

**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
)	

Comments of The RVU Alliance

The RVU Alliance (www.rvualliance.org) submits these comments on the Fourth Further Notice of Proposed Rulemaking, addressing proposed rules intended to enable additional interfaces on leased cable high-definition set-top boxes as well as more fully specify the functionality of these interfaces.¹

About the RVU Alliance

The RVU Alliance is an Oregon-based non-profit mutual benefit corporation formed to encourage the rapid, broad and open industry adoption of a specification for the new RVU™ technology including a full-featured “pixel accurate” Remote User Interface (RUI). Founding

¹ See *Implementation of Section 304 of the Telecommunications Act of 1996*, Fourth Further Notice of Proposed Rulemaking, 25 FCC Rcd. 4303 (2010).

Promoter members are Broadcom, Cisco, DIRECTV, Samsung and Verizon. Promoter members are ActiveVideo Networks, AppliedMicro, AT&T Labs, Entropic Communications, Humax, JetHead Development, LG Electronics, Morega Systems, Motorola, Pace, Technicolor, Sigma Designs, Solekai Systems, ST Microsystems, Technicolor, Trident Microsystems and Vixs. The RVU standard is complete, with Specification Version 1.0 having been ratified in February 2010, and is publically available (see “RVU Spec Order Form” link at www.rvualliance.org). As both a detailed specification and a comprehensive certification plan are necessary to ensure device interoperability, an RVU certification test tool is currently in development and a formal RVU certification logo program will be in place beginning in November 2010. The RVU technology has already been implemented on a variety of technology platforms (see <http://www.rvualliance.org/news>) and will see its first customer deployment later this year in DIRECTV’s much-anticipated home media center.

Comprised of service providers, consumer electronics manufacturers and technology providers striving toward the common goal of ensuring whole home premium television entertainment for consumers’ devices, the RVU Alliance has tackled many of the same issues the Commission is currently considering. Below we offer our views on certain aspects of the Commission proposals and their compatibility with RVU technology.

Required Interfaces

At present, cable operators are required to include an IEEE 1394 interface on all high-definition set-top boxes that they deploy. Having concluded that cable operators should be given greater flexibility in this area, the FCC proposes to modify its interface requirement to allow cable operators to include any of (i) an IEEE 1394 interface, (ii) an Ethernet interface, (iii) Wi-Fi

connectivity, or (iv) USB 3.0 on all high-definition set-top boxes acquired for distribution to customers.² Comments on this proposal are sought, as well as proposals for other interfaces that could further home networking goals.

The RVU technology is a multimedia home networking standard that allows video networks to connect and interact with home video network devices such as televisions, DVRs, and Home Theater PCs. The RVU standard is based on Internet Protocol (IP) connectivity, so RVU technology can be used to meet the FCC's home networking goals as long as the FCC's rules include IP-based interfaces.

By allowing cable operators to deploy HD set-top boxes with *any* IP-based interface (*i.e.*, not limited to Ethernet, Wi-Fi and USB 3.0), the FCC will further increase the probability of its goals being met. Fueled by huge potential commercial and consumer markets, the innovation and robust competition among IP-based technologies today is nothing short of astounding. For example, one IP-based interface that has already been embraced by MVPDs, but surprisingly is not included on the FCC's proposed list, is the Multimedia over Coax Alliance (MoCA) standard (www.mocalliance.org). As devices that bridge the various IP based technologies (*e.g.*, Ethernet to Wi-Fi adapters) are increasingly common as well, there is simply no good reason that the FCC should step in and preclude or endorse any particular technology. To ensure that an interface as popular as MoCA is not excluded by the FCC, the RVU Alliance suggests that the FCC simply allow the use of any IP-based interface on HD cable set-top boxes.

² See *id.* at ¶ 20.

More Specific Interface Functionality

The FCC furthermore proposes to make the interface requirement more specific, ensuring that permitted interfaces will support recording on digital recording devices. In particular, these interfaces would be required to: “at a minimum: (1) allow another device to transmit remote control commands via the same interface and (2) deliver video in an industry standard format.”³

Comments on this proposal are sought, as well as proposals for other interfaces that could further home networking goals.

The RVU standard supports the minimum functionality described. A full remote commanding protocol is included as part of the RVU standard, and several industry standard media formats are specified. While not currently endorsed by a cable provider, the RVU standard also supports additional functionality generally understood to be needed to address MVPD and content provider requirements. For example, the RVU standard includes Remote User Interface (RUI) functionality that allows the user of a connected client device to navigate through user screens generated by a compatible RVU server. Another additional functionality included in the RVU standard is DTCP-IP content protection.

As mentioned earlier, the best way to ensure device interoperability is to have both a detailed specification and a comprehensive certification plan. While the RVU Specification Version 1.0 is complete today and the RVU certification logo program will be in place beginning in November 2010, the RVU Alliance is not alone in working to address the issues that the FCC has identified. The Digital Living Network Alliance, or DLNA (www.dlna.org), announced in January that it had begun developing a specification and associated certification logo program

³ *Id.* at ¶ 21.

allowing the “enjoyment of premium commercial content across home networks”. This solution from the DLNA is also expected to meet the requirements of content service providers and consumers, with the consequent benefit of furthering the FCC’s goals.

With the launch of compatible products later this year, the RVU Alliance will not stop and rest on its laurels. The RVU standard has been designed to be extendible, allowing for advanced capabilities to be purposefully integrated over time and in response to market demand. Within the RVU Alliance even today, both near-term and long-term specification revisions are being scoped and prioritized with the active participation of Alliance membership. The need for continued innovation does not abate (for example, to support advanced 3D-TV features), and the RVU Alliance is structured to ensure that this need is addressed dynamically even as technology progresses.

The RVU Alliance appreciates this opportunity to submit comments on the Fourth Further Notice of Proposed Rulemaking, and looks forward to continued participation in this and related proceedings.

Respectfully submitted,

RVU ALLIANCE

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