	38.6 million	55%

Another, more recent estimate is that 45 million U.S. households will have digital set-top boxes capable of two way transactions by 2004--up from 1.9 million in 1999.³⁴ It is predicted that by the end of 2000, 5.5 million digital set-top boxes will be in use in the U.S.³⁵ Yet another source indicates that there will be 150 million interactive digital set-top boxes deployed by 2004.³⁶ The foregoing information tends to show that by the time POD functionality is entirely implemented, cable operators will likely have entrenched their proprietary technologies in the corresponding set-top boxes. Each day navigation devices are not offered at the retail level, cable operators increase the likelihood of foreclosing a commercial market for navigation devices by rolling out the functionalities desired by the market using their embedded security devices and proprietary architectures.

Section 629 seeks to ensure that consumers will realize the benefits of a competitive equipment market for navigation devices. This simply cannot occur if cable operators are allowed to continue to offer bundled equipment until 2005. To this date, four years after the

³³ *Retooling for Interactivity*, RESPONSE, Nov. 1999, at 28 (“*Retooling*”).

³⁴ Dan Balaban, *Is Interactive TV Ready for Prime Time?*, CARD TECHNOLOGY, July 2000, at 16 (citing Framingham, Mass. research firm IDC).

³⁵ *Id.*

³⁶ *Retooling*, at note 24 (citing research by Deutsch Bank Alex Brown).

adoption of Section 629, there still is no commercial market for navigation devices. Large cable system operators – which continue to enjoy significant market power – have established close relationships with their selected manufacturers. These operators purchase equipment – which bundles security and non-security features in a single box – from these suppliers, and then sell or lease the equipment to subscribers. The goal of Section 629 is to transform this market into one in which consumers are free to choose non-security equipment from a wide range of suppliers, which compete based on functionality, quality, and price. This goal, however, cannot be achieved if all manufacturers are not provided the opportunity to enter the market.

As the Commission has recognized, additional manufactures will enter the navigation devices market only if the Commission’s rules create “an incentive for mass production of equipment” by “increasing the market base,” thereby “facilitating volume production and . . . lower costs.”³⁷ Allowing cable system operators to continue to offer integrated equipment until 2005, or even 2003, would not create the necessary incentives. To the contrary, it would impede developments of competition by preventing additional manufacturers from entering the market.

³⁷ *Report and Order*, 13 FCC Rcd at 14793-794, 14800.

B. Cable Operators Are Trying to “Beat the Clock” By Deploying Their Boxes With Embedded Security Functionality Widely Before Boxes with POD Functionality Are Commercially Available.

If cable system operators are allowed to continue to provide integrated boxes, they and their favored vendors will seek to “lock up” as much of the navigation devices market as possible by 2005. This will not be difficult to achieve, because cable operators simply need to inform their subscribers that they are the only provider able to offer a single box that provides both security and non-security functionality (not to mention a whole host of proprietary services). Given the convenience and the attractiveness of their offerings, most consumers are likely to acquire cable-provided equipment in the years to come. Indeed, cable operators and their favored manufacturers continue to engage in joint planning and development of proprietary technologies. This is a dangerous track which the Commission must prevent, because allowing them to continue to do so will enable the cable operators and their preferred manufacturers to continue to develop offerings that cannot be replicated by independent manufacturers.

Cable industry suppliers have moved to place significant quantities of proprietary set-top boxes into the pipeline for deployment before 2005. Table 2, below, contains information about the production of digital set-top boxes by one major entrenched cable vendor, Scientific-Atlanta.

