

BEFORE THE
Federal Communications Commission
WASHINGTON, D.C.

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

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Comcast Corporation (“Comcast”) hereby responds to the above-captioned Third Further Notice of Proposed Rulemaking (“*Notice*”), which seeks comment on various issues relating to the interrelationships between cable systems and consumer electronics (“CE”) devices.¹ There is less reason than ever for government control of the design and operation of cable systems, and there is more danger than ever that excessive regulation will produce severe consumer harms. The OpenCable Platform is real, it works, and it can deliver retail products to the marketplace sooner than the “vaporware” proposal of the Consumer Electronics Association. Therefore, the better course would be for the Commission to endorse NCTA’s market-oriented OpenCable Platform proposal, which will promote progress and innovation and keep these matters in the hands of businesspeople, where they belong.

¹ See *In the Matter of Implementation of Section 304 of the Telecommunications Act of 1996: Commercial Availability of Navigation Devices, Compatibility Between Cable Systems and Consumer Electronics Equipment*, Third Further Notice of Proposed Rulemaking, CS Dkt. No. 97-80, PP Dkt. No. 00-67, FCC 07-120 (rel. June 29, 2007) (“*Notice*”).

I. INTRODUCTION AND SUMMARY

To effectively evaluate any proposal for new regulations governing the technical design of cable systems, it is essential to begin with an understanding of current market conditions -- and an appreciation of how radically the marketplace of 2007 differs from that of 1996, when the navigation device statute was enacted.

In 1996, Comcast, like other cable operators, leased set-top boxes and other equipment to customers. In general, all of the consumer equipment on any given cable system came from a single supplier chosen by the cable operator. Comcast had almost no retail presence.

Today, intense competition in the video marketplace has wrought a transformation of Comcast's relationships with manufacturers and retailers of navigation devices. Comcast has built a robust presence at retail. It has relationships with a wide array of retailers and e-tailers. Consumers have a substantial and growing number of equipment options, including digital cable-ready devices they can buy at retail as well as digital set-top boxes they can lease from Comcast. Comcast, like other cable companies, has built close and cooperative working relationships with leading domestic and international CE manufacturers. In short, the market forces that Congress hoped to kick-start by passing Section 629 have taken over, and are already delivering more choice and competition than a government-imposed regulatory regime ever could.

The OpenCable Platform proposal, which was originally submitted by NCTA on November 30, 2005² and is elaborated upon in Part I of the comments NCTA is filing today in this docket ("NCTA Proposal"), is a product of those market forces. The OpenCable Platform is

² See *id.* at App. B (Report of the National Cable & Telecommunications Association on Two-Way (Interactive) Digital Cable Ready Televisions, filed in CS Dkt. No. 97-80 (Nov. 30, 2005)).

a solution that enables the delivery of existing and future digital cable services and can be implemented rapidly by CE manufacturers. If the Commission really wants to see two-way “plug-and-play” products reach retail before the February 17, 2009 digital broadcast transition date, the NCTA Proposal is the best -- and, realistically, the only -- way to achieve that goal.

Comcast does not suggest that the NCTA Proposal is the *perfect* solution to all conceivable issues of compatibility between CE devices and multichannel video programming distributor (“MVPD”) platforms. After all, 30 percent of all MVPD customers receive service from a provider other than an established cable operator, and the navigation device statute, by its terms, applies to *all* MVPDs. Accordingly, the Commission may wish to support the development and deployment of a two-way solution that can work across multiple MVPD platforms. Comcast joins NCTA in expressing a willingness to cooperate in doing so, provided that cable companies and their customers are not uniquely burdened by new regulations in the meanwhile.

In the near term, however, the OpenCable Platform is the *only* approach that can bring two-way digital cable-ready products to market *before* the digital broadcast transition date. Devising a two-way solution raises a host of complex technical, engineering, and other issues that take substantial time and effort to resolve. In fact, the OpenCable Platform took years to develop through painstaking negotiations among the cable industry, CE manufacturers, content providers, and other interested parties.

The NCTA Proposal is *real*, with specifications established, intellectual property rights cleared, headend equipment available and already being deployed, OpenCable set-top boxes now being deployed, and consumer electronics products already developed, approved, demonstrated and in market tests. Congress has indicated its clear preference that technical issues of this kind

should be resolved as much as possible through the marketplace, not through government fiat, and the Commission should follow that guidance here.

In contrast, the CEA Proposal³ is *vaporware* -- requiring technical “solutions” that do not exist and could not be developed without enormous effort and expense. The CEA Proposal represents a highly regulatory wish list of certain CE companies that would rather cede marketplace decisions to the government, despite their insistence on many other occasions that the government has no place in such decisions.⁴ The CEA Proposal would impose unprecedented regulatory costs on cable operators and their customers -- while providing no guarantee that CE companies would ever build particular devices or any evidence that consumers would buy them. It would hamper cable’s ability to innovate in a highly dynamic and competitive MVPD marketplace. It would jeopardize cable network security and thereby make it more difficult for cable to get the high-value content its customers value and demand. And it would impose all of these burdens exclusively on traditional cable operators, while leaving their competitors, who represent nearly a third of all MVPD customers, utterly unfettered by corresponding obligations. The CEA Proposal runs contrary to congressional intent and Commission policy. For all of these reasons, the CEA Proposal must be rejected.

³ See *id.* at App. A (Proposal for Bi-Directional Digital Cable Compatibility and Related Issues, filed in CS Dkt. No. 97-80 (Nov. 7, 2006) (“CEA Proposal”). Although this proposal is called the “CEA Proposal” for ease of reference, it is important to note that the proposal was signed by only 12 CEA members, and that several leading CE companies, such as Samsung, Panasonic, LG, and Thomson, did not sign the proposal and are rather working with the cable industry to develop OpenCable Platform-based solutions for the navigation device marketplace.

⁴ See *infra* nn. 34-36 and accompanying discussion.

II. THE GOALS OF SECTION 629 ARE BEING ADDRESSED BY A COMPETITIVE MARKETPLACE.

A. The Navigation Device Marketplace Has Changed Dramatically Since The Enactment Of Section 629 In 1996.

Comcast and other cable companies have fundamentally changed their relationships with CE manufacturers and retailers since the navigation device statute was enacted in 1996. Then, Comcast, like other cable operators, leased set-top boxes and other equipment to customers, and equipment options were limited to a handful of vendors. Comcast had almost no retail presence.⁵

Intense and ever-growing competition in the MVPD marketplace has required Comcast to rethink its approach to retail and the equipment business. A decade ago, DBS was using its superior retail presence to attract millions of customers, and Comcast and other cable operators faced a competitive imperative to establish strong symbiotic relationships with CE retailers and manufacturers. Those competitive pressures have only increased in recent years. Comcast faces competition not only from DirecTV and Dish Network in every market it serves, but also from wireline providers (such as Verizon, AT&T, and RCN) in a rapidly growing number of markets.

There are also significant costs associated with acquiring and maintaining set-top boxes, and Wall Street has reacted negatively to cable operators' investment in set-top boxes.⁶ Retail

⁵ In 1996, cable had well over 90% of the MVPD marketplace, DBS competed mostly in rural areas that lacked cable systems, and telcos provided video services in only the rarest of circumstances. Now, MVPD competition is robust. DBS has approximately 30 million customers, the telcos are investing billions of dollars in MVPD services and signing up hundreds of thousands of customers. Likewise, in 1996, cable was mostly a one-way, one-service technology. Today, cable offers video-on-demand and other interactive digital video services, as well as high-speed Internet and digital voice services. *See In the Matter of Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming*, Third Annual Report, 12 FCC Rcd. 4358 (1997) (describing MVPD marketplace in 1996); *see also* Comcast Comments, filed in MB Dkt. No. 06-189 (Nov. 29, 2006) (describing state of MVPD marketplace in 2006).

⁶ *See, e.g.*, Alan Breznick, *Comcast Revs Up Capex*, Light Reading's Cable Digital News, Feb. 1, 2007 ("Despite racking up another record-setting quarter and year of cable subscriber growth, Comcast Corp. sent a chill up Wall Street's spine this morning by vowing to boost capital spending markedly this year."); John Shipman, (footnote continued...)

provides a way for Comcast and other cable operators to reduce those equipment-related costs. For example, cable-ready television receivers and DVRs allow Comcast to offer its services to subscribers at lower cost because there is no need to provide a stand-alone set-top box. In short, every cable customer who purchases a digital cable-ready device at retail means one less customer for which Comcast must incur the capital expenditure of providing a set-top box.

Comcast's relationship with CE manufacturers has also undergone significant changes over the last decade. When Section 629 was enacted in 1996, Comcast (like most other cable operators) deployed Motorola (then General Instrument) boxes in cable systems that used Motorola conditional access technology and Scientific-Atlanta⁷ boxes in cable systems that used Scientific-Atlanta conditional access technology. But now, customers have a range of digital cable-ready equipment options from retail outlets, and Comcast is diversifying its base of set-top box suppliers to include Samsung, Panasonic, and other CE manufacturers. Expanding equipment choices in these ways helps differentiate Comcast from its MVPD competitors⁸ and make Comcast a more attractive option for MVPD consumers.

(...footnote continued)

Market Talk: Comcast 2Q CapexBit High for Some Investors, StreetInsider.com, July 26, 2007 (“Bernstein Research expects investors to be ‘mildly disappointed’ with Comcast’s 2Q, when the cable company signed up huge numbers of digital TV and phone customers but also sharply increased capital spending - an obsessive worry for cable investors.”).

⁷ Scientific-Atlanta currently operates as “Scientific-Atlanta, A Cisco Company.”

⁸ During the same period that cable has been expanding its relationships with CE manufacturers, Direct Broadcast Satellite (“DBS”) providers have been curtailing theirs. For example, DirecTV, the largest DBS provider, initiated an equipment policy in March 2006 that effectively eliminated the ability of most new customers to access its service by means other than a proprietary set-top box leased from DirecTV. *See In the Matter of National Cable & Telecommunications Association’s Request for Waiver of 47 C.F.R. § 76.1204(a)(1)*, Request for Waiver, CS Dkt. No. 97-80, CSR-7056-Z, at 25-26 (Aug. 16, 2006). The Commission plays no role in dictating the technical characteristics of DBS systems, the interoperability characteristics of DBS service and CE devices, or the equipment choices available to DBS customers.

Comcast's commitment to retail today is substantial and expanding. Comcast partners with a wide range of retailers, including major retailers, such as Best Buy, Circuit City, Wal-Mart, Staples, and CompUSA, as well as smaller regional retailers, such as Tweeter. Comcast has established kiosks and other marketing arrangements in these stores to sell cable, voice, and high-speed Internet services. Comcast services are now available in nearly 5,000 retail and e-tail outlets nationwide.

Comcast is also experimenting with new retail models. For example, Comcast has teamed with Circuit City to open two "Connect" stores in Massachusetts to provide a more customized shopping experience for consumers. Connect allows consumers to create their digital home with the best in new electronics and HD, high-speed Internet, and voice services by combining a selection of products from Circuit City and services from Comcast. The Connect stores showcase the latest in entertainment and communication, complete with interactive demos and expert consultants who can provide full-service support from point-of-sale to custom installations.⁹ Comcast and Circuit City are exploring the possibility of opening Connect stores in other cities based on their experience in Massachusetts.¹⁰

Comcast also operates free-standing kiosks in shopping malls and a few free-standing stores in strip malls. These kiosks and stores give consumers an opportunity to "test drive"

⁹ See Comcast, Circuit City Press Release, *Comcast and Circuit City Opening Second Connect Store, Created to Help People Build Their Digital Dream Home* (May 3, 2007). See also Linda Haugsted, *Circuit City CEO Pitches Cable Collaboration*, Multichannel News (July 30, 2007), available at <http://www.multichannel.com/index.asp?layout=articlePrint&articleID=CA6462983>; Christian Lewis, *Comcast, Circuit City Open Second Connect Store*, Multichannel News (May 3, 2007), available at <http://www.multichannel.com/index.asp?layout=articlePrint&articleID=CA6438831> ("The purpose of the store is to streamline the digital-home-shopping experience, availing customers of staff trained on both Comcast and Circuit City products and services.").

