

CEA Standards Update

Recently Published CEA Standards

- ANSI/CEA-2015, *Mobile Electronics Cabling Standard* (published May 2007)
- CEA-608-D, *Line 21 Data Service* (published May 2007)
- CEA-761-B, *DTV Remodulator Specification with Enhanced OSD Capability* (published May 2007)
- CEA-CEB5-B, *Recommended Practice for DTV Receiver "Monitor" Mode Capability* (published May 2007)
- CEA-2020, *Other VBI Waveforms* (ANSI public review completed 2/5/07)
- CEA-2013-A, *Digital STB Background Power Consumption* (ANSI public review completed 2/12/07)
- CEA-2022, *Digital STB Active Power Consumption Measurement* (ANSI public review completed 3/5/07)
- CEA-2017, *Common Interconnection for Portable Media Players* (ANSI public review completed 6/25/07)
- CEA-931-C, *Remote Control Command Pass-through Standard for Home Networking* (published June 2007, submitted to ANSI for public review, ANSI public review comment deadline not yet established)

Publications Nearing Completion

- CEA-766-B, *U.S. and Canadian Region Rating Tables (RRT) and Content Advisory Descriptors for Transport of Content Advisory Information using ATSC A/65-A Program and System Information Protocol (PSIP)* (published July, 2006, ANSI public review completed 2/5/07, public review comments being addressed)
- CEA-852-B, *Tunneling Component Network Protocols Over Internet Protocol Channels* (approved 12/7/06, in final editorial review, awaiting completion of CEA-852.1, *Enhanced Tunneling Device Area Network Protocols Over Internet Protocol Channel*)
- CEA-814-A (J-STD-042-A), *Emergency Alert Messaging for Cable* (approved 2/27/07, in final editorial review)
- CEA-2014-A, *Web-Based Protocol and Framework for Remote User Interface on UPnP™ Networks and the Internet (Web4CE)* (approved 5/11/07, in final editorial review)
- CEA-CEB19, *Recommended Loudspeaker Safety Practices* (approved 5/23/07, in final editorial review)
- CEA-909-A, *Antenna Control Interface* (approved 6/6/07, in final editorial review)

- CEA-2017.1, *Serial Communication Protocol for Portable Electronic Devices* (approved 6/7/07, in final editorial review)
- CEA-2033, *OpenEPG™ - A Specification for Electronic Program Guide Data Interchange* (approved 6/29/07, in final editorial review)
- CEA-2027-B, *A User Interface Specification for Home Networks Using Web-based Protocols* (approved 6/29/07, in final editorial review)

Ongoing Work

- Revision to CEA-708-C, *Digital Television (DTV) Closed Captioning*
- Revision to CEA-775-B, *DTV 1394 Interface Specification*
- CEA-852.1, *Enhanced Tunneling Device Area Network Protocols Over Internet Protocol Channels*
- CEA-861-E, *A DTV Profile for Uncompressed High Speed Digital Interfaces*
- CEA-2006-B, *Testing and Measurement Methods for Mobile Audio Amplifiers*
- CEA 2018, *Task Model Representation*
- CEA-2019, *Testing and Measurement Methods for Audio Amplifiers*
- CEA-2034, *Standard Method of Measurement for In-Home Loudspeakers*
- Revision to CEA-CEB11, *NTSC/ATSC Loudness Matching*
- Possible consumer guidelines for using indoor TV antennas

New Work

- 5-year Review of CEA-775.2, *Service Selection Information for Digital Storage Media Interoperability* ([Join R4.8 WG1](#), next meeting 7/12/07)
- 5-year Review of CEA-849-A, *Application Profiles for EIA-775A Compliant DTVs* ([Join R4.8 WG1](#), next meeting 7/12/07)
- Revision to CEA-2014-A, *Web-based Protocol and Framework for Remote User Interface on UPnP™ Networks and the Internet (Web4CE)* ([Join R7 WG9](#), call for participants issued by Home Networks committee on 6/26/07)

2007 Technology & Standards Fall Forum

It's time to pre-register for the 2007 Technology & Standards Fall Forum. Registration is now live and the schedule has been posted at http://www.CE.org/Events/event_info/default.asp?eventID=TSF07. All T&S committee members are encouraged to pre-register to avoid onsite registration fees. Attendees can also make their hotel reservations by calling the Hotel del Coronado at (800) 468-3533 and asking for the Consumer Electronics Association rate of \$229. The cut-off date for the hotel is September 12, 2007. For more details on the Forum hotel, go to http://www.CE.org/Events/event_info/hotel_info.asp?eventID=TSF07. If you have questions, contact Trina Akers at cakers@CE.org.

Summary of Projects by CEA Product Division

Accessories

✚ “Smart” Antenna Interface

The Video Systems Committee recently approved a revision to CEA-909, *Antenna Control Interface*, which enables “smart” DTV antennas to be connected to smart antenna-capable DTV sets with a single coaxial cable. The previous version of the standard required another control cable in addition to the coaxial cable. The smart antenna interface can enable consumers to use indoor (or outdoor) antennas with their TV sets and receive different local over-the-air signals without having to manually adjust the orientation of their antennas. The new standard was approved 6/6/07 and is now in final editorial review.

✚ Indoor Antenna Guidelines for Consumers

The Antennas Committee is considering the development of guidelines or recommendations for consumers who are using indoor TV antennas. The computer prediction models that it developed for www.AntennaWeb.org only apply to outdoor antennas. Interested? [Join R5](#).

Audio

✚ Loudspeaker Performance

An Audio Systems Committee working group is currently developing CEA-2034, *Standard Method of Measurement for In-Home Loudspeakers*, which it hopes will describe a method for measuring and reporting frequency response and perhaps other loudspeaker characteristