



**National Cable & Telecommunications Association**  
25 Massachusetts Avenue, NW – Suite 100  
Washington, DC 20001  
(202) 222-2300

www.ncta.com

**Neal M. Goldberg**  
Vice President and General Counsel

(202) 222-2445  
(202) 222-2446 Fax

October 30, 2007

Ms. Marlene H. Dortch  
Secretary  
Federal Communications Commission  
445 12<sup>th</sup> Street, S.W.  
Washington, D.C. 20554

**Re: CS Docket No. 97-80; PP Docket No. 00-67**

Dear Ms. Dortch:

In our Reply Comments in this proceeding,<sup>1</sup> we demonstrated the numerous technical problems which are raised by the DCR+ proposal of certain consumer electronics (“CE”) companies and the Consumer Electronics Association (“CEA”). In its October 11, 2007 *ex parte*, CEA again oversimplifies and mischaracterizes the enormous technical standards work and reengineering of cable systems across the country that would be needed to support DCR+. Equally significant, neither CEA nor any of its members offer *any firm and enforceable commitment that such a device will ever be produced*, let alone by the 2008 holiday season. In this letter, we address for the record a number of misconceptions that CEA continues to perpetuate with respect to its DCR+ proposal.<sup>2</sup>

---

<sup>1</sup> Reply Comments of the National Cable & Telecommunications Association (“NCTA”), CS Docket No. 97-80, PP Docket No. 00-67, at App. A (“Top Ten Technical Failings of CEA’s Proposal”) (Sept. 10, 2007).

<sup>2</sup> CEA contends that any “misunderstandings could have been resolved by the parties in private negotiations and without the Commission’s involvement” and that “NCTA and its members declined to engage” in detailed discussions. Letter from Julie M. Kearney, CEA, to Marlene H. Dortch, Secretary, FCC, CS Dkt. No. 97-80, CSR-7131-Z, at 1 (Oct. 11, 2007) (“CEA *ex parte*”). The record belies that assertion. CEA called off the multiparty inter-industry negotiations in a row over NCTA filing a request for waiver of the Integration Ban. NCTA’s President and CEO has consistently importuned his CEA counterpart to get the talks moving and suggested the talks be jump-started by limiting the number of participants to two from each side. And it was those “2+2” talks where issues were in fact thrashed out in detail. Obviously, resolution of critical issues was not achieved. *But to say that the cable industry has refused to engage in discussions is untrue.* We continue to be open to discussions with our CE counterparts, but for the Commission to assume that detailed regulations should be imposed on the cable industry because of the inability of both parties to achieve a resolution to the total satisfaction of some members of CEA – the negotiating ploy that we believe is at play here – would be arbitrary, capricious, and an abuse of the Commission’s discretion, to say nothing of such action being inconsistent with Section 629 of the Communications Act.

At the outset, there can be no doubt that a DCR+ device would be obsolete even before it rolls off the assembly line and would likely fail in the marketplace: CEA simply repeats the same mistake it made with one-way “digital cable ready” devices by dismissing as too “advanced” the innovative features that are already (and will soon be) in great demand by consumers. Any consumer who bought a DCR+ device would be cut off from *existing* cable services – many of them offered at no additional charge – such as Start Over™, Quick Clips, news and information tickers, instant polling/voting, games, interactive programming, interactive advertising, shopping, and Caller ID on the TV. Nor would DCR+ devices be able to access *future* television enhancements, including the possibility of theatrical release movies in early release windows. *CEA acknowledges these significant limitations in its recent ex parte.*<sup>3</sup> It is hard to understand how this regressive approach would attract consumers seeking innovation and greater functionality as they transition to digital.

Were CE manufacturers the only ones at risk in building DCR+ devices, there is no question they should be able to take the risk and reap any rewards. But, among other things, CEA’s DCR+ proposal requires massive government-mandated technical changes to (a) the CableCARD, (b) the cable headend and (c) applications that run on that network, again without any commitment or proposed rule that CE manufacturers produce a single DCR+ device. It would also unnecessarily delay the continued deployment by cable operators of OpenCable Platform technology in their headends and plant, which is underway today.

Although CEA positions the limited functionality DCR+ as a “low-cost solution” for consumers, the CEA proposal would in reality stifle network innovation by standardizing cable service at a “lowest common denominator” level,<sup>4</sup> slowing the launch of new services,

---

<sup>3</sup> See CEA *ex parte* at 7 (“CEA has always made clear that DCR+ would not support ‘Start Over’ or as-yet-unannounced interactive services designed by the cable industry.”). Given this critical failing of DCR+, the fact that CEA did not offer its DCR+ proposal during the cable-CE negotiations or before it was presented to the FCC, and the fact that *no CE company has offered any enforceable commitment to build a DCR+ device*, it appears that CEA’s real objective is to get the Commission to ratify CEA’s position that Section 629 entitles CE companies to disaggregate the cable services that cable operators and programmers deliver to consumers and present the services (or parts of the services) in a manner not intended by the operator or programmer. Such an outcome would be contrary to the language and legislative history of Section 629 and is strongly opposed by cable and other MVPDs. See, e.g., AT&T Reply Comments at 13-14 (“Section 629 does not authorize the Commission to overhaul that service model and restrict MVPDs to providing nothing more than a stream of disaggregated content that can be repackaged by anyone. Indeed, this would be unlawful for a host of reasons: it not only exceeds the FCC’s authority under Section 629, but also extends well beyond the FCC’s authority to regulate CE equipment only where reasonably ancillary to its authority over MVPDs’ transmission services.”); NCTA Comments at 49-50; 67-71.