¹⁰ See Carolyn Y. Johnson, *Comcast, Circuit City Try Retail Experiment*, Boston Globe (Dec. 6, 2006), available at http://www.boston.com/business/articles/2006/12/06/comcast_circuit_city_try_retail_experiment/.

Comcast products, sign up for service, and get equipment. In addition, Comcast provides information about service options on its web site and via third-party web sites, such as Amazon.com.¹¹

B. Comcast Has Taken A Leading Role In Expanding Equipment Options For Cable Customers.

Cable customers today have the option of buying equipment at retail or leasing equipment from Comcast and other operators -- and such retail and leased equipment is made by a much wider array of manufacturers. Comcast is fully committed to making these equipment choices as robust as possible.

Comcast has been a major supporter of cable industry initiatives to expand retail equipment options for consumers. Under the CableLabs' program for *one-way* digital cable-ready products, over 568 such devices have been certified or verified for use with CableCARDS in Comcast and other cable systems.¹² As of May 31, 2007, Comcast had installed approximately 143,000 CableCARDS in digital cable-ready TVs and DVRs customers purchased at retail.¹³ Comcast places a high priority on making these devices work in its cable systems, because competition demands that Comcast strive to make every customer a happy customer.

¹¹ See <http://amazon.com/gp/browse.html?node=241126011&carrierID=comcastamazon> (link to Comcast storefront at Amazon.com); see also Comcast Press Release, *Comcast to Offer its High-Speed Internet Service on Amazon.com, World's Largest E-tailer*, PR Newswire (Nov. 20, 2006) ("The Comcast Store is a one-stop destination for Amazon.com's growing customer base to learn about and purchase Comcast High-Speed Internet and related offerings.").

¹² See NCTA CableCARD Report, filed in CS Dkt. No. 97-80, at 1 (June 25, 2007).

¹³ See *id.* (Comcast Exhibit). The equipment options available to cable customers far surpass those now available to DBS customers and most telco video customers. Any CE manufacturer can build digital cable-ready equipment for retail pursuant to CableCARD-related standards. In contrast, DirecTV and EchoStar make set-top boxes available only from a select group of manufacturers, and most telco video providers pursue a similar model.

Consistent with the Commission's rules,¹⁴ Comcast purchases an adequate supply of CableCARDs to meet demand. It also invests substantial resources in training technicians on CableCARD implementations. When problems do arise, Comcast works with CE manufacturers to resolve CableCARD-related issues as quickly -- and with as little inconvenience to the customer -- as possible.¹⁵

Comcast has also worked with the rest of the cable industry and leading CE companies to develop a solution (known as the OpenCable Platform) for bringing *two-way* digital cable-ready retail products to market *today*. The OpenCable Platform has been ratified by national and international standards bodies, is available on fair and reasonable licensing terms, and will be deployed in cable systems over the next few years. Samsung, Panasonic, LG Electronics, and other leading CE manufacturers are *already* developing two-way products built to the OpenCable Platform.¹⁶

Comcast strongly supports the OpenCable Platform. Comcast has committed to have the OpenCable Platform widely deployed in its cable systems by the fourth quarter of 2008, and is

¹⁴ See 47 C.F.R. § 76.640.

¹⁵ Comcast also fully supports the technical solution, announced in the NCTA comments today, that will enable one-way digital cable-ready products to receive video programming offered on switched digital basis. Under this approach, developed through negotiations with TiVo and other CE companies, a small "Tuning Resolver" dongle could be attached to a one-way digital cable-ready product that has received the necessary firmware modifications and deliver switched digital programming to that device via a USB 2.0 connector. See *infra* note 47 for further discussion on benefits of switched digital technology.

¹⁶ Progress on the OpenCable Platform has been well documented by the cable industry. See, e.g., NCTA *Ex Parte*, filed in CS Dkt. No. 97-80 (June 15, 2007); NCTA *Ex Parte*, filed in CS Dkt. No. 97-80, at 1-2 (June 5, 2007); NCTA *Ex Parte*, filed in CS Dkt. No. 97-80 (Dec. 11, 2006); NCTA *Ex Parte*, filed in CS Dkt. No. 97-80 (Oct. 30, 2006).

on a path to do so.¹⁷ And, as detailed below, Comcast is planning to include OpenCable Platform capabilities in its next-generation set-top boxes.

Comcast is also expanding equipment options for its customers who lease equipment. Comcast now buys set-top boxes from Pace, in addition to Motorola and Scientific-Atlanta. It has also struck agreements to buy CableCARD-enabled equipment from Samsung, Panasonic, and Thomson, and will begin to make the TiVo service (written to OpenCable-compatible Application Program Interfaces) available in its set-top boxes in certain markets later this year.¹⁸

Comcast's commitment to a diversified supplier base for its leased equipment is also exemplified by the RNG program -- a Comcast initiative focused on developing next-generation set-top boxes. Comcast has developed specifications for three types of RNG boxes -- a low-end set-top box (*i.e.*, a box without HD outputs or DVR capability), an HD set-top box, and an HD/DVR set-top box. RNG boxes will use industry-accepted technologies, such as CableCARD, OpenCable Platform, DOCSIS, and ethernet, and will rely on common infrastructure support, such as common customer care, network operations, provisioning, and billing support.

The goal of the RNG program is to have a consistent feature set across multiple vendor products. This will help lower equipment costs and further diversify Comcast's equipment

¹⁷ See Todd Spangler, *Cablers Commit to '08 OCAP Rollout*, Multichannel News (Apr. 30, 2007), available at <http://www.multichannel.com/index.asp?layout=articlePrint&articleID=CA6437757>.

¹⁸ See *In the Matter of Comcast Corporation's Request for Waiver of 47 C.F.R. § 76.1204(a)(1) of the Commission's Rules*, Request for Waiver, CSR-7012-Z, CS Dkt. No. 97-80, at 18 & n.52 (Apr. 19, 2006) ("Comcast Waiver Request") (noting Comcast agreements with Pace, Samsung, and Panasonic); see also Todd Spangler, *TiVo Working Hard to Woo Operators*, Multichannel News (July 30, 2007) (noting Comcast plans to start offering TiVo boxes, running on Motorola hardware, in Boston and other areas in New England), available at <http://www.multichannel.com/index.asp?layout=articlePrint&articleID=CA6463882>.

supplier base -- which will benefit both Comcast and its customers. Multiple set-top box manufacturers and other equipment vendors are participating in the initiative, including, among others, Motorola, Cisco, Samsung, Panasonic, Pace, LG, Broadcom, Conexant, and Digeo.

