

**Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, DC 20554**

In the Matter of	)	
	)	
International Comparison and Consumer	)	GN Docket No. 09-47
Survey Requirements in the Broadband	)	
Data Improvement Act	)	
	)	
A National Broadband Plan for Our Future	)	GN Docket No. 09-51
	)	
Deployment of Advanced Telecommunications	)	GN Docket No. 09-137
Capability to All Americans in a Reasonable	)	
and Timely Fashion, and Possible Steps to	)	
Accelerate Such Deployment Pursuant to	)	
Section 706 of the Telecommunications Act of	)	
1996, as Amended by the Broadband Data	)	
Improvement Act	)	
	)	
Implementation of Section 304 of the	)	CS Docket No. 97-80
Telecommunications Act of 1996	)	

To: The Commission

**JOINT COMMENTS OF DISH NETWORK L.L.C. AND  
ECHOSTAR SATELLITE SERVICES L.L.C.**

**NBP PUBLIC NOTICE #27**

**I. INTRODUCTION AND SUMMARY**

DISH Network L.L.C. (“DISH”) and EchoStar Satellite Services L.L.C. (“EchoStar”) submit these joint comments in response to the Commission’s request for input on how to encourage innovation in the market for video devices in furtherance of the Commission’s efforts to develop a National Broadband Plan. DISH currently reaches more than 14 million subscribers

nationwide for direct-to-home video programming,<sup>1</sup> and partners with terrestrial partners to provide data and voice services. EchoStar provides, or plans to provide, wholesale direct-to-home video capacity as well as more traditional Fixed-Satellite Services (“FSS”), other new services, including broadband, and communications equipment.

Mandating the development of a nationally portable video device that works across all delivery platforms does not serve the public interest. More than a decade ago, the Commission correctly decided that DBS navigation devices were different than cable STBs, and declined to subject them to its interoperability rules.<sup>2</sup> Since that decision, DBS, cable, and now IPTV have evolved along starkly different technological paths. Importantly, DBS service remains subject to the physical constraints of one-way spectrum. Fundamental differences in architecture would require that a universal navigation device accommodate both the one-way DBS and the two-way cable/telco/IPTV operating architectures and associated standards. Combining such functionality into a single box would be to make it overly complex and prohibitively expensive for consumers.

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<sup>1</sup> See Press Release, DISH Network L.L.C., DISH Network Celebrates 14 Million Subscribers (Dec. 10, 2009).

<sup>2</sup> *Implementation of Section 304 of the Telecommunications Act of 1996; Commercial Availability of Navigation Devices*, 13 FCC Rcd. 14775 ¶ 65 n.156 (1998) (noting that different treatment of DBS reflected “the new entrant nature of the DBS industry as well as differences in the technology and market structures involved”) (“*First Report and Order*”).

## **II. THE COMMISSION CORRECTLY EXCLUDED DBS RECEIVERS FROM NAVIGATION DEVICE RULES, AND DBS DEVICES CONTINUE TO HAVE UNIQUE REQUIREMENTS**

As the Commission has already recognized,<sup>3</sup> fundamental differences in network architecture between the DBS and cable and telco operating systems make a “one-size-fits-all” home video device impractical and ill advised. In fact, such a requirement would be even less practical today than it was in 1998.

DISH manages a highly reliable, one-way, digital video distribution system for its subscribers. To the extent DISH subscribers wish to communicate beyond the set top box (“STB”) (for example, to request an on-demand movie in certain instances), subscribers rely on a customer-provided, third-party return path, such as a telephone or internet connection. DISH customers who want the enhanced experience have freedom of choice among various broadband solutions. In contrast, modern cable and telco systems operate with proprietary two-way functionality, using an active return path over the network of the MVPD itself.<sup>4</sup> This one-way versus two-way dichotomy, coupled with the physical realities of video distribution over satellite, dictate very different requirements for the in-home consumer device, or STB.<sup>5</sup>

Because of these fundamental differences in architecture, a universal navigation device would need to accommodate both the one-way DBS and the two-way cable/telco/IPTV operating

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<sup>3</sup> *Id.* (citing technological differences between DBS and cable as the reason, in part, for not requiring DBS devices to separate security from navigation functions).

<sup>4</sup> In fact, the resulting temptation to advantage the incumbent MVPD’s data streams over streams from another source has led to much of the current debate concerning net neutrality.