<sup>4</sup> For example, CEA’s proposed DCR+ support rules would require 20 percent of the leased set-top boxes used by cable customers to limit reception of their service to what a DCR+ can do – which is less than what cable’s current set-top boxes can do – then forbid those customers from upgrading their set-tops or utilizing existing features of set-tops as technology advances. The proposed DCR+ rules would also require that a different 20 percent of cable’s leased set-top boxes include only the version of OpenCable middleware adopted in the Commission’s rules. See CEA Comments, Appendix A, “CEA’s Proposed Draft Amendment to Regulations,” §76.641(c)(7) (no more than 80% of the navigation devices placed in service by a cable operator shall perform more than the functions of a DCR+ prescribed in the to-be-developed SCTE 28 2008 specification) and §

permitting a CE veto on changes in the OpenCable Platform, impeding deployment of a manufacturer's first two-way digital cable ready device, and giving every CE company a "consequential voice" in approving home-networking solutions requiring a new output or content protection technology – even if proposed by a competing CE company.<sup>5</sup>

Moreover, DCR+ devices would confuse and frustrate consumers by blocking their ability to receive programming and features that they have paid for. Digital televisions labeled as "cable ready" under the CEA proposal nevertheless would strip away cable services, features, parental controls, privacy profiles, interactive programming, and more – and each television would do so in different ways. *Consumers would have no assurance that they would receive the same services from the same cable subscription on different models of televisions.*<sup>6</sup> As a result, DCR+ would ultimately be a high-cost CE experiment with consumers losing the benefit of many valuable services and innovations which cable operators, programmers, and major CE manufacturers are developing through the OpenCable Platform approach.

From the perspective of facilitating the 2009 broadcast digital transition, the choice for OpenCable and against DCR+ should be an easy one. OpenCable devices are being deployed and developed for retail today; DCR+ devices exist only in CEA's FCC filings. CE companies can include any innovations they develop (including alternative video options) in their

---

76.641(d)(5)(v) (at least 20% of the navigation devices placed in service by a cable operator shall include *only* the version of the OpenCable Platform adopted in Commission rules, and may not include successor versions).

<sup>5</sup> See CEA Comments, Appendix A, "CEA's Proposed Draft Amendment to Regulations," § 15.38(b)-(c); § 76.602(b)-(c) (specification changes are those "deemed acceptable to both the CE and cable industries"); § 76.641(e) (no new interactive application that is not bound to a program may be placed into service by a cable operator without being verified at the required testing facility); § 15.124(e) (first model of DCR+ and OpenCable devices must pass testing). See also Sony Comments at 24-25 (approval of cable output technologies and "all related licensing, standards setting, testing, and certification obligations" must include all MVPDs, not just cable operators, content providers, interested consumer groups, and consumer electronic product manufacturers); Sony Comments at 27 ("the CE industry must have an equal role in the creation of the test suites for DCR+ and OCAP-enabled products"). See also, CEA Comments, Appendix B-2, "CEA Proposed Model 'i-DFAST' License" which contains additional provisions that would block innovation. Sections 6.1 and 12.8 do not permit any changes in applicable specifications that would materially amend, alter, or expand the specifications applicable to a Host, halting the evolution of both Host and OpenCable Platform specifications without obtaining written license amendments from all licensees. Section 6.2 provides that any two unaffiliated licensees may object to a proposed change in compliance rules or outputs and obtain Commission resolution. The availability of the output would remain under a regulatory cloud for at least 18 months. CEA's Proposal of November 7, 2006, Attachment B, "Access to Basic and Advanced Interactive Services: Regulatory, Licensing and Testing Requirements," contains similar constraints. See § 8.2 ("Supermajority of CE manufacturers with products in the market (not just licensees) must approve any subsequent changes to the OCAP Version X software conditional access specifications."); § 6.5.1 ("Substantial percentage of newly deployed cable devices must use OCAP Version X, as defined in this proposal."); § 6.5.2 ("Substantial percentage of newly deployed cable devices must use new version MS-CableCARD, as defined in this proposal.").

<sup>6</sup> Indeed, DCR+ devices would need to be labeled "buyer beware" rather than "digital cable-ready" since such devices wouldn't even support many two-way cable services available today and would not support future innovative cable services. Were it to adopt the CEA proposal, the Commission would be well-advised to require CE manufacturers and retailers to include warning labels on DCR+ devices similar to the disclosures they must make for TV sets without digital tuners.

OpenCable products, while the DCR+ (if ever built) would limit the cable services consumers can access. Only OpenCable can meet cable consumers' expectations with respect to the cable services they purchase and only OpenCable can deliver content as intended by cable's content providers by ensuring the uniform, consistent, and quality viewing experience they promise to consumers.

These reasons are sufficient in themselves to reject the DCR+ proposal as being contrary to the public interest. Nevertheless, because CEA continues to make a number of misleading technical claims asserting how easy it will be to develop DCR+, we now address those claims. As detailed below, they are without merit.

### **DCR+ Devices Would Require a Complete Redesign of the CableCARD and Substantial Changes to the Cable Network and Applications**

DCR+ attempts to evoke the simplicity of the direct-connection "plug and play" "cable ready" model that reigned in the analog world. But a modern cable system is a complex client-server system in which the set-top box does far more than simply decrypt protected content. Modern digital cable set-top boxes are sophisticated electronic devices, essentially customized computers, that are responsible for the client side of the many different, non-standardized, and rapidly evolving applications used by cable operators for video-on-demand ("VOD"), switched digital video ("SDV"), impulse pay-per-view ("IPPV"), electronic program guides ("EPGs"), and a host of exciting new interactive features.