In sum, the marketplace is working to expand equipment options for consumers. The NCTA Proposal provides yet more evidence that marketplace solutions, rather than government fiat, can achieve the commercial availability goals of Section 629.

C. The OpenCable Platform Is The Best Available Way To Accomplish The Goals Of Section 629.

The NCTA Proposal is a market-based approach that relies on the OpenCable Platform, a solution that enables the delivery of the full range of cable's digital services to retail digital cable-ready devices (plus new applications and services that are yet to be deployed¹⁹) and can be implemented rapidly by CE manufacturers. If the Commission wishes to see two-way products reach retail by the 2008 holiday season,²⁰ this proposal offers the only genuine opportunity to achieve that goal.

The OpenCable Platform was developed collaboratively with many CE companies after many years of work. As explained at greater length in the NCTA comments filed today in this docket, the OpenCable Platform enjoys widespread support. It is real. It is being deployed now. And it will bring two-way plug-and play products to market much faster than the CEA Proposal.

¹⁹ New applications and services can be accessed via simple downloads to OpenCable Platform-enabled devices. This capability "future-proofs" OpenCable Platform-enabled devices -- in contrast to devices that might be built to the CEA Proposal. See *infra* Section III.E.

²⁰ See Notice ¶ 14.

All CE companies committed to using the OpenCable Platform for two-way digital cable-ready products in an agreement reached with the cable industry in 2002.²¹ The Commission has also spoken favorably of the OpenCable Platform, noting in its *2005 Integration Ban Order* that the OpenCable Platform “is the basis for interactive functionality in two-way devices.”²²

Numerous CE companies are following through on this commitment to the OpenCable Platform. Over a dozen independent CE companies, including industry leaders Samsung, Panasonic, and LG, have signed the OpenCable Platform license,²³ and these and other companies have invested years of effort and millions of dollars in developing two-way products built to the OpenCable Platform.²⁴ Two-way TVs, set-top boxes, and other digital cable-ready devices were exhibited at the 2007 Consumer Electronics Show,²⁵ and such two-way products are now being tested in live trials in a number of cable systems.²⁶ CE companies will be in a

²¹ See Memorandum of Understanding Among Cable MSOs and Consumer Electronics Manufacturers § 4.3, attached to Letter of Charter *et al.*, filed in CS Dkt. No. 97-80 (Dec. 19, 2002) (“Cable operators’ EPG will be provided for advanced interactive digital cable products via OCAP or its successor technology.”); see also Joint Status Report of CEA and NCTA, filed in CS Dkt. No. 97-80 (Oct. 14, 2005) (“The parties have agreed to proceed on the basis that interactive Digital Cable Ready devices (iDCRs) will use the OpenCable Application Platform (OCAP).”).

²² *Implementation of Section 304 of the Telecommunications Act of 1996: Commercial Availability of Navigation Devices*, Second Report and Order, 20 FCC Rcd. 6794 ¶ 17 (2005) (“*2005 Integration Ban Order*”); see also *In the Matter of Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming*, Twelfth Annual Report, 21 FCC Rcd. 2503 ¶ 217 (2006) (“Bi-directional OCAP is a necessary component to allow third parties to produce two-way capable third-party set-top boxes.”).

²³ See NCTA *Ex Parte*, filed in CS Dkt. No. 97-80, at 2 (June 5, 2007).

²⁴ See, e.g., Samsung *Ex Parte*, filed in CS Dkt. No. 97-80, at 1 (June 20, 2007) (explaining that the OpenCable Platform is the “furthest developed” standard for the attachment of CE products to interactive digital cable services, and that “Samsung has supported OCAP with substantial investments in research and product development, in cooperation with cable operators and other electronics companies”).

²⁵ See NCTA *Ex Parte*, filed in CS Dkt. No. 97-80 (Feb. 23, 2007).

²⁶ See, e.g., NCTA *Ex Parte*, filed in CS Dkt. No. 97-80, at 2 (June 22, 2007) (noting that Samsung’s OpenCable Platform-enabled set-top boxes are being installed in subscribers’ homes in New York City today”).

position to bring such products to market for the 2008 Holiday selling season -- consistent with the goal stated in the *Notice*.²⁷

In contrast, there is *no way* that devices based on the CEA Proposal could possibly reach the market for the 2008 Holiday selling season. CEA and its member companies have repeatedly said that CE manufacturers require a minimum of 18 months to design and develop products that meet new rules.²⁸ Given the substantial standardization work contemplated under the CEA Proposal (which could take years to complete) and the myriad other problems with the CEA Proposal identified below, CE manufacturers would not get such products to market until well after the 2009 digital broadcast transition date (assuming they actually decide to build them at all).

For all its benefits, the NCTA Proposal is not a *perfect* solution. Comcast joins NCTA in expressing a willingness to cooperate in the development and deployment of a two-way solution that can work across multiple MVPD platforms, if cable operators and their customers are not saddled with discriminatory new burdens. Given that 30 percent of consumers obtaining service

²⁷ See *Notice* ¶ 14.

