



Call for Comments on User Requirements for A-V Synchronization



The Society of Motion Picture and Television Engineers (SMPTE) 22TV Lip Sync Ad Hoc Group (AHG) is working to develop a standard for in-service audio-video (lip sync) error measurement. The activity is progressing but the group would welcome input from broadcasters on their requirements for such a system. This will help with decisions that have to be made in the standardization processes.

The text of a draft *User Requirements* document from SMPTE is reproduced below. Readers of *TV TechCheck* are encouraged to provide their comments on the items listed and on any related issues. Even without any specific comments, a simple expression of support for such a standard would also be useful. Comments should be emailed to the Chair of the Lip Sync AHG, Graham Jones of NAB at gjones@nab.org.

The background to this effort, which is based on the use of “fingerprint” technology to identify individual video frames and associated audio blocks at different points in the broadcast chain, was covered in the October 5, 2009 *TV TechCheck*. A presentation on the topic is available at *Lip Sync: Solutions are in Sight!* The proposed standard for video and audio fingerprint metadata and transport will enable measurement of sync errors from end to end through the broadcast chain and ensure interoperability between equipment from different manufacturers. Most importantly, it will enable continuous automatic correction of such errors during regular programming at network facilities and local broadcast stations and, potentially, also at cable and satellite head-ends.

The Lip Sync AHG is aware that there are many issues associated with implementation of such a system in a broadcast distribution chain involving switching and mixing of multiple signal sources. This will require careful attention to metadata routing.

User Requirements for A-V Sync Detection and Measurement

I. SPECIFIC REQUIREMENTS FOR SYSTEM TO BE STANDARDIZED

- 1) Enables automatic detection/measurement of A-V sync errors.
- 2) Works through complex distribution systems from a source reference point (location to be established) to detection/measurement device(s) located downstream in the broadcast distribution chain, and potentially to consumer equipment.
- 3) Enables detection of errors at multiple points in the chain and through chains with multiple distribution paths.
- 4) Works with all types of video content.
- 5) Works with all types of audio content.
- 6) Works with mono, stereo, and multi-channel sound.
- 7) Works with real-time and recorded content.
- 8) Correction of sync errors does not introduce detectable impairments for video and audio signals.
- 9) Enables detection of sync errors in the range: TBD (min) TBD (max).
- 10) Enables detection of errors within TBD seconds of change in sync occurring [requirement needs clarification].

- 11) Can tolerate TBD latency in “fingerprint” metadata distribution [requirement needs clarification].
- 12) The transport might be compatible with fingerprints for other purposes, e.g., Content Identification.
- 13) Allows alternative means for distributing “fingerprint” metadata.
- 14) Enable interoperability with multiple vendors of “fingerprint” generators and detectors.

2. OTHER REQUIREMENTS – NOT PART OF STANDARD

- 1) Automatic correction of sync errors detected by the system.
- 2) Automatic logging of sync errors.
- 3) Response to major jumps in A/V sync caused by production issues prior to the source reference point — recommendations are needed on how such sync changes are handled as they are not covered by the proposed standard.

Readers who would like to participate directly in this standards activity are encouraged to join the SMPTE Television 22TV Technology Committee and Lip Sync AHG. Details may be found on the SMPTE Web site at <http://www.smpte.org/standards/committees/>, or email SMPTE Director of Engineering and Standards, Peter Symes, at psymes@smpte.org.

Reminder: Operation of Wireless Microphones in The 700 MHz Band (channels 52 - 69) is Prohibited After June 12, 2010

All wireless microphones and other low power auxiliary stations (such as wireless intercoms or IFBs) operating in the 700 MHz band (i.e. channels 52 – 69) must cease operation no later than June 12, 2010 – five days from today. This is per an order issued by the FCC on January 15, 2010. For background on this issue see *TechCheck* from [January 25, 2010](#). An FCC public notice reminding licensees of this deadline is [here](#). For more information visit the FCC’s wireless microphone Web site at <http://www.fcc.gov/cgb/wirelessmicrophones/>.

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