The OpenCable Platform would incorporate this advanced set-top box functionality into the digital cable-ready device. CEA, in contrast, would offload a significant amount of this functionality onto the CableCARD.<sup>7</sup> The CableCARD, however, was never designed with all of these added functionalities in mind. With agreement from the CE industry, the CableCARD was engineered to perform the singular function of separating security from the consumer device. While providing the Commission with absolutely no engineering due diligence, *CEA now asks the Commission to require the single-purpose CableCARD not just to separate and provide security, but to separate and provide cable services or parts of those services.* Separation of services in this manner was never within the scope or intent of Section 629 of the Act, and would entail the development of a new CableCARD to handle numerous complex tasks in addition to security.<sup>8</sup>

CEA's proposal simply ignores engineering reality (and even laws of physics) that impact the CableCARD, the cable network, applications, or anything upstream from their own host

---

<sup>7</sup> CEA Reply Comments at 15. ("DCR+ does require conversion from network-specific methods to a common network-agnostic interface at the CableCARD or CPE level. This does not necessarily require significant changes to the cable system, only to the device that makes it common.")

<sup>8</sup> We have previously explained in detail the changes that the DCR+ proposal would require. See NCTA Comments at 43-53, 63-64; NCTA Reply Comments at 24, 34-40, 43-44, Exhibit A, A1-A11.

device. To start, substantially more processing speed would have to be built into the CableCARD – adding more costs to the card, increasing its size, and raising energy consumption and heat dissipation issues far beyond those associated with existing CableCARDS. And, of course, the burden for developing such a new card would fall on the cable operator.<sup>9</sup> Increased processing speed would also necessitate greater heat dissipation requirements for the DCR+ host.

On the network side, CEA ignores the fact that different cable operators use different vendors and applications for VOD, SDV, IPPV, EPGs, and other services. There is no common method for performing these services. Some operators today use as many as 15 different VOD configurations, only some of which are common to those used by other operators.<sup>10</sup> Without the OpenCable Platform to handle these different configurations, each conditional access vendor would either have to deploy one “super CableCARD” that can accommodate every combination of services from every SDV, IPPV, VOD, and EPG vendor, or numerous “CableCARD variations” for every different combination of applications on each system – creating an unmanageable field of unique CableCARD designs and applications. SCTE standards do not yet exist for either approach.

As for the applications themselves, the DCR+ proposal calls for a rewrite of the custom applications now in use. For example, the DCR+ proposal contemplates that the manner in which secure VOD transactions are currently conducted be bifurcated, with the “order” being placed through an undefined application in the host, and the order being “processed” through a new application between the CableCARD and the headend. This is not how VOD applications or servers work. For the CableCARD to access each of the different systems used for interactive cable services, the applications would need to be rewritten, a custom application would need to be created solely for the DCR+ device, and new servers would be needed at each headend.

CEA acknowledges that standards do not currently exist to implement DCR+,<sup>11</sup> but otherwise attempts to divert the Commission from the true costs associated with its proposal. In supposedly “refuting” the network changes that DCR+ would require, CEA points to an imaginary new kind of CableCARD that would handle numerous additional and difficult tasks for SDV, IPPV, VOD, metadata storage and delivery, as well as the associated processing, signaling, and messaging for such services. But these are functions far beyond the decryption handled by today’s single-purpose CableCARD, which CEA has not even attempted to design. Then, in “refuting” the massive redesign of the CableCARD that DCR+ calls for, CEA points instead to new, undefined “servers” that could be installed at every cable headend.<sup>12</sup> These

---

<sup>9</sup> CEA *ex parte* at 9 (“[T]he DCR+ CableCARD ... would be designed by the network provider....”).

<sup>10</sup> For example, Time Warner Cable uses six different applications for video-on-demand alone—none of which are used by Comcast.

<sup>11</sup> CEA Reply Comments at 2 (“While NCTA is technically correct that SCTE has not yet promulgated ‘2008’ standards ....”).

<sup>12</sup> *Id.* at 17. (“If the Card simply passes the requests up the network to some servers in the headend, this would not require any significant increase in CableCARD processing power or memory. The operator has the choice of placing the translation in the CableCARD or the network, whichever is more efficient.”).

diversions are nothing more than a shell game to obfuscate the costs and harsh realities of the CEA proposal.

The inescapable fact is that the work and expense required to support DCR+ – new CableCARDs, customized CableCARD applications, new servers, and more plant bandwidth – would be staggering, and would only provide a DCR+ user access to a fraction of the services enabled by the OpenCable technology currently being deployed. Even more standards would need to be developed to support these various capabilities. These additional costs and burdens would inevitably delay OpenCable, the only practical and available two-way solution, and in so doing it would delay the efforts of those competitive CE companies that support OpenCable to get enticing interactive digital cable ready devices to market – devices that would help to move consumers into the digital world. CEA, however, simply ignores these realities by characterizing the required changes to implement DCR+ as “incremental modifications.” This is patently false.

**Based on the CE Industry’s Own Statements, DCR+ Devices  
Cannot Be Available by the Broadcast Digital Transition**

CEA concedes that “NCTA is technically correct” that the proposed standards on which CEA relies do not exist, but suggests that with only modest language tweaks they have previously supplied, the standards work needed for DCR+ can be completed in a timely fashion. This is false.