²⁸ See, e.g., *Ex Parte* Letter of Michael Petricone, Vice President, Technology Policy, CEA, to Marlene H. Dortch, Secretary, FCC, filed in MB Dkt. No. 02-230, at 1 (Oct. 16, 2003) (“The [television receiver] design cycle extends over an extended 18-25 month period for consumer electronics equipment of the type potentially affected by rules under consideration in [the broadcast flag] proceeding . . . It is not feasible to shorten this time period because of the time required for the initial design process, the prototype and testing stages, and finally product manufacturing and distribution.”); CEA Reply Comments, filed in ET Dkt. No. 97-206, at 11 (Dec. 18, 1997) (noting, in V-chip rulemaking, that “manufacturers reasonably . . . require between 18-24 months to introduce reliable, high-quality program blocking features to the American public”); Zenith Comments, filed in ET Dkt. No. 97-206, at 2 (Nov. 24, 1997) (noting, in v-chip rulemaking, that “television manufacturers operate on an 18-24 month product development and introduction timetable. The simple truth is that it takes manufacturers that long to go from design to production of a new model or feature. Much of this is consumed by the intensive software development required to incorporate new features into TV chassis designs.”); Thomson Comments, filed in ET Dkt. No. 99-254, at 3-4 (Oct. 18, 1999) (noting, in closed captioning rulemaking, that “the 18-24 month production cycle . . . historically governs the introduction of new consumer electronics technologies”).

from an MVPD other than cable, and that the applicable statute applies to all MVPDs,²⁹ it is increasingly anomalous to try to promote the “commercial availability of navigation devices” by adopting rules that apply only to cable. As explained in NCTA’s comments, an “all MVPD-ready” solution could address these concerns.³⁰ Such an approach can only be pursued if cable companies and their customers are not forced to undertake the massive disruption, expense, unfair burdens, and other adverse consequences of the CEA Proposal, as catalogued in the next section.

III. THE COMMISSION SHOULD REJECT THE CEA PROPOSAL, WHICH WOULD CHILL INNOVATION AND INVESTMENT IN THE CABLE INDUSTRY AND IMPOSE HIGH COSTS ON CONSUMERS.

A. The CEA Proposal Would Require The Diversion Of Substantial Funding, Resources, And Manpower To A Completely Untested Scheme For Supporting Two-Way Cable-Ready Products.

The CEA Proposal would impose staggering -- and unprecedented -- requirements on cable operators. It would force the cable industry to redesign -- at its own expense -- every element of the cable plant, from headends and set-top boxes, to electronic program guide (“EPG”) and video-on-demand (“VOD”) services, to CableCARDS and downloadable security.³¹ For example, Multi-Stream CableCARDS would have to be overhauled to include more memory

²⁹ The navigation device statute applies to all MVPDs, not merely existing cable operators, and should not be read to apply to a limited subset of competitors, in contrast to how the Commission is administering the integration ban requirement. *See Comcast Ex Parte*, filed in CS Dkt. No. 97-80, CSR-7012-Z (July 3, 2007) (detailing infirmities of Commission’s waiver policy with respect to integration ban).

³⁰ NCTA and Verizon have both previously urged the Commission to consider “all MVPD-ready” solutions in this proceeding. *See* NCTA Proposal (noting possibility of “all MVPD-ready” solutions); *see also* Verizon *Ex Parte*, filed in CS Dkt. No. 97-80, at 1 (June 15, 2007) (“Verizon encouraged the Commission to ensure that any two-way plug-and-play approaches that it endorses or requires would be platform agnostic and would be compatible with the services of video providers using differing technological approaches, including not only traditional cable companies but also IPTV providers, hybrid QAM/IP providers, or others.”). The NCTA Proposal suggests just such a solution.

³¹ *See* CEA Proposal & Att. A (Technical Requirements) & Att. B (Regulatory Requirements).

and processing power, at substantially higher cost, and VOD server interfaces, order processing, billing, metadata, and back office networking interfaces would all need to be modified or completely redefined. The substantial costs associated with these new regulatory requirements would be borne entirely by cable operators, their suppliers, and their customers.

CEA proposes to effect this redesign of cable systems primarily through the development of standards for a number of different two-way services.³² CEA fails to note, however, that (as NCTA explains in detail) standardization efforts typically involve a broad range of industry participants, raise a host of complex intellectual property and licensing issues, and take considerable time to complete. Under the CEA Proposal, several new standards would have to be developed.³³

The CEA Proposal also conflicts with CEA's advocacy *opposing* government mandates on technology. For example, CEA opposed tuner mandates for digital TVs and continues to oppose government requirements for digital TV receiver performance.³⁴ But, when it comes to the cable industry, CEA hypocritically casts these same concerns aside. As recently as last month, CEA again derided the DTV tuner requirement as an unnecessary and costly government

³² See *id.* at 6-7 (noting, among other things, that “[i]t would require some additional development to standardize formats that would enable services that require bi-directional communication between the headend and the consumer...”).

³³ See NCTA *Ex Parte*, filed in CS Dkt. No. 97-80, at 1 (June 5, 2007). In other equipment-related rulemakings, the Commission has adopted *existing* standards developed in the marketplace. See, e.g., *In the Matter of Advanced Television Systems And Their Impact Upon the Existing Television Broadcast Service*, Fourth Report and Order, 11 FCC Rcd. 17771 (1996) (adopting DTV standard); *In the Matter of Implementation of Section 304 of the Telecommunications Act of 1996: Commercial Availability of Navigation Devices*, Second Further Report and Order and Second FNPRM, 18 FCC Rcd. 20885 (2003) (“2003 Plug-and-Play Order”) (adopting various technical standards relating to one-way digital cable-ready devices). The Commission could not take that approach here since the “standards” suggested by CEA do not even exist.

³⁴ See, e.g., CEA Reply Comments, filed in MM Dkt. No. 00-39 (Aug. 18, 2003) (opposing mandatory DTV performance standards).

mandate, yet it has no qualms about demanding that the Commission heap burdensome new regulations on cable operators.³⁵ It is truly astounding that CEA would do this while refusing to offer any guarantee that CE manufacturers will actually build devices under the CEA Proposal, and with no marketplace evidence that consumers will actually buy such devices.³⁶

It bears emphasis that the CEA Proposal goes far beyond anything ever applied to the telephone companies under the Part 68 rules, and with far less justification. Part 68 never involved government constraints on the design of telephone networks and services; it merely required disclosure of interface characteristics established unilaterally by network owners. Plus, the need for the Part 68 was rooted in the enormous problems resulting from the unique combination of a rate-regulated telephone monopoly with an affiliated manufacturer of network and customer-premises equipment -- and widespread awareness that these market characteristics had led to decades of antitrust abuses.³⁷ Those circumstances do not exist in the MVPD marketplace, where there is robust competition among multichannel video distributors and where those distributors buy equipment from independent third-party manufacturers and do not manufacture equipment themselves.