<sup>5</sup> The ongoing operational and organizational challenges for a universal navigation device are at least as problematic as the technical ones. An independent third party would need to oversee the interoperability testing of the device, and to perform the role of Trusted Root Certification Authority for purposes of the all-important security function. It is not a criticism to make the obvious point that, because of its origins in, and ties to, the cable industry, CableLabs is inappropriate for this role.

architectures and associated standards. For example, DISH uses QPSK and 8PSK-Turbo RF modulation distribution systems, whereas cable uses a family of QAM distribution systems. DISH mostly uses an MPEG-4/AVC compression system for its content, while cable mostly uses MPEG-2. The MPEG-4/AVC distribution system is a critical element to DISH's ability to offer a competitive complement of channels to its subscribers over its bandwidth-constrained satellite system. Cable and telcos do not have this constraint.

DISH's security requirements are also unique to the one-way, satellite delivery architecture. The over-the-air, one-way, broadcast nature of DBS transmissions requires security approaches that are simply not needed in closed, two-way, cable systems. IPTV, for its part, has its own, unique security concerns and architecture. Any integrated device would have to interoperate with all these security architectures and practices. Further, DISH subscribers can receive content from multiple satellites; cable and telco subscribers receive a single stream from a single wire or fiber.<sup>6</sup> DISH STBs must be able to distinguish between these multiple and diverse streams – again, a capability that is simply not required in the cable and telco environments. Even in Europe, where the DVB family of standards is mandated for multiple distribution architectures, and where retail devices are commonly available in many countries, no omni-tuner, hybrid devices are available on the market.

Another important difference is that a DBS service, unlike cable service, requires an integrated package comprising a dish as well as a navigation device. In the past decade, the complexity of a DISH installation has increased significantly. For this reason, nearly all of DISH's customers now choose to have the STB and dish installed professionally. The quickly

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<sup>6</sup> DISH began operations with one satellite. Today, DISH services utilize 10 satellites, and DISH receivers have grown in sophistication in order to navigate among these varied input sources.

multiplying sets of alternatives that would need to be incorporated into a “super-box” would only exacerbate the installation complexities of the DBS systems. This is not in the public’s interest.

The need to incorporate the capacity for additional features and services that are expected to become available in the next few years, and that may become central in the competitive battleground between MVPDs, will only further exacerbate the problems of an “omni-interoperable” navigation device. These features include advanced image processing capabilities, emergency alert receiver functions, multi-room usage, support for attached 3D displays, and picture-in-picture features. The process of coordinating and developing a universal device would inevitably delay consumers’ access to these advanced options.<sup>7</sup>

The complexity of such a device would also create tensions with existing and proposed government standards for energy efficiency and consumption. The Department of Energy is currently in the process of confirming the 2.0 Energy Star STB specification. The “Tier 2” specification is expected to be complete sometime in early 2010.<sup>8</sup> The power conservation requirements of the Tier 2 standard are evolving along challenging metrics. In anticipation, DISH and EchoStar have invested considerable resources working to design next generation STBs that will be able to meet this energy-saving specification. A universal navigation device, with its multiplicity of components to accommodate the varying architectures and standards, would consume multiple times more power than current STBs, even in standby mode.<sup>9</sup>

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<sup>7</sup> Indeed, the cable industry’s tru2way solution has been in the making for almost a decade, and the starting point for this effort was an as-yet largely undeployed, but mostly homogeneous, standardized QAM system.

<sup>8</sup> See, e.g., Summary, Energy Star STBs, [http://www.energystar.gov/index.cfm?c=revisions.settop\\_box\\_spec](http://www.energystar.gov/index.cfm?c=revisions.settop_box_spec).

<sup>9</sup> Such a universal device does not appear to be contemplated by the proposed Energy Star specification. Instead, base energy consumption allowances are calculated based on the singular, attached service provider technology (e.g. satellite, IPTV, cable).

Although a universal navigation device does not serve the public interest, DISH and EchoStar support industry efforts to enable interoperability between consumer devices. The Digital Living Network Alliance (“DLNA”) has formulated a set of Guidelines that should enable interoperability of home entertainment devices.<sup>10</sup> DLNA technology allows consumers to move content between home devices, such as computers and televisions. The Guidelines cover protection of commercial content on the home network, content encoding, transport, and management, and device identification and communication. The DLNA’s approach maximizes the potential for adoption across all industry sectors and players.

### **III. CONCLUSION**

Mandating development of a universal video navigation device – which incorporates both one-way and two-way operating architectures and associated standards – would raise prices for consumers without furthering the goal of spurring broadband adoption.

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<sup>10</sup> Past versions of DLNA Guidelines have become international standards. The other organization mentioned in the Public Notice, HANA, was dissolved in September 2009, and did not promulgate actual standards. *See* [http://www.dlna.org/news/pr/view?item\\_key=cc05a97238b126adf941694c25be9848940a5cf9](http://www.dlna.org/news/pr/view?item_key=cc05a97238b126adf941694c25be9848940a5cf9); <http://www.hanaalliance.org/about/HANA/index.html>.

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