For example, CEA has relied upon an old standard for IPPV that cable operators do not follow since it was specifically “deprecated” (removed) by the standards body that originally adopted it.<sup>13</sup> The reason it was deprecated by ANSI/SCTE (of which leading CE companies are members) was because it does not work with the major conditional access systems used by cable operators. Therefore, it is misleading in the extreme for CEA to assert that this “existing” standard can be used to support DCR+ and cut down on the time involved in the standards development process.

There are other glaring deficiencies in the DCR+ proposal. CEA completely omitted essential security standards that protect the reverse communication path to the private cable network<sup>14</sup> as well as advanced video code (AVC) support that are included in current OpenCable Host requirements. As noted above, CEA has also ignored, or expects cable operators to develop, the design, specification, or standard for the entirely new CableCARDs required for DCR+, with radically different capabilities, resources, and design. None of these standards exist in any form, and would obviously need to be developed from scratch – a time and resource intensive process.

---

<sup>13</sup> CEA Comments, Appendix A, page 7 (“the Generic IPPV Support resource defined in SCTE 28.”).

<sup>14</sup> See NCTA Reply Comments at A3-A4.

Finally, any standards body seeking to implement CEA's vision of DCR+ is also likely to encounter intellectual property issues which would further complicate matters and protract the process. The EPG space, for example, has a notorious past of patent litigation and law suits.<sup>15</sup> CEA is silent on these problems.

In sum, for CEA to suggest that all of this standards work can be completed in a matter of months, let alone result in deployed DCR+ devices by the end of 2008 (a mere 13 months away), is disingenuous at best. Even assuming that DCR+ would only necessitate minor modifications to the existing CableCARD and host interface standards, under the best of circumstances that process would take a significant amount time to be completed. For example:

- It took CEA *thirteen years* to reach consensus *among its own members* on how to standardize analog channels for television reception.
- It took at least *two and one-half years* to standardize the Emergency Alert Service in joint CEA and SCTE standards because of the due process requirements for comment resolution and reconsideration ballots (in SCTE) and pre-ballot comment resolution (in CEA).

*And standards work is not the only thing CEA has ignored in asserting that the DCR+ can be available in the near term.* CEA and its members have repeatedly told the Commission that 18-24 months is the minimum amount of time needed to complete *just* the design and manufacture of television reception equipment – not including any applicable standards work.<sup>16</sup> Anything less, CEA has argued, “could have ruinous consequences.”<sup>17</sup> The Commission has accepted and relied upon such statements in numerous rulemakings.<sup>18</sup> The following statements from CEA, Sony, and Sharp illustrate this point:

---

<sup>15</sup> See NCTA Comments at 44. For example, a “standard” VOD application that includes DVD “chaptering” – the ability for the consumer to jump to a specific section of the video – will run into SeaChange patents in this area. See *nCube Responds to SeaChange Patent Suit*, MULTICHANNEL NEWS (June 2000); *VOD Patent Battle Turns Bitter*, CABLE WORLD (Jan. 15, 2001) (“nCube’s patent appears to be fairly broad, describing a fundamental process that covers, among other things, video-on-demand (VOD).”); *nCube Claims Victory in VOD Patent Spat*, CED (July 2002) (“The jury also ruled that SeaChange must pay nCube in excess of \$2 million in damages, plus a seven percent royalty on all sales of infringing products after Feb. 1, 2002.”).

<sup>16</sup> See Appendix A, attached hereto, for additional citations.

<sup>17</sup> CEA Reply Comments, ET Dkt. No. 97-206, at 13 (Dec. 18, 1997).

<sup>18</sup> See, e.g., *Closed Captioning Requirements for Digital Television Receivers*, Report and Order, 15 FCC Rcd. 16788, ¶¶ 54, 56 (2000) (“Industry commenters request two to six years before compliance with these rules is required. Thomson explains that the steps in its development process last anywhere from 18 to 24 months.... We are persuaded by commenters that we should provide manufacturers with an additional year beyond our proposal of one year to comply with this decoder requirement. In previous Commission decisions we have taken into account the complexities involved in redesigning television receivers and have stated that our rules should conform with television design cycles and provide a smooth transition for product introduction. We continue to believe that our rules must reflect manufacturing cycles.”). See also cases cited in Appendix B, attached hereto.

**CEA:** “There is no reason to believe that the development and design time for digital receivers will be any shorter than the 18 month period required for analog receivers, especially considering the extensive quality assurance testing that must be performed prior to introducing DTV. Given the manifest uncertainties attendant to introducing a new technology, a requirement that the production cycle for DTV be artificially compressed could have ruinous consequences.”<sup>19</sup>

**Sony:** “In the view of Sony Electronics, the Commission as a general matter should always permit at least an 18-month phase-in period for products to come into compliance with product regulations.... This phase-in period is necessary to match the life cycle of design, development, production, marketing, and distribution for electronic products.”<sup>20</sup>

**Sharp:** “Generally, Consumer Electronics manufacturers need 18 months to respond to technology mandates.”<sup>21</sup>

There is obviously a substantial disconnect between these statements from vociferous supporters of DCR+ with respect to the design and manufacturing cycle for consumer electronics equipment, and their patently unrealistic timeframe for purportedly bringing a DCR+ device to market. Based on prior CEA and CE company representations to the Commission, CE companies should have already locked down their 2008 product plans. CEA’s current claim that all DCR+ specifications, standards, design, development, production, marketing, and distribution can be accomplished by the Holiday 2008 shopping season is simply not credible. CEA’s proposal is, unfortunately, no more than a lobbying feint. It is not a practical solution to bringing two-way digital cable ready products to market to facilitate the broadcast digital transition which appears to have been a motivating factor in the Commission’s decision to launch this proceeding.<sup>22</sup>

### **CEA’s Responses on Other Technical Issues Are Also Without Merit**

CEA’s technically deficient DCR+ proposal would impose significant technical harm to cable networks in lost system security, lost bandwidth and SDV functions, lost national portability, lost advanced compression for MPEG-4, and lost consumer protections and billing integrity for customer purchases. We address each of these below.

