BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, D.C. 20554

In the Matter of	)	
	)	
Closed Captioning of Internet Protocol-Delivered Video Programming:	)	MB Docket No. 11-154
	)	
Implementation of the Twenty-First Century Communications and Video Accessibility Act of 2010	)	

To: The Commission

COMMENTS OF MITSUBISHI ELECTRIC VISUAL SOLUTIONS AMERICA

Mitsubishi Electric Visual Solutions America, Inc. ("MEVSA") manufactures and markets a comprehensive line of premium quality 1080p 3D DLP Home Cinema TVs, along with the world's first laser TV: LaserVue. Recognized as the world leader and innovator of large display high-definition televisions, MEVSA builds products that lead the industry in quality, performance and ease-of-use.

Below are the comments of MEVSA on the Petitions for Reconsideration filed by TVGuardian, LLC, Telecommunications for the Deaf and Hard of Hearing, Inc., *et al.*, and the Consumer Electronics Association.[1]

MEVSA believes that the Commission should not reconsider its order with respect to certain aspects of the *TVG Petition* and the *TDI Petition*.

[1] *TV Guardian LLC,* Petition for Reconsideration, MB Docket No. 11-154 (filed Apr. 16, 2012) ("*TVG Petition*"); *Telecommunications for the Deaf and Hard of Hearing, Inc.*, Petition for Reconsideration of the Commission's Report and Order, MB Docket No. 11-154 (filed Apr. 27, 2012) ("*TDI Petition*").

I. REQUIREMENTS FOR SYNCHRONIZATION SHOULD NOT BE PLACED ON RECEIVERS

In the *TDI Petition*, the Petitioner requests the Commission to reconsider its order and require captioning to be rendered "precisely according to the timing data included with the video."[2] The Petitioner then suggests that there are several possible reasons why caption display may have timing "errors," including video post-processing, display resolution conversion, or other video processing.

Additionally, the Commission adopted SMPTE-TT as a safe harbor delivery format.[3] SMPTE-TT provides a mechanism for encoding and encapsulating caption data, including *relative* timing information. The timing described by SMPTE-TT provides timing relative to points in the SMPTE-TT data stream, but does not associate the caption data stream timing with the "timing data included in the video."[4] Even if there were synchronization issues attributed to receivers, and if the Commission adopted TDI's suggestion, receivers would be burdened with a rule without any means to comply.

A. ANY CAPTION SYNCRHONIZATION ISSUES ARE NOT RECEIVER ISSUES

As an initial matter, MEVSA notes that it is unaware of any caption display synchronization problems related to video post-processing—nor for other reasons attributed to receiver behavior.

In particular, video post-processing as typically performed in consumer video decoders, displays and similar equipment induces at most a very short delay. Such a delay is measured in milliseconds and is certainly not a cause for complaint (even if such a delay were noticeable).

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[2] *TDI Petition* at 18.

[3] *Closed Captioning of Internet Protocol-Delivered Video Programming: Implementation of the Twenty-First Century Communications and Video Accessibility Act of 2010*, Report and Order, 27 FCC Rcd. 787 (Jan. 13, 2012), 77 Fed. Reg. 19,480 (Mar. 30, 2012) ("*Order*") at ¶124.

[4] *TDI Petition* at 18.

Furthermore, it seems most likely that any noticeable timing issues are related to the content itself. As the Commission is well aware, when captions are created, there is a wide range of mechanisms for creating the captions, which range from highly-authored captions for, *e.g.*, scripted prime-time programming to real-time captioning. Some of the mechanisms for captioning produce a significant delay between the audio and the caption display. It is simply not possible for receivers to ameliorate this delay.

Whatever audio-to-caption synchronization problems exist are almost certainly attributable to the content itself, and if the Commission adopted TDI's suggestion to impose caption timing requirements on receivers, no such synchronization problems would be alleviated.

B. EXISTING PRACTICE DOES NOT PROVIDE TIMING SYNCHRONIZATION DATA

The existing captioning system for broadcast television programming uses either CEA-608 or CEA-708 caption standards (generally for analog and digital programming, respectively). Neither system provides synchronization information relating the caption to the program.

CEA-608 caption data, when carried on an analog signal is carried as two bytes of data per video field, and CEA-608 supports up to four simultaneous caption services. The first and third caption services are carried on the first video field; the second and fourth on the second video field. A receiver processes this data and displays the resulting caption information without any information describing the timing of the caption display relative to the program. There is no timing information in CEA-608 captions.

CEA-708 caption data, carried in digital signals, is a stream of data required to be at 9600 bits per second (bps). This 9600bps signal can carry a multitude of caption services, but does not carry any information describing synchronization information.

Both CEA-608 and CEA-708 caption data is generally displayed when it is displayable. There is no reason for caption decoders to intentionally delay display of captions.

C. SMPTE-TT MIRRORS EXISTING PRACTICE

The Commission describes a safe harbor for devices that implement SMPTE-TT, and SMPTE-TT (as its name implies) includes provision for including "timed text" information. However, the timing information included in SMPTE-TT is limited to either an absolute time-of-day, or a relative time (without reference to video or audio).[5]

The relative time information conveyed in SMPTE-TT mirrors the existing practice. The SMPTE-TT content indicates the duration that text is displayed, and the amount of time between text displays, but does not connect video or audio display time with caption display time. This is the same as existing CEA-608 and CEA-708 practice—receivers display captioning when they can, and clear the caption display or display the following captions at a time relative to the original display. But none of these times are connected to video or audio display time.

II. INTERCONNECTION MECHANISMS

The Commission correctly concluded that the manner captions are carried across an HDMI connection satisfies the statutory requirement.[6] In reaching this conclusion, the Commission correctly reasoned that "render or permit" was intended to provide two paths for compliance: to render captions in the device, *or* to supply sufficient data to allow the rendering to be accomplished in a downstream device.[7] As a result, HDMI

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[5] The absolute time-of-day timing information is of little general use, and of absolutely no use for recorded content. Timing information conveyed in this manner yields display of the text at exactly one time (*e.g.*, 12:05 PM EDT on June 5, 2012), which might be helpful in live broadcasts which cannot be recorded, but is of little use otherwise.

[6] *Order* at ¶115.

[7] *See Order* at ¶117.

source devices that output "open" captions on the HDMI signal have met the statutory requirement by electing to "render" captions.

MEVSA agrees with the Commission's conclusion in the Order, and believes that the captioning mechanism used for HDMI interconnects satisfies the statutory requirements.

III. CONCLUSION

For the above reasons, and for the reasons elucidated by others, the Commission should reject the portions of the *TDI Petition* and *TVG Petition* discussed above.

Respectfully submitted,

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MITSUBISHI ELECTRIC VISUAL SOLUTIONS AMERICA, INC.

June 7, 2012

CERTIFICATE OF SERVICE

I, Adam Goldberg, hereby certify that on this 7th day of June, 2012, copies of the foregoing "Comments of Mitsubishi Electric Visual Solutions America" in MB Docket No. 11-154 were sent by U.S. Mail to the following parties:

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