In proposing a wholesale government-mandated redesign of the cable network, the CEA Proposal is encouraging the Commission to ignore the limited equipment-related objectives established by Congress. Section 629 is aimed at giving consumers the ability to obtain at retail

³⁵ See, e.g., CEA Comments, filed in CS Dkt. No. 98-120 (July 16, 2007).

³⁶ In fact, as discussed in Section III.E below, there is every reason to believe that devices built under the CEA Proposal would flop with consumers given the inherent limitations of such devices.

³⁷ See *In the Matter of 2000 Biennial Regulatory Review of Part 68 of the Commission's Rules and Regulations*, Rept. & Order, 15 FCC Rcd. 24944 ¶ 8 (2000) ("At the time the Commission established its Part 68 rules, AT&T controlled the terminal equipment market as well as the public switched telephone network itself.").

equipment they can use to receive services provided by an MVPD.³⁸ It does *not* give the Commission *carte blanche* authority to mandate an overhaul of the MVPD network itself (as noted, the Part 68 rules do not even go that far). And it certainly does not give the Commission authority to impose such draconian and intrusive regulations solely on established cable operators but not their MVPD competitors who serve nearly one-third of MVPD homes.

Likewise, Section 624A, the provision of the Communications Act relating to cable equipment compatibility, specifically contemplates a very limited government role in this area.³⁹ Congress amended that provision in 1996 to clarify its intention that “compatibility among televisions, video cassette recorders, and cable systems can be assured with *narrow technical standards* that mandate a *minimum* degree of common design and operation, leaving all features, functions, protocols, and other product and service options for selection through open competition in the market.”⁴⁰ The legislative history accompanying the 1996 amendments “direct[s] the Commission to set only *minimal standards* when implementing regulations to assure compatibility . . . and to *rely on the marketplace* for other features, services, and functions to ensure basic compatibility.”⁴¹ The CEA Proposal is entirely inconsistent with these congressional directives.⁴²

³⁸ See 47 U.S.C. § 549(a) (requiring the Commission to “adopt regulations to assure the commercial availability . . . of equipment *used by consumers to access multichannel video programming and other services offered over multichannel video programming systems*, from manufacturers, retailers and other vendors not affiliated with any multichannel video programming distributor” (emphasis added)).

³⁹ See 47 U.S.C. § 544a; *see also* 2003 Plug-and-Play Order ¶¶ 30, 45 (2003) (relying, in part, on Section 624A to adopt one-way plug-and-play and encoding rules).

⁴⁰ 47 U.S.C. § 544a(a)(4) (emphasis added).

⁴¹ S. Conf. Rep. No. 104-230 at 169 (1996) (emphasis added); *see also id.* at 170-171 (“The conferees intend that the Commission should promptly complete its pending rulemaking on cable equipment compatibility, *but not at* (footnote continued...)”).

B. The CEA Proposal Would Chill Innovation And Investment.

The CEA Proposal would subject the cable industry to time-consuming, expensive, and unnecessary regulations that will have the effect of freezing innovation and placing cable at a disadvantage with its competitors. For example:

- Cable’s interactive video services, including VOD, EPG, and interactive programming enhancements, would be subject to standardization requirements.⁴³
- No innovations in the OpenCable Platform would be permitted without a Commission rulemaking or permission from CE manufacturers,⁴⁴ and downloadable security could not be deployed without CE industry approval.⁴⁵
- Cable operators would not be allowed to roll out new interactive services without first subjecting them to testing by the CE industry,⁴⁶ and could not migrate to switched digital video (a bandwidth conservation technique) without Commission or CE industry approval.⁴⁷

(...footnote continued)

the risk that premature or overbroad Government standards may interfere in the market-driven process of standardization in technology intensive markets.” (emphasis added).

⁴² There is also a potential issue as to whether mandating the yet-to-be-developed standards referenced in the CEA Proposal conflicts with the limitations in Section 624A(c)(2)(D), which specifically proscribes the Commission from adopting standards affecting “features, functions, protocols, and other product and service options” other than those specified in Section 624A(c)(1)(B). *See* 47 U.S.C. 544a(c)(2)(D). The “features, function, protocols, and other product and service options” affected by the CEA Proposal extend well beyond the VCR and picture-in-picture features identified in Section 624A(c)(1)(B). *See id.* 544a(c)(1)(B).

⁴³ *See* CEA Proposal at 5-6.

⁴⁴ *See id.* at 8.

⁴⁵ *See id.* at 6 n.11.

⁴⁶ *See id.* at 10.

⁴⁷ *See id.* at 4 n.8. Switched digital video (“SDV”) is a new technology that benefits both video providers and consumers. By enabling video providers to transmit digital channels to customers on an “as-needed” basis, SDV preserves bandwidth so that it can be used for deployment of innovative new services. AT&T and Verizon also recognize the benefits of SDV. Since it uses bandwidth-constrained copper wires to deliver channels, AT&T’s U-Verse cable service utilizes SDV to deliver *all of its channels* throughout its entire footprint. Verizon also uses a form of switched video delivery for its VOD channels.

- Cable operators would be forced to keep delivering the same cable and other services to a retail product “throughout the life cycle of the product.”⁴⁸

These various requirements would violate the express congressional command that the Commission “avoid actions which could have the effect of freezing or chilling the development of new technologies and services,”⁴⁹ as well as the *2005 Integration Ban Order*, where the Commission explicitly stated: “It is not our intent to force cable operators to develop and deploy new products and services in tandem with consumer electronics manufacturers. Cable operators are free to innovate and introduce new products and services without regard to whether consumer electronics manufacturers are positioned to deploy substantially similar products and services.”⁵⁰

CEA would subject cable to these innovation-killing requirements, while cable’s competitors would remain free to innovate at will. Comcast’s DBS and telco competitors *already* do not have to comply with the integration ban. DirecTV and EchoStar (the second and third largest MVPDs respectively) are exempt from the ban; Verizon (which is already the 11th largest cable operator in the country today and has total annual revenues greater than the entire cable industry combined) has received a broad waiver of the ban; and AT&T (whose market capitalization exceeds that of the entire cable industry) is ignoring the ban with apparent impunity. And these competitors are taking full advantage of this regulatory advantage. There are the almost daily press reports regarding the deployment of DVRs and other navigation

⁴⁸ See *id.* at 3.