---

<sup>19</sup> CEA Reply Comments, ET Dkt. No. 97-206, at 13 (Dec. 18, 1997).

<sup>20</sup> Sony *ex parte*, MB Dkt. No. 02-230, at 3-4 (Oct. 30, 2003).

<sup>21</sup> Sharp Comments, ET Dkt. No. 05-24, at 5 (Apr. 18, 2005).

<sup>22</sup> *See 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, 22 FCC Rcd. 12024, ¶14 (2007).

## 1. The CEA Proposal Would Undermine Cable System Security

CEA's failure to understand cable network engineering is most obvious – and dangerous – as to DOCSIS Set-top Gateway (“DSG”) security. CEA relies upon DSG for headend to DCR+ communication, and even claims to accept DSG standards “as is.” But CEA does not account for, nor does its solution alone enable, the security requirements included in those standards to use specialized code signing and validation of the integrity of software installed in the device. In response, CEA does not question the need for security, but claims that because the TV only speaks to the CableCARD, the CableCARD can be as secure as the cable operator needs it to be. But CEA either ignores or fails to understand that the DSG modem manages *data*, not video, and unless protected by specialized code signing and software validation required by the DSG specification, it can be modified by hackers to talk through unsecured DCR+ software directly to the headend, *without* mediation by the CableCARD.<sup>23</sup> In attempting to break the totality of the cable solution into component parts, CEA would expose the cable network to the threat of non-secure return channel communications. Thus, all the dangers that CEA dismisses are very much implicated in its DCR+ proposal.<sup>24</sup> The cable network would be exposed to hacking, denial of service attacks, theft of service, and weakening the security of voice and data, opening up the Internet to criminals who could operate under the veil of anonymity.

## 2. DCR+ Would Cripple the Consumer Benefits of Switched Digital Video

Switched digital video (“SDV”) technology recovers unused cable bandwidth for the coming flood of high definition, standard definition, and on-demand channels; for faster “wideband” Internet speeds of 100 Mbps; for digital voice service; and for more interactive two-way services. Today's SDV technologies vary widely across systems and are rapidly evolving.<sup>25</sup> But even today, they use advanced traffic management techniques to monitor channel usage in near real time, to make maximum use of unused channels, to speed up channel change times for popular programs, to monitor tuner use, and to avoid a complete loss of SDV programming when faced with upstream noise or congestion.

DCR+ would “dumb down” all of these traffic management features to a single static measurement: leave channels “open” for four hours from last viewing, thus allowing as few as six channel-surfing subscribers briefly viewing various services on the same cable node to tie up

---

<sup>23</sup> In fact, CEA's proposed rules explicitly demand that retail devices have unrestricted access to upstream cable capacity. *See* CEA Comments, App. A, at 3.

<sup>24</sup> *See* CEA *ex parte* at 4.

<sup>25</sup> CEA ignores the fact that SDV is evolving, asserting that the “DCR+ proposal simply replicates the [current] functionality of a cable-delivered OCAP SDV application ....” CEA *ex parte* at 5. But BigBand Networks, a major provider of SDV technology, confirms that SDV “is in its earliest stages of development,” and “freezing [SDV technology] at this time would effectively forestall the very process of our innovation – and prematurely lock customers out of improvements in video service.” Reply Comments of BigBand Networks at 2-3.

one channel for 24 hours. Left with only this one – extremely unreliable and non-dynamic – option for managing SDV, cable operators would run out of bandwidth and lose all of the other consumer benefits that SDV provides. This limitation would directly harm cable networks. In short, the SDV aspects of the DCR+ proposal would nullify cable’s current bandwidth optimization technologies and freeze out future innovation – limiting the services available to cable customers, while at the same time AT&T and Verizon would be able to use switched video without restrictions.

### **3. DCR+ Would Not Be Nationally Portable**

Modern cable systems use complex client-server control systems that employ a variety of signaling paths for constant communications between the subscriber devices and cable headends. DCR+ was designed to use only *one* control signaling path (*i.e.*, DSG), which is currently used by only a small number of cable operator networks. CEA admits that it *assumed* that DSG would be deployed everywhere, or at least be as prevalent as OpenCable.<sup>26</sup> That assumption is wrong: in fact, the cable operator most advanced in OpenCable deployment is employing a different control signaling path which is integrated into its network. This fundamental misjudgment guarantees that a consumer who bought a DCR+ device would find that it would not work when the consumer moves anywhere served by cable operators who use alternative network control signaling paths. Any new requirement that cable operators remove the client-server control system currently used in their networks and replace it with DSG only to support DCR+ devices would be a redundant and intrusive re-working of cable operators’ networks.

