Before the
Federal Communications Commission
Washington, DC 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	
Compatibility Between Cable Systems and Consumer Electronics Equipment	PP Docket No. 00-67

REPLY COMMENTS OF THE ELECTRONIC FRONTIER FOUNDATION

The Electronic Frontier Foundation ("EFF") hereby submits these reply comments in connection with the Commission's *Further Notice of Proposed Rulemaking,* FCC No. 03-3 (Jan. 10, 2002) ("FNPRM") in the above-captioned proceedings.

I. INTRODUCTION.

Reviewing the initial comments submitted in response to the Commission's FNPRM is a bit like Alice's trip through the looking glass. In this strange place, the motion picture studios (who are known in other contexts for their fondness of federal regulation in the name of "content protection"[1]) want no regulations, while the consumer electronics ("CE") and cable industries (generally no fans of Commission regulation) plead for regulations that will bind not just them, but all multichannel video programming distributors ("MVPDs").

Moreover, there is not even an appearance of "consensus." Everyone who was not directly involved in the negotiation of the CEA-NCTA Memorandum of Understanding[2] ("MOU"), including consumer groups, the satellite MVPDs and even one of the "5C" companies, is strongly opposed to its terms.

[1] *See* Comments of the MPAA, et al., FCC MB Docket No. 02-230 (submitted Dec. 6, 2002) (urging the Commission to mandate content protection technology for devices capable of receiving ATSC and QAM broadcasts); S. 2048, 107th Cong., 2d Sess. (introduced Mar. 21, 2002) (measure introduced by Sen. Hollings and supported by several motion picture studios that would have delegated to the Commission the task of fashioning content protection mandates for all digital media devices).

[2] Filed Dec. 19, 2002, attached as Appendix B to the FNPRM, FCC No. 03-3A2.

Even Alice would know that something here is amiss.

The policy battles over "content protection" should not distract the Commission from the important goals set by Congress—a competitive market for navigation devices. At the same time, the Commission cannot abandon the public to unilaterally imposed access and use restrictions dictated to the MVPD marketplace by a motion picture industry oligopoly.

The EFF urges the Commission to:

- **Preserve the oasis of basic tier compatibility** by reaffirming that all cable basic tier services (whether analog or digital and including all retransmitted over-the-air broadcasts) must remain unencrypted.
- **Set functional standards for digital outputs** that establish a "floor" of compatibility between consumer electronics devices and cable television, while leaving issues of "content protection" and "business models" for another day.
- **Protect the public** by declaring a moratorium on the activation of digital content protection capabilities by cable MSOs until the Commission has completed a proceeding aimed at evaluating whether proposed uses of content protection technologies by MVPDs are in the public interest.
- **Preserve legacy compatibility and a path for innovation** by requiring that cable MSOs continue to support high-resolution analog outputs that can neither be "down-rezzed" nor remotely disabled.

II. STATEMENT OF INTEREST.

EFF is a membership-supported nonprofit organization devoted to protecting civil liberties and free expression in the digital age. With nearly 9,000 dues-paying members and over 30,000 mailing-list subscribers, EFF leads the global and national effort to ensure that fundamental liberties are respected in the digital environment.

EFF was not invited to participate in the negotiations that led to the MOU. Nevertheless, EFF has become increasingly involved in issues relating to the digital television ("DTV") transition, representing consumers, hobbyists and innovators in a number of inter-industry discussion groups such as the Broadcast Protection Discussion Group. EFF has also contributed comments in the Commission's "broadcast flag" docket.[3] In the course of these efforts, EFF has become intimately familiar with many of the technologies discussed in the MOU.

[3] *See* EFF comments, FCC MB Docket No. 02-230 (filed Dec. 6, 2002); EFF reply comments,

III. WHAT IS GOING ON HERE?

How did it come to this? A cable-CE agreement creating compatibility standards for navigation devices has been an intractable goal for many years, held hostage by the divergent agendas of the cable and CE industries. Now, when the cable and CE industries have finally forged an agreement, the whole endeavor is being hijacked by the motion picture studios in their quest to hardwire a ubiquitous content protection infrastructure into all future television products.[4]

Content protection, however, enters into these proceedings in a somewhat surprising manner. Rather than the motion picture studios arguing *for* federal mandates in favor of content protection technologies (as they have on several occasions[5]), here we have the cable and CE industries pleading for *protection from* content protection technologies. By endorsing federally-mandated "encoding rules" for all MVPDs (not just cable MSOs), the MOU seeks a ceiling on the restrictions that can unilaterally be imposed on consumers by content owners using content protection technologies.