⁴⁹ S. Conf. Rep. No. 104-230 at 181 (1996).

⁵⁰ *2005 Integration Ban Order* ¶ 30.

devices by these companies -- and none of these devices are required to use CableCARD technology.⁵¹

The CEA Proposal would have the effect of further skewing competition in the MVPD marketplace by substantially increasing the constraints on innovation in the cable industry, while cable's competitors continue to get a free pass. Such an outcome would plainly be contrary to congressional and Commission policy of competitive and technological neutrality.⁵²

C. The CEA Proposal Would Jeopardize Cable Network Security, Making It Harder To Deliver High-Value Content To Consumers.

Section 629(b) of the Communications Act prohibits the Commission from promulgating rules under subsection (a) "which would jeopardize security of multichannel video programming and other services offered over multichannel video programming systems, or impede the legal rights of a provider of such services to prevent theft of service."⁵³ Adopting rules based on the CEA Proposal would violate that proscription.

Under the CEA Proposal, development of cable's downloadable security would no longer be subject to non-disclosure protections, which are essential to the development of effective

⁵¹ See, e.g., SkyREPORT, *Dish Unveils New HD DVR* (Aug. 17, 2007) (reporting on EchoStar's new HD DVR product, which "features a 500 GB hard drive" and "includes an IP call-back feature"); Verizon Application for Review, filed in CS Dkt. No. 97-80, CSR-7042-Z, at 13 (July 30, 2007) (noting introduction of Home Media DVR, which allows users to network their set-top box to access music and pictures stored on a home computer); Gary Arlen, *How AT&T Plans to Conquer the U-Verse*, Multichannel News (July 23, 2007) (noting availability of DVR that can be programmed from My Yahoo Online).

⁵² See 47 U.S.C. § 549 (applying navigation device requirements to all MVPDs); see also *Appropriate Framework for Broadband Access to the Internet over Wireline Facilities*, Report & Order, 20 FCC Rcd. 14853 ¶¶ 1, 3, 16 nn.44 & 45 (2005); see also Statement of Commissioner Kevin J. Martin, *In the Matter of IP-Enabled Services* (Feb. 12, 2004) ("As we move forward, we must ensure that our policies treat similar services in a similar fashion and that we do not create a regulatory framework that promotes potential arbitrage opportunities.").

⁵³ See 47 U.S.C. § 549(b).

network security.⁵⁴ Moreover, cable operators would be forced to use content protection technologies that have not been properly vetted for use with cable content and do not have the support of the studios and other content suppliers.⁵⁵ These requirements would hinder cable from delivering the high-value programming that consumers demand as well as developing new content options like early-release windows for movies. Jeopardizing cable network security in these ways would be contrary to the explicit command of Section 629(b).

D. Devices Built Under The CEA Proposal Would Not Be Equivalent To Cable’s “Limited-Capability” Set-Top Boxes.

CEA states that “to the extent cable operators are permitted to lease limited-capability boxes with integrated security and navigation functionality (*i.e.*, that are not subject to the Commission’s common reliance requirement, and which do not include OCAP), competitive manufacturers should be permitted to sell devices that offer access to the same basic interactive services, and also do not include OCAP.”⁵⁶

As an initial matter, with some very limited exceptions, cable operators are no longer permitted to deploy new integrated digital set-top boxes of any kind now that the integration ban is in effect.⁵⁷ Comcast and other cable operators filed for waivers of the integration ban to allow for the continued deployment of the DCT-700 and similar low-cost, limited-capability integrated

⁵⁴ See CEA Proposal at 7 n.15.

⁵⁵ See *id.* at 8-9.

⁵⁶ *Id.* at 5.

⁵⁷ From July 1, 2007, the day the integration ban went into effect, to August 17, 2007, Comcast deployed over 130,000 set-top boxes with CableCARDS.

boxes post-ban, but most of those requests were denied.⁵⁸ Every new digital set-top box deployed by Comcast includes a CableCARD, and the same is true for more than 90% of the cable industry.⁵⁹ Plus, all of the RNG set-tops described above -- including the lowest-end devices -- can support OCAP.

Moreover, even if Comcast and other cable operators had the continued ability to buy such limited-capability integrated boxes, the non-OpenCable Platform devices contemplated by the CEA Proposal are *not* equivalent to those boxes. Under the proposal, such non-OpenCable Platform devices can include HD capability.⁶⁰ The DCT-700 and similar integrated boxes do not have this functionality, consistent with the waiver standard in the *2005 Integration Ban Order*,⁶¹ nor does the lowest-end CableCARD-enabled box Comcast is now deploying (*i.e.*, the DCH-100).⁶²

⁵⁸ See *In the Matter of Comcast Corporation's Request for Waiver of Section 76.1204(a)(1) of the Commission's Rules*, Mem. Opin. & Order, 22 FCC Rcd. 228 (2007); *In the Matter of Armstrong Utilities, Inc. et al. Request for Waiver of Section 76.1204(a)(1) of the Commission's Rules*, Mem. Opin. & Order, CS Dkt. No. 97-80, DA 07-2916 (rel. June 29, 2007); see also *National Cable & Telecommunications Association Request for Waiver of Section 76.1204(a)(1) of the Commission's Rules*, Mem. Opin. & Order, CS Dkt. No. 97-80, DA 07-2920 (rel. June 29, 2007) (denying time-limited waiver request for all digital set-top boxes).

⁵⁹ A significant exception is Charter, which received a *one-year* waiver for the DCT-700 and other models of low-cost integrated boxes. See *In the Matter of Charter's Request for Waiver of Section 76.1204(a)(1) of the Commission's Rules*, Mem. Opin. & Order, 22 FCC Rcd. 8557 (2007). In a striking departure from regulatory parity, however, Verizon -- a relatively new cable operator that has already amassed over half a million cable customers -- received a permanent waiver for its low-end boxes *and* a one-year waiver for its HD and DVR boxes. See *In the Matter of Consolidated Requests for Waiver of Section 76.1204(a)(1) of the Commission's Rules*, Mem. Opin. & Order, CS Dkt. No. 97-80, DA 07-2921 (rel. June 29, 2007).