### **4. DCR+ Would Not Support Advanced Compressed (MPEG-4) Channels**

DBS and telephone companies providing video services use advanced video codecs (“AVC”) to offer more digital channels; the same technology is being implemented across the cable industry. All 26 HBO and Cinemax channels will use MPEG-4 AVC compression as HBO moves to HDTV. Although AVC support is required in the OpenCable Host 2.1 specification, CEA did not include support for AVC in DCR+. CEA now tries to defend its omission by claiming that the cable industry will not launch MPEG-4 until cable replaces its millions of deployed set-tops. In fact, cable has engineered its VOD and SDV services to deliver MPEG-4 channels in individual streams to customers with compatible devices as those devices are deployed. The entire cable plant need not be upgraded to AVC in order to deploy AVC streams. This DCR+ design flaw means that any consumers who buy DCR+ devices would not be able to receive MPEG-4 channels – unless they add a set-top box. This is yet another example of how the DCR+ proposal is naïve about how cable services are delivered and fails to embrace forward-looking technologies, to the detriment of consumers.

---

<sup>26</sup> Contrary to CEA’s suggestion, CEA *ex parte* at 4-5, the deployment of DSG is not connected to the rollout of the OpenCable Platform.

## 5. **DCR+ Abandons the Consumer Protections and Billing Integrity Built Into Cable Services**

DCR+ ignores the consumer protections and billing integrity built into VOD services. Most cable operators use multiple and different billing systems. The many VOD applications that cable operators currently use can resolve, and are responsible for, any billing errors for VOD purchases. The same is the case with the OpenCable Platform, which handles these issues through the use of the OpenCable middleware. DCR+, in contrast, provides no such common platform for multiple billing systems or quality control. CEA claims that DCR+ would “do nothing more than deliver user inputs to the CableCARD” and the CableCARD “would then initiate and conclude the VOD purchase.”<sup>27</sup> This is a gross over-simplification of how VOD and billing infrastructures operate.

CEA fails to note that under its bifurcated architecture, the VOD service would not operate unless the DCR+ device successfully runs an application registering the user’s intent to make a VOD purchase. But nowhere does CEA offer any specification, rule, or commitment defining those obligations to make them work reliably with cable systems and cable customers. The CableCARD and the cable network have no way to distinguish between a genuine consumer order and repeat orders, confirmations, or simply bugs in the DCR+ software. Thus, for example, if there is a bug in the DCR+ software that causes erroneous transactions, the customer would be billed and unable to resolve this “billing error” with the cable operator. This flawed approach is repeated across the DCR+ proposal: CEA simply places obligations on the cable operator, and avoids any responsibility for its role in making a complex cable network work for consumers. Ultimately, this problem (and consumer complaints caused by it) may land at the Commission’s doorstep because consumers ultimately will look to those who authorized a system that triggers inaccurate billings not tied to the cable operator’s network.

\* \* \* \*

CEA’s DCR+ proposal has been subjected to rigorous scrutiny by cable engineering vendors and experts, who, as we have detailed in technical appendices previously submitted to the Commission, have found it to be incomplete, burdensome, and anti-consumer. Yet, when the inherent weaknesses of the proposal have been exposed by those with 50 years of experience in actually operating cable networks, CEA has responded with blanket denials, unsupported claims, invective, ad hominem attacks on the supposed lack of good faith of the cable industry, and indifference to technical fact. DCR+ would impose massive costs and delays which would negatively impact more than 65 million cable households, and at the same time derail the *existing* OpenCable project endorsed and implemented by the cable industry, motion picture studios, scores of independent applications creators, program suppliers, and three of the leading digital television manufacturers who together account for more than 50% of the US digital television

---

<sup>27</sup> *Id.* at 5.

Ms. Marlene H. Dortch

October 30, 2007

Page 12

market.<sup>28</sup> It would be particularly harmful to impose such burdens at a time when the cable industry is expending significant resources to facilitate the broadcast digital transition for its customers.

In sum, CEA is misleading the Commission when it asserts that only “incremental modifications” to existing standards are needed to enable manufacturers to produce DCR+ devices within any reasonable timeframe. CEA’s proposal would necessitate an enormous, time-consuming, costly, and intrusive re-standardization of how the CableCARD works, how cable systems are operated and how applications that run on those systems must be developed. In any event, DCR+ devices simply cannot be designed and manufactured by the 2008 holiday season, even if the necessary technical standards existed, which they do not.

If you have any questions, please contact the undersigned.

Respectfully submitted,

**/s/ Neal M. Goldberg**

Neal M. Goldberg

cc: Michelle Carey  
Rick Chesson  
Rudy Brioché  
Amy Blankenship  
Cristina Pauzé  
Catherine Bohigian  
Monica Desai  
Brendan Murray

Attachments

---

<sup>28</sup> See Joint *ex parte* letter of Panasonic, Samsung and LG Electronics, ET Docket Nos. 04-186 and 02-380, October 15, 2007.