Table 2

<u>DATE</u>	<u>AMOUNT</u>
12/31/99	1 million digital Explorer Set-top Boxes sold by end of 1999. ³⁸
4Q99	269,000 ³⁹
4Q99	835,000 ⁴⁰
2Q00	Producing 800,000 digital Explorer boxes per quarter. Up from 500,000 per quarter. Annual production up from 2 to 3 million per year. ⁴¹
2Q00	Will increase production to 1.3 million digital set-top boxes per quarter. As of 5/31/00 they were producing 60,000 per week. In July, production increased to 80,000 boxes per week. Forecasts indicated that 4.3 million digital set top boxes will be made in 2001. ⁴²

News accounts indicate that Scientific-Atlanta is setting fiscal records, with orders up 61% and sales up 38%.⁴³ Scientific-Atlanta's recent backlogs have been three times the total shipped in 1999.⁴⁴ The current Scientific Atlanta boxes have web browsers, video on demand, e-mail and electronic commerce capabilities.⁴⁵ Finally, Motorola, the leading manufacturer of proprietary

³⁸ Charles Haddad, *Digital Products Bring Results for Norcross, Ga.-Based Cable Supplier*, THE ATLANTA JOURNAL AND CONSTITUTION, January 26, 2000.

³⁹ Michael E. Kanell, *Cable Provider to Buy Set-Top Boxes from Norcross, Ga.-Based Firm*, THE ATLANTA JOURNAL AND CONSTITUTION, February 1, 2000.

⁴⁰ Caroline Hubbard, *Norcross, Ga.-Based Technology Firm Beats Analysts' Expectations for Quarter*, THE ATLANTA JOURNAL AND CONSTITUTION, July 29, 2000.

⁴¹ *Georgia-Based Maker of TV Set-Top Boxes Sees Stock Reach 52-Week High*, THE ATLANTA JOURNAL AND CONSTITUTION, January 27, 2000.

⁴² Ian Fried, "Scientific-Atlanta wins \$550 million contract," CNET News.com, May 31, 2000 at <http://news.cnet.com/news/0-1006-200-1988033.html>.

⁴³ Kathy Brister, *The Atlanta Journal and Constitution Stocks Report*, THE ATLANTA JOURNAL AND CONSTITUTION, August 18, 2000.

⁴⁴ Brian Graney, *Scientific-Atlanta on the (Set-) Top of the World*, July 28, 2000 at <http://www.fool.com/news/foolplate/2000/foolplate000728.html>.

⁴⁵ Mark Haines, *Scientific Atlanta-CEO-Interview*, Oct. 25, 2000 on CNBC, transcript no. 102500cb.y54.

set-top box equipment, has indicated that it had shipped 10 million digital set-top boxes in the U.S. as of September 27, 2000, and estimated that the number will increase to 11 million by year-end.⁴⁶

In addition, Charter Communications, for example, reportedly is spending \$3.5 billion to update 70% of its system by the end of this year.⁴⁷ Charter started the year with 150,000 digital set-top boxes deployed—they expect to meet a 1 million digital set-top box goal by year-end.⁴⁸ AT&T has ordered boxes it cannot use right now for ITV (Interactive TV)—it is installing the digital boxes in a lower functionality mode and intends to download advanced functionalities into them later.⁴⁹ Furthermore, there is a disturbing report that AT&T is forcing its subscribers to take and rent new digital set-top boxes as part of a system upgrade in California.⁵⁰

Cable operators intend to use this embedded base of proprietary set-top boxes for the delivery of new services well into the future. For example, WorldGate Services struck a multi-year \$24.5 million dollar agreement with Adelphia, Cox Communications, Comcast, and Charter Communications for the EVERY TV functionality, which allows Internet access over

⁴⁶ Robin Berger, *Cable Not Seduced by Latest Set-Tops*, ELECTRONIC MEDIA, Oct. 9, 2000, at 17.

⁴⁷ Matt Stump, *Allen's MSO Takes Digital Lead*, MULTICHANNEL NEWS, Oct. 16, 2000, at 61.

⁴⁸ *Id.*

⁴⁹ Jim Barthold, *AT&T's ITV Plans Stall*, CABLEWORLD, August, 2000, at http://www.cableworld.com/detailnews.cfm?p_news_id=349.