⁶⁰ See CEA Proposal at 5 n.9.

⁶¹ See *2005 Integration Ban Order* ¶ 37 ("We do not believe that waiver will be warranted for devices that contain [PVR], high-definition, broadband Internet access, multiple tuner, or other similar advanced capabilities.").

⁶² See Motorola Connected Home Solutions, DCH-100 Host Set-Top Box, at http://broadband.motorola.com/business/digitalvideo/product_dch100_settop.asp (product description for DCH-100).

CEA's equivocation on this point bears out what Comcast has been saying for some time now: *the CE industry has no demonstrated interest in building low-end devices for retail.*⁶³

Rather, CE manufacturers have focused their efforts on building HDTVs and HD/DVRs. The lowest-end digital cable-ready device at retail today (*i.e.*, the new TiVo HD box) costs approximately \$300 for the box alone -- substantially more than the cost of the DCT-700 or the lowest-end CableCARD-enabled box now deployed by cable operators (*i.e.*, the DCH-100) -- and consumers who buy the TiVo device must also pay substantial monthly subscription fees. Most other cable-ready devices cost significantly more than the TiVo device.⁶⁴

E. CEA Wants A Free Ride On The Cable Industry's Multi-Billion Dollar Investment In Cable Networks And Services.

Cable operators have invested over \$110 billion since 1996 building state-of-the-art broadband networks capable of delivering voice, video, and data services to cable customers, including HD VOD and other interactive services. The CEA Proposal would force the cable industry to disaggregate its cable services so CE companies can repackage them as their own for viewing on devices they sell.⁶⁵ Consequently, digital cable-ready devices will not deliver cable services as consumers have bought them or in the way they have been marketed and delivered by cable operators. Such devices would strip away services, features, parental controls, and privacy profiles, and each TV would do so in different ways. Aside from being anti-consumer -- and

⁶³ See, e.g., Comcast Waiver Request at 15; *See In the Matter of Comcast Corporation's Request for Waiver of 47 C.F.R. § 76.1204(a)(1) of the Commission's Rules*, Application for Review, CSR-7012-Z, CS Dkt. No. 97-80, at 16-17 (Jan. 30, 2007).

⁶⁴ The TiVo Series 3 DVR, for example, costs close to \$800 at Best Buy. See <http://www.bestbuy.com/site/olspage.jsp?skuId=7974418&st=tivo+series+3&type=product&id=1155071436440>.

⁶⁵ See CEA Proposal at 7.

being opposed by one of the signatories to the CEA Proposal, namely Microsoft⁶⁶ -- the proposed disaggregation requirement conflicts with the basic purpose of the navigation device statute.⁶⁷

Moreover, it is difficult to conceive that the CEA Proposal would advance the Commission's goal of *increasing* consumer interest in digital cable-ready equipment. The *Notice* emphasizes the limited commercial appeal of one-way digital cable-ready products to date because of the limited capabilities of those devices.⁶⁸ The CEA Proposal, if implemented, would repeat that marketplace experience. The simple fact is that two-way devices labeled as digital cable-ready under the CEA Proposal could *not* receive all of the interactive services currently offered by the cable operator or those services developed in the future, including services that integrate voice, video, and data features. Such limitations would inevitably disappoint and confuse cable customers, who would expect a "digital cable-ready" device to deliver more than

⁶⁶ See *Microsoft Ex Parte*, filed in CS Dkt. No. 97-80, at 2 (Nov. 13, 2006) ("Nothing in the Proposal should interfere with the ability of cable operators to aggregate content and to establish and control the 'basic look and feel' of its offering, including, for example, the exact order of the channel lineup, the specifics of any and all VOD offerings including placement of any artwork and test in the user interface, service branding, and advertising within the guide and VOD storefront."); see also *Microsoft Ex Parte*, filed in CS Dkt. No. 97-80, at 2 (Dec. 7, 2006) (noting "Microsoft's opposition to any requirements that cable services be disaggregated").

⁶⁷ See, e.g., S. Conf. Rep. No. 104-230 at 181 (1996) (noting, in legislative history accompanying Section 629, that "[t]he scope of the regulations are narrowed to include only equipment used to access services provided by multichannel video programming distributors"); *In the Matter of Gemstar International Group, Ltd. and Gemstar Development Corp., Petition for Special Relief*, Mem. Opin. & Order, 16 FCC Rcd. 21531 ¶ 31 (2001) ("Section 629 is intended to assure the competitive availability of *equipment*, including 'converter boxes, interactive communications *equipment*, and other *equipment* used by consumers to access multichannel video programming and other services offered over multichannel video programming systems.' The Commission has not found that the right to attach consumer electronics equipment to a cable system can be expanded to include the obligation by cable operators to carry any service that is used by such equipment, nor is the legislative history supportive of such a requirement." (emphasis in original)).

⁶⁸ See *Notice* ¶ 5 ("It is apparent that consumers have not shown significant interest in one-way devices, which cannot access features such as EPGs, VOD, PPV, and other ITV capabilities provided by cable operators."). CE manufacturers are showing less and less interest in building these devices as well given the unfavorable marketplace response. See Ellen Sheng, *A Makeover for the Cable Box*, Wall St. J. (Mar. 8, 2007) (noting that "TV makers so far aren't all that excited about a market since most consumers don't consider cable cards an important issue when buying a television set").

just a subset of digital cable services. In contrast, devices built using the OpenCable Platform could receive *all* cable services, *plus* new applications and services that are yet to be deployed.

* * * *

In sum, the CEA Proposal would not advance the goals of Section 629. The CEA Proposal is entirely unnecessary in light of recent marketplace developments; would slow investment and innovation in the cable industry and jeopardize network security, contrary to the requirements of Section 629 and congressional intent; and, most importantly, would harm consumers. It should therefore be rejected.

IV. CONCLUSION

In light of the foregoing, Comcast respectfully asks that the Commission acknowledge the progress that has been made over the last decade in fostering retail and equipment options for cable customers, respect the central role of the OpenCable Platform in facilitating continued innovation and competition, and reject the CEA Proposal.

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