All of this stems from, and highlights, a market failure. Once upon a time, the cable MSOs were the dominant distributors of video content into the American home. With the rise of satellite broadcasters (especially direct broadcast satellite, or DBS, services), the landscape has changed. Today, cable MSOs face real competition, competition that is likely to become more intense in the future as telephone companies, Internet services and others join the fray.

So far, the story is a good one for consumers, as robust competition spurs all MVPDs to innovate and provide better services at lower cost.

However, increasing competition between MVPDs has strengthened the hand of another market participant—the motion picture studios. In stark contrast to the MVPD industry, the content side of the business has only become more concentrated in recent years. An increasing number of MVPDs, all of whom need access to "premium" content in order to attract the customers of their rivals, face a decreasing number of "premium" content vendors. Consequently, the motion picture industry finds itself increasingly able to use its oligopoly position to

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FCC MB Docket No. 02-230 (filed Feb. 18, 2003).

[4] This is made clear in the joint comments of the CEA and CERC in this docket. *See* Consumer Industry Comments, CS Docket No. 97-80, PP Docket No. 00-67 (filed Mar. 28, 2003) (hereinafter "Consumer Industry Comments"). In according to that filing, the cable and CE industries had contemplated a general hardware specification that would not require that any technology be licensed from CableLabs. *Id.* at 10-11. It was only after the intervention of the MPAA that "content protection," with its attendant private licensing obligations, entered onto the scene. *Id.*

[5] *See supra,* note 1.

dictate content protection technologies to an increasingly pliant set of MVPDs. This, in turn, translates into *de facto* control over the CE industry, whose products must connect to MVPD systems in order to be attractive in the mass consumer market. The studios have not hesitated to exercise their new-found muscle, threatening to withhold "premium" content from any MVPD that does not meet their demands for "protection."[6]

In essence, the motion picture studios are using their market power[7] to force MVPDs (and, hence, the CE industry) to re-engineer their technological infrastructure to the studios' preferred specifications. All of this is being accomplished in the marketplace without the need for any regulatory intrusion, a textbook case of a competitive industry being forced to pay excessive rents (here, in the form of compelled technology modifications, rather than cash) to an oligopoly that controls a necessary resource. In light of this market distortion, it is no surprise that the Motion Picture Association of America ("MPAA") urges the Commission to "leave it to the market" to set content protection standards.[8]

This, of course, is bad news for consumers, just as surely as when an oligopoly of steel producers charges supra-competitive prices to auto makers. In the end, it is the consumer who is stuck footing the bill. Here, similarly, it is the consumer who will confront an ever-increasing set of restrictions on how they may access and use the content for which they have paid. Already, the MPAA is talking openly about "constraining" high-resolution analog outputs, with an eye to retiring them altogether.[9]

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[6] *See* Consumer Electronics Industry Comments, *supra*, at n.34 (citing letter wherein MPAA's Fritz Attaway explains that premium content will be withheld from MVPDs that fail to deploy content protection technology).

[7] As copyright owners, the motion picture studios are entitled to a modicum of monopoly power by dint of their exclusive rights under the Copyright Act. However, it is important to note that the market power at issue here stems from the *concentration* of copyrights, which creates a market distortion quite distinct from the legitimate copyright monopoly granted by Congress. For example, in a competitive market for content, no one copyright owner would be able to demand that an MVPD or CE manufacturer alter its technology. Yet that is precisely what is happening in the marketplace today.

[8] *See* Comments of the MPAA, CS Docket No. 97-80, PP Docket No. 00-67 (filed March 28, 2003) (hereinafter "MPAA Comments") at 5-7.

[9] *See id.* at 10-11. EFF strongly disagrees with the MPAA's implicit assumption that analog outputs are to be grudgingly tolerated to support legacy devices. Analog outputs that permit device makers to connect (without having to enter into private licensing arrangements) have always been an engine for innovation. Most recently, the rise of PVRs like TiVo can be traced directly to the availability of standardized analog outputs from which content could be readily digitized and stored. There is no reason to think that analog outputs will not continue to facilitate innovation on the part of device makers.

Of course, the MPAA claims that an unrestrained palette of content protection technologies will *benefit* consumers, by enabling new "business models" that will result in an ever-more diverse set of content offerings.[10] (What this really amounts to is a threat to withhold offerings unless the oligopoly's demands are met.) Moreover, so the argument goes, content protection technologies are "competition enabling"—because content owners need not activate any particular protection feature, they will compete to provide customers with content protection that is neither too restrictive, nor too lax, but rather "just right."[11]

As any economist will tell you, there is reason to be skeptical when an oligopolist tells you that, in the course of extracting supra-competitive rents from the marketplace, it will surely be acting only in the interests of consumers.