⁵⁰ Kate Berry and Monica Valencia, *AT&T May Lose Tustin, Calif., Franchise as Cable Clients Bash Rate Hikes*, THE ORANGE COUNTY REGISTER, Oct. 27, 2000.

existing/standard cable infrastructure, including advanced analog set-top boxes.⁵¹ A separate part of the WorldGate deal involves a joint venture that provides back-office infrastructure support to implement interactive advertising and programming using existing digital set-top boxes.⁵² WorldGate has agreements to deploy or is in trials to deploy its services with 34 MSOs in 17 countries, including four (4) of the six (6) top MSOs in the U.S.⁵³

These totals are significant – they demonstrate that the cable industry has no intention of relying on the OpenCable process or any standards-setting process to achieve delivery of digital cable services through commercially available navigation devices. Rather, cable operators will deliver these services with their own technologies, their own boxes, and on their own timetables. The OpenCable process is merely a distraction from the perspective of these operators. The reliance by the Commission on this process -- which plays no apparent role in the strategic planning of any major MSO for the deployment of new services and compatible navigation devices -- is thus ill-founded and unlikely to result in the successful implementation of Section 629.

C. Cable Operators Should be Required to Justify Any Divergence from An Open Standards Approach for the Delivery of New Services.

This anticompetitive approach cannot be justified on the basis that it is the only practical means to deliver new services. Cable operators cannot argue persuasively that allowing them to continue deployment of devices with embedded security to 2005 or thereafter will promote

⁵¹ Press Release, WorldGate Announces Deployment and Investment by Adelphia, Charter, Comcast, and Cox (July 26, 2000) (“*WorldGate Announcement*”) at <http://www.wgate.com/news/2000/0726.html>. See also *RespondTV to Support Enhanced Television Content Through WorldGate’s Interactive TV Platform*, BUSINESS WIRE, Oct. 24, 2000 (“*BUSINESS WIRE Article*”)

⁵² *WorldGate Announcement*, *supra*.

⁵³ *BUSINESS WIRE Article*, *supra*.

innovation, avoid disruption of service, increase user choice, or otherwise benefit consumers. CEA recommends that any request to continue bundling of security with other functionalities – or indeed, to deploy new services for which open standards have not been created for compatible navigation devices – after January 1, 2002, should be required to meet a test similar to that developed for NCTE (network channel terminating equipment) adopted in the *Computer III, Phase II Reconsideration Order*, which currently applies to the telephone customer premises equipment (“CPE”) market. As the Commission has previously stated, “[t]he competitive market for consumer equipment in the telephone context provides the model of a market we have sought to emulate in this proceeding.”⁵⁴ Given that statement, application of the NCTE test in the cable context appears to be appropriate; that test states:

[u]nder the waiver standard, a carrier [read, cable operator] must demonstrate both that: (1) the offering of particular functions as part of the network service will serve the public interest by increasing the efficiency, or making technically possible the delivery of a particular service; and (2) provision of those functions through unregulated CPE [read, navigation devices based on open standards] will not permit attainment of comparable efficiencies or service offerings.⁵⁵

This is the standard that must be met for waiver of Section 64.702(e), which pertains to CPE equipment.⁵⁶ Similarly, cable operators should be required to satisfy an equivalent test and show that deployment of proprietary set-top box equipment will increase efficiency or make the

⁵⁴ *Report and Order*, 13 FCC Red at 14780.

⁵⁵ *In the Matter of NYNEX Telephone Companies Tariff F.C.C. No. 1 – Applications for Review*, Memorandum Opinion and Order, 8 FCC Rcd 7684, 7687 (citing *In the Matters of Amendment to Sections 64.702 of the Commission’s Rules and Regulations (Third Computer Inquiry)*, *et al.*, CC Docket No. 85-229 (Phase II), Memorandum Opinion and Order on Reconsideration, 3 FCC Rcd 1150, 1167-68 (1988) (“*Computer III, Phase II Reconsideration Order*”).