## APPENDIX A

### RELEVANT CITATIONS – CE PRODUCT CYCLE

#### Consumer Electronics Manufacturers Association (“CEA”)

- Television manufacturers need a minimum of 18 to 24 months to plan, develop, and deploy new equipment.<sup>1</sup>
- The Commission and the Congress have consistently recognized the 18-month manufacturing cycle when they have imposed requirements on TV set manufacturers.<sup>2</sup>
- [M]anufacturers reasonably [ ] require between 18-24 months to introduce reliable, high-quality program blocking features to the American public.<sup>3</sup>
- There is no indication that Congress intended to compress the usual 18-month receiver design time into a space of less than six months, as the Commission proposal would do.<sup>4</sup>
- There is no reason to believe that the development and design time for digital receivers will be any shorter than the 18 month period required for analog receivers, especially considering the extensive equality assurance testing that must be performed prior to introducing DTV. Given the manifest uncertainties attendant to introducing s new technology, a requirement that the production cycle for DTV be artificially compressed could have ruinous consequences.<sup>5</sup>
- For most manufacturers, the design cycle for a television receiver model takes approximately 18-24 months. The cycle begins in January, and leads to product introduction the summer of the following year in time for holiday buying season.<sup>6</sup>
- With respect to digital sets, there is no reason to expect that the established 18-24 month production cycle for analog television models will not also apply to the manufacturers of digital receivers. In fact, given the challenges inherent in introducing an entirely new technology, it is reasonable to anticipate an extended product development cycle, especially in consideration of the rigorous assurance testing that will be necessary prior to the marketplace introduction of DTV.<sup>7</sup>

---

<sup>1</sup> CEA Comments, ET Dkt. No. 05-24, at 11 (July 27, 2005).

<sup>2</sup> *Id.* at 12, n.13.

<sup>3</sup> CEA Reply Comments, ET Dkt. No. 97-206, at 11 (Dec. 18, 1997).

<sup>4</sup> *Id.* at 12. *See also* the following comments, filed in ET Dkt. No. 97-206 (Dec. 18, 1997): ITI Comments at 9 (24 months); Matsushita Comments at 5 (18 months); Sanyo Comments at 1 (18 months); Phillips Comments at 3 (18 months); Thomson Comments at 6 (18 months); Toshiba Comments at 2 (18 months); and Zenith Comments at 2 (18 months).

<sup>5</sup> CEA Reply Comments, ET Docket No. 97-206, at 13 (Dec. 18, 1997).

<sup>6</sup> CEA Comments, ET Dkt. No. 97-206, at 5 (Nov. 24, 1997).

<sup>7</sup> *Id.* at 7-8.

- 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 Digital Broadcast Copy Protection] 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.<sup>8</sup>

### **Philips Electronics North America (“Philips”)**

- The 18-month cycle for television sets has been acknowledged consistently by the Commission in its proceedings on a variety of other issues related to television receivers.<sup>9</sup>
- Manufacturers will require a minimum development cycle of 18 months for the V-chip which cannot be compressed without jeopardizing the successful rollout of the V-chip. The development cycle for the V-chip, from the beginning of its initial design phase to the product’s delivery to consumer markets, is approximately 18 months.<sup>10</sup>
- It simply would be unfair, unreasonable and, above all, unwise to attempt to compress 18 months of design, development, testing and manufacturing into a space of less than 6 months.<sup>11</sup>

### **Sharp Electronics Corporation (“Sharp”)**

- Generally, Consumer Electronics manufacturers need 18 months to respond to technology mandates.<sup>12</sup>

### **Sony Electronics (“Sony”)**

- In the view of Sony Electronics, the Commission as a general matter should always permit at least an 18-month phase-in period for products to come into compliance with product regulations, and the Broadcast Flag is not an exception. This phase-in period is necessary to match the life cycle of design, development, production, marketing, and distribution for electronic products. In the current matter, assuming the final Broadcast Flag rule is promulgated in short order, Sony Electronics believes an 18-month grace period is sufficient.<sup>13</sup>

---

<sup>8</sup> *Ex parte* Letter of Michael Petricone, Vice President, Technology Policy, CEA, to Marlene H. Dortch, Secretary, FCC, MB Dkt. No. 02-230, at 1 (Oct. 16, 2003).

<sup>9</sup> Philips Comments, ET Dkt. No. 05-24, at 6 n.6 (Apr. 18, 2005).

<sup>10</sup> Philips Comments, ET Dkt. No. 97-206, at 14 (Nov. 24, 1997).

<sup>11</sup> *Id.* at 18.

<sup>12</sup> Sharp Comments, ET Dkt. No. 05-24, at 5 (Apr. 18, 2005).

<sup>13</sup> Sony *ex parte*, MB Dkt. No. 02-230, at 3-4 (Oct. 30, 2003).

## Thomson Consumer Electronics (“Thomson”)

- Manufacturers’ insistence on the need for an 18-24 month implementation period for the V-chip is based on their technical expertise and decades of experience in introducing advanced features in television receivers.<sup>14</sup>
- [T]he design cycle for all new or remodeled televisions requires a minimum of 18-24 months from the time the first integrated circuit is designed to the time the first set arrives on retail shelves. To short-circuit this cycle would be to risk the technical integrity of the entire set, as well as consumer confidence in and use of the V-chip. For digital television receivers, these risks are compounded by the threat to consumer acceptance and the successful rollout of DTV.<sup>15</sup>
- The development cycle for the V-chip, from the beginning of its initial design phase to the product’s appearance on store shelves, is no less than 18 months. This process, which includes several rounds of testing and production -- both of individual elements and integrated components, is essential to ensuring that the products consumers purchase are of optimum quality and user friendliness.<sup>16</sup>
- [I]t would be unfair, unreasonable and, above all, unwise to attempt to compress 18 months of design, development and manufacturing into a space of less than 6 months.<sup>17</sup>
- If manufacturers are so required to contort their production cycle that it results in technical problem or substandard operation of any type, it may irrevocably “spook” the market and cool consumer demand....<sup>18</sup>
- [T]he 18-24 month production cycle [ ] historically governs the introduction of new consumer electronics technologies. The extensive development cycle for DTV closed captioning, from the beginning of its initial design phase to the product’s delivery to consumer markets, is approximately 18 to 24 months. This process includes several rounds of testing and production, both of individual elements and integrated components and, as such, is essential to ensuring that the products consumers purchase are of optimum quality and user friendliness.<sup>19</sup>
- [T]he priority that manufacturers [ ] have placed on efforts to offer consumers the broadest variety of DTV products at rapidly lower prices cannot be overstated. A compressed deadline (i.e., one at odds with manufacturers’ 18-24 month design and production cycle) will effectively halt this work, delaying both the introduction of new and less expensive DTV products to consumers and, possibly, the availability of cable-ready DTVs. In short, the benefits of the Commission’s affording

---

<sup>14</sup> Thomson Reply Comments, ET Dkt. No. 97-206, at 5 (Dec. 18, 1997).