This leaves the Commission in a quandary. On the one hand, the MOU invites the Commission to intervene in the marketplace, choosing a content protection technology for the cable industry, along with an upper limit on the restrictions that a content provider can impose through *any* MVPD using *any* protection technology. The difficulty with the encoding rules endorsed by the MOU is the fact that they were arrived at through negotiations that (while lengthy and arduous) included only the cable MSOs and CE industry.

On the other hand, if the Commission adopts cable-CE "plug and play" standards while leaving the question of content protection purely in the hands of the marketplace, as the MPAA urges, consumers are likely to pay a steep price for decades to come. MVPDs will "voluntarily" adopt the content protection measures dictated by motion picture studios, for fear that any refusal will put them at a disadvantage vis-à-vis their more easily cowed competitors. CE vendors, in turn, will have no choice but to build their televisions, recorders, and other devices to interoperate with the most restrictive systems deployed by the major MVPDs. Smaller, innovative companies will find themselves unable to build new features into their devices without satisfying the requirements of "inter-industry" private licensing regimes, all of which will be subject to the prior approval of motion picture studios. In the end, as pointed out by the Home Recording Rights Coalition ("HRRC"), the delegation of oversight authority by

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[10] *See id.* at 6 (arguing that consumers will be denied the benefit of "new technologies and business models to access content in new ways," eliding the fact that consumers are denied these benefits only to the extent the cartel of major content owners withhold content from the market).

[11] *See id.* (extolling the virtues of allowing the market to "arrive at the optimal determination of protection accorded to individual programs," while eliding the fact that the determination will be "optimal" from the point of view of the content provider, rather than the consumer).

the Commission to the cable MSOs would have the perverse result of leaving the consumers at the mercy of a cartel of content vendors.[12]

Neither option is terribly palatable. EFF recommends that the Commission act conservatively, so as to steer a course that leaves the ultimate resolution of the difficult policy issues relating to encoding rules to a later proceeding. As set out by Congress, the goals in this proceeding should be to create a competitive market in navigation devices. The trick will be choosing a course with respect to these two goals that does not predetermine the outcome on the larger question of content protection and encoding rules.

IV. THE DIGITAL BASIC TIER MUST REMAIN UNENCRYPTED WHEN RETRANSMITTED OVER CABLE.

As discussed in EFF's initial comments responding to the FNPRM, the first step toward a competitive market in navigation devices is the preservation of the historical compatibility between navigation devices and the cable basic tier.

Thanks to the Commission's long-standing rules requiring that the cable basic tier be made available unencrypted[13], a consumer interested in only analog basic tier service (which generally includes all local over-the-air broadcast channels) has never had to fret about compatibility. Where analog basic tier service is concerned, the consumer can hook up any device capable of receiving NTSC television signals—whether a TV, VCR, PVR, or "media PC"—by simply connecting the device to the cable jack. Device makers, hobbyists and innovators need not worry about the maze of incompatible set-top box technologies.

An enormous quantity of consumer product innovation has thrived in this oasis of compatibility—the VCR, PVR and "media PC" all owe their existence to the fact that, whatever else can be said about them, they could *at minimum* receive both over-the-air and basic cable tier programming without having to enter into any private licensing regime. TiVo is a perfect example, because cable MSOs would never have been willing to give it a license if there had been a relevant licensing regime in place.

If the Commission continues to apply its existing rules—that the basic tier, whether analog or digital, must continue to be unencrypted—then the oasis of

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[12] *See* Comments of the Home Recording Rights Coalition, CS Docket No. 97-80, PP Docket No. 00-67 (filed March 28, 2003) (hereinafter "HRRC Comments") at 6.

[13] The Commission has previously ruled that, at least in the must carry context, both digital and analog broadcast signals must be available in a single, unitary basic tier. *See* First Report and Order and Further Notice of Proposed Rule Rulemaking, FCC No. 01-22 (released Jan. 23, 2001), at p. 46, ¶ 102. The Commission's rules further provide that all basic tier services must be unencrypted. *See* 47 C.F.R. §76.630(a).

basic tier compatibility will be preserved in the digital cable context. The scope of the MOU would then be cabined to apply to those devices that are capable of receiving *non-basic* tier cable services. This would extend some compatibility into the desert of incompatible set-top boxes, while leaving the oasis of basic tier compatibility intact. Technology vendors who are content to interoperate solely with the digital programming available on the basic tier could continue to count on full compatibility by implementing straightforward navigation devices which receive QAM signals in compliance with open, public cable standards such as those adopted by ANSI and SCTE. They would remain free to ignore the MOU altogether.[14]

As discussed in more detail in EFF's initial comments to the FNPRM, the continued availability of an unencrypted basic tier will benefit consumers in at least three ways. First, it would guarantee that legacy equipment that includes QAM tuners would continue to function as it does today. Second, it would minimize the need for redundant antenna systems to receive over-the-air broadcasts for devices that lack POD modules. Third, it would guarantee consumers the fruits of a robust, fully competitive, free market in basic-cable capable technologies.[15]

Accordingly, we ask that the Commission in this proceeding reaffirm that all basic tier services, whether analog or digital and including all retransmitted over-the-air broadcasts, must remain unencrypted. Moreover, the Commission should leave room in the "cable-ready" labeling regime for products that are "basic tier ready."

V. THE COMMISSION SHOULD SET FUNCTIONAL STANDARDS FOR CABLE COMPATIBILITY AND DIGITAL OUTPUTS.

EFF agrees with Public Knowledge/Consumers Union, TiVo, and Intel that adopting any particular content protection technologies (such as DTCP and/or HDCP) for cable MSOs at this juncture of the DTV transition is extremely

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[14] While some may argue that such devices are unlikely to have mass-market appeal, EFF submits that this is a question best answered in the marketplace. A large number of Americans subscribe only to basic tier services—there is no reason to preclude innovators from finding a market among them.

[15] To the extent that some may argue that encryption of the basic tier is necessary in order to protect the content from "Internet piracy," that issue is properly (and exhaustively) addressed in the Commission's pending "broadcast flag" proceeding, FCC MB Docket No. 02-230. Motion picture studios in that proceeding have asked for content protection mandates on QAM tuners. The resolution of that question in the broadcast flag proceeding should settle the matter for digital basic tier cable, as well. There is no reason that the very same programming, when retransmitted as part of the basic tier on cable, should require different treatment.

unwise.[16] Moreover, EFF believes that adopting a single set of encoding rules for all MVPDs is a question best left for a different Commission proceeding, one where all parties are invited to participate in crafting the rules, rather than just the cable and CE industries.

Accordingly, EFF joins Public Knowledge/Consumers Union in recommending that the Commission adopt purely functional specifications for digital outputs and POD host devices. These specifications would set minimum digital hardware connectivity requirements (such as IEEE 1394, DVI, Ethernet and USB as connectors), but express no view on "content protection" or "robustness," neither of which is relevant to cable compatibility, nor the availability of navigation devices in the marketplace.

VI. THE USE OF CONTENT PROTECTION TECHNOLOGIES SHOULD BE STAYED PENDING A PROCEEDING ON APPROPRIATE ENCODING RULES.

Functional specifications, however, are not enough. Given the oligopoly position of the motion picture industries, as well as the many years of negotiations between CableLabs and the CE industry, it is a virtual certainty that the cable and CE industries would implement any functional specification set out by the Commission by adopting the DFAST (or a similar privately licensed) solution that includes extensive content protection capabilities. EFF agrees with the HRRC that, in the absence of "encoding rules" to set a ceiling for all MVPDs on the use of content protection restrictions, this anti-consumer technology infrastructure would be used by content owners to undermine innovation and frustrate legitimate consumer expectations.[17]

The Commission has an important duty to restrain the use of content protection technologies, lest they be used to the detriment of innovation and consumers. This duty is all the more plain when the technologies in question are not the product of a competitive marketplace, but rather the edict of an oligopolist exerting market power.[18]

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[16] *See* Comments of Public Knowledge and Consumers Union, CS Docket No. 97-80, PP Docket No. 00-67 (filed Mar. 28, 2003) at 11-15; Comments of TiVo Inc., CS Docket No. 97-80, PP Docket No. 00-67 (filed Mar. 30, 2003) at 5-6; Comments of Intel Corp., CS Docket No. 97-80, PP Docket No. 00-67 (filed Mar. 27, 2003) at 6.

[17] *See* HRRC Comments, *supra*, at 6-9.

[18] That this market power may not violate the antitrust laws is immaterial—the Commission has a duty to protect the public interest from market failures in the industries it regulates, even where those failures do not cross the line into illegality, as made clear in the current proceeding regarding media ownership, FCC MB Docket No. 02-227.

Accordingly, EFF urges the Commission to impose a moratorium on the *use* of *any* content protection capabilities on the part of cable MSOs until the Commission has concluded a public proceeding to consider whether these technologies serve a legitimate purpose, and, if so, what limitations on their use may be appropriate (i.e., "encoding rules").[19]

Such a moratorium pending a separate proceeding would address the concerns of all who have raised objections to the encoding rules contained in the MOU. First, a number of commenters have objected to their exclusion from the negotiations that led up to the MOU.[20] A separate public proceeding would address those concerns. The moratorium, moreover, would hold any abusive use of content protection technologies in check pending the outcome of the proceeding. In addition, such a proceeding would afford satellite MVPDs an opportunity to fully air their jurisdictional objections, as well as the opportunity to raise substantive concerns about the MOU's proposed encoding rules.

Most importantly, however, such a proceeding would put the motion picture studios to their burden of demonstrating why content protection restrictions are necessary and in the public interest. There is substantial reason to doubt the MPAA's assertions that "Internet piracy" poses a real threat to content owners. A proceeding would afford all interested parties the opportunity to explore the facts regarding the MPAA's (as yet unsubstantiated) claims. The motion picture studios would also have the opportunity to come forward to explain exactly what diverse new offerings consumers would have to look forward to in exchange for tolerating the new restrictions and reduced rate of innovation that inevitably accompany content protection regimes.

A moratorium on the use of content protections by cable MSOs, moreover, poses little risk to content owners. First, as exhaustively documented in the pending "broadcast flag" proceedings, FCC MB No. 02-230, the limitations of consumer broadband capacity today make the widespread Internet redistribution of high-resolution digital video content impossible.[21] Because this is unlikely to

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[19] In making this proposal, EFF is not suggesting that cable MSOs be restricted from utilizing encryption to protect non-basic tier content prior to decryption by authorized POD hosts. Rather, the proposed moratorium on the use of content protection capabilities would apply to "post-POD" encoding capabilities. For example, while cable MSOs would be free to incorporate DTCP capabilities on IEEE 1394 source devices, they would required to flag all content as "copy freely" pending resolution of the proposed Commission proceeding regarding the relevant rules governing content protection.

[20] *See, e.g.,* Comments of Intel Corp., *supra*, at 4 ("[T]he negotiation process was closed to the *entire IT industry.*") (emphasis in original); Comments of DirecTV, CS Docket No. 97-80, PP Docket No. 00-67 (filed March 28, 2003) at 3 (noting exclusion of DBS operators).

[21] *See, e.g.,* Reply Comments of EFF, MB Docket No. 02-230 (filed Feb. 18, 2003) at 2-6; Reply

change in the immediate future, the Commission will have ample opportunity to conclude a proceeding on encoding rules without exposing the motion picture studios to undue risk. Furthermore, because the MPAA would remain free to negotiate with cable MSOs for whatever content protection *capabilities* the market will bear, a moratorium on their *use* will not impair the deployment of content protection infrastructure while the Commission considers whether the use of such technologies is in the public interest, and, if so, what encoding rules should govern them.

VII. SELECTABLE OUTPUT CONTROL AND DOWN-RESOLUTION SHOULD BE AFFIRMATIVELY PROHIBITED.

While EFF proposes that the Commission decide the particulars of any encoding rules in a separate proceeding, there are two forms of content protection that are plainly unjustifiable—selectable output control and down-resolution.

Rather than reiterating the compelling arguments made by the Consumer Electronics Industry and HRRC with respect to selectable output control, EFF adopts them by reference here.[22]

With respect to down-resolution, EFF also endorses the arguments made by the Consumer Electronics Industry and HRRC.[23] Special mention, moreover, is merited for the views of Public Knowledge/Consumers Union on this point—not only is down-resolution a profoundly anti-consumer measure, it also actually makes content *more vulnerable* to Internet redistribution by reducing the size of the file that results when a pirate digitizes the material for redistribution.[24] Today, 1080i high-resolution digital content, due to the many gigabytes required to describe it, is more resistant to Internet redistribution than any other video format. The fact that the MPAA endorses down-resolution merely underscores that this content protection measure has little to do with "content protection," and much to do with prematurely driving analog outputs from the marketplace.

Comments of Raffi Krikorian, MB Docket No. 02-230 (filed Feb. 17, 2003); Reply Comments of Philips Electronics North America Corp., MB Docket No. 02-230 (filed Feb. 18, 2003) at 15-18; Reply Comments of the IT Coalition, MB Docket No. 02-230 (filed Feb. 18, 2003) at 3-4.

[22] *See* HRRC Comments, *supra*, at 7-10; Consumer Electronics Industry Comments, *supra*, at 18-20.

[23] *See id.*

[24] *See* Comments of Public Knowledge and Consumers Union, *supra*, at 16-17.

VIII. CONCLUSION.

For the reasons above, EFF respectfully asks that the Commission reject the MOU and follow a more limited course aimed at facilitating a competitive market in navigation devices while launching a new proceeding aimed at fully addressing the question of content protection and encoding rules.

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