⁵⁶ 47 C.F.R. § 64.702(e).

service technically possible in a manner that cannot be comparably achieved through the deployment of navigation devices based on open standards.

The rule which allows MSOs to continue to place in service new navigation devices that have security integrated with other features has served as a major “loophole” in the Commission’s rules, because it has allowed MSOs to “stockpile” integrated devices even after separated security modules become widely available, and to continue to deploy unlimited numbers of integrated devices up to the phase-out deadline. As the reported data set out above show, MSOs have continued to increase their inventories of integrated devices. This manipulation of inventory undermines the objectives of Section 629 and should be deterred by the Commission through expedition of the phase-out deadline.

VI. THE COMMISSION MUST REQUIRE THE CABLE INDUSTRY TO REMOVE MAJOR BARRIERS TO THE DEVELOPMENT OF A COMMERCIAL MARKET FOR NAVIGATION DEVICES AS SOON AS POSSIBLE.

In order to establish a competitive navigation devices market, retailers must have products that offer features competitive with those that are available on MSO-provided products. The Commission has said: “[w]e believe that the statutory language of Section 629 indicates that its reach is expansive Equipment used to access video programming . . . include televisions, VCRs, cable set-top boxes, personal computers, program guide equipment and cable modems.”⁵⁷ Thus, it is clear that OpenCable was charged with developing navigation device specifications (and subsequent open standardization) that support navigation functionality and separate security in all kinds of equipment used to access video programming.

⁵⁷ *Report and Order*, 13 FCC Rcd at 14784.

Even if adequate technical standards are created, manufacturers and retailers are prevented from entering the navigation device market until the cable industry offers consumer electronics manufacturers a licensing regimen that allows them to make and sell navigation devices that function in accordance with consumer expectations. No final production license is yet available today to any competitive entrant manufacturer. Although PODs are available, still no navigation device production license is available in order to make such PODs useful to consumers for any purpose. Moreover, the license recently filed with the Commission contains no compliance rules governing copy protection, which have been the primary source of controversy regarding this license. Cable interests should now be required to produce a complete PHI license agreement proposal forthwith, and the Commission should subject that license to the scrutiny of notice-and-comment rulemaking procedures.

A further concern is that the cable industry has apparently taken a narrow reading of what constitutes a navigation device so as to avoid enabling the level of functionality expected by consumers in a variety of consumer electronics equipment used by subscribers. Consumers should be assured that the DTV sets they buy in retail stores can be connected to other digital devices like computers and VCRs, and that consumers can benefit from independent electronic program guides that work well with the programming information of all channels and afford easy navigation. In this regard, the Commission should set enforceable and short deadlines for the cable industry to produce build-to specifications on Program and System Information Protocol (“PSIP”) transmission, the provision of EPG information (comparable to that deployed with over-the-air DTV), and the other standards needed for the design of digital cable-ready sets.

As the foregoing information indicates, it appears certain that cable operators are strategically positioning themselves for an unassailable lead in the provision of such services,

given the delay of commercial roll-out of navigation devices and such head-end solutions to adding interactivity features. In order to ensure commercial availability of the full panoply of navigation devices, the Commission should consider adopting rules, consistent with the suggestions above, that will compel the cable industry to remove barriers to achieving a retail market.

VII. CONCLUSION

It is clear that a commercial market for devices covered by Section 629 has not developed. The Commission, therefore, must take immediate action if retail markets are to begin to emerge as originally envisioned by the statute. In this regard, the Commission should take action to open and expand the standard-setting process for navigation devices and to ensure that this process produces meaningful results on a timely basis. The Commission should also terminate

deployment of devices with embedded security by January 1, 2002. At the same time, the Commission must require the cable industry to remove major barriers to the development of a commercial market for navigation devices as soon as possible.

Respectfully submitted,

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