<sup>15</sup> *Id.* at 5-6.

<sup>16</sup> *Id.* at 8-9.

<sup>17</sup> *Id.* at 13-14. *See also* Philips Comments, ET Dkt. No. 97-206, at 18 (Nov. 24, 1997).

<sup>18</sup> Thomson Reply Comments, ET Dkt. No. 97-206, at 31 (Nov. 24, 1997).

<sup>19</sup> Thomson Comments, ET Dkt. No. 99-254, at 3-4 (Oct. 18, 1999).

manufacturers minimally sufficient time to introduce digital closed caption-capable equipment far outweigh the costs of a shorter deadline.<sup>20</sup>

### **Zenith Electronics (“Zenith”)**

- [T]elelevision 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.<sup>21</sup>

---

<sup>20</sup> Thomson Comments, ET Dkt. No. 99-254, at 6 (Nov. 15, 1999).

<sup>21</sup> Zenith Comments, ET Dkt. No. 97-206, at 2 (Nov. 24, 1997).

## APPENDIX B

### COMMISSION STATEMENTS – CE PRODUCT DEVELOPMENT CYCLE

“We note that an 18-24 month development and production cycle is typically cited as necessary for significant changes to be incorporated into the manufacture of television receivers and other similar consumer electronic devices. With respect to the issue before us, both MVPDs (with respect to security modules) and consumer electronics manufacturers (with respect to non-security elements) are faced with somewhat similar design and manufacturing constraints. Each must move from the design specification arrived at through the standards process through to manufacturing and distribution. *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, ¶ 80 (1998).

“CEMA states that the design cycle for a television receiver model takes approximately 18-24 months. According to CEMA, ‘The cycle generally begins in January, and leads to product introduction the summer of the following year in time for the holiday buying season.’ . . . After reviewing all of the comments filed in this proceeding, we conclude that it is appropriate to delay our implementation deadlines. Manufacturers were consistent in describing typical design and production schedules for TV receivers. We believe that our rules should conform with these schedules and provide a smooth transition for product introduction.” *Technical Requirements to Enable Blocking of Video Programming Based on Program Ratings, Implementation of Sections 551(c), (d), and (e) of the Telecommunications Act of 1996*, ET Docket No. 97-206, Report and Order, 13 FCC Rcd. 11248, ¶¶ 22-23 (1998).

“Industry commenters request two to six years before compliance with these rules is required. Thomson explains that the steps in its development process last anywhere from 18 to 24 months. These steps include design and development of integrated circuit, user interface, and hardware/software; building and testing at least two generations of laboratory prototypes; factory retooling to construct production models; field testing; releasing final software; and final production. . . . We agree with commenters that sufficient time is needed to develop reliable products. We are persuaded by commenters that we should provide manufacturers with an additional year beyond our proposal of one year to comply with this decoder requirement. In previous Commission decisions we have taken into account the complexities involved in redesigning television receivers and have stated that our rules should conform with television design cycles and provide a smooth transition for product introduction. We continue to believe that our rules must reflect manufacturing cycles. *Closed Captioning Requirements for Digital Television Receivers*, ET Docket No. 99-254, MM Docket No. 95-176, Report and Order, 15 FCC Rcd. 16788, ¶¶ 54, 56 (2000).

“To further minimize the burden on manufacturers, we have scheduled the implementation dates for the various categories of receivers to correspond to the July 1 date each year when consumer electronics manufacturers traditionally introduce new products. . . . For example, in its *ex parte* letter of August 2, 2002, Thomson states that new DTV models and features historically have been announced by manufacturers in July of every year, with actual retail availability coming in

September. Thomson further states that not unlike the standard 18-month cycle required for the introduction of virtually all new CE products, this New Product Introduction cycle is adhered to by most CE manufacturers.” *Review of the Commission’s Rules and Policies Affecting the Conversion to Digital Television*, MM Docket No. 00-39, Second Report and Order and Second Memorandum Opinion and Order, 17 FCC Rcd. 15978, ¶ 41 & n.71 (2002).

“While they maintain that it will still be challenging to meet the July 1, 2007 date for smaller screen and other TV receiver products, CEA/CERC, Panasonic, Philips, and TTE also offer that a somewhat earlier compliance date for these products might be feasible so long as it is not earlier than March 1, 2007. They indicate this date is the earliest possible compliance date for the general population of manufacturers, who need a minimum of 18 to 24 months to plan, develop, and deploy new products. . . . In particular, we recognize the manufacturers’ points that . . . the product development, parts acquisition, manufacturing, distribution, and marketing processes for new television receiver products are both technically demanding and complex with multiple steps that must be completed in succession.” *Requirements for Digital Television Receiving Capability*, ET Docket No. 05-24, Second Report and Order, 20 FCC Rcd. 18607, ¶¶ 17, 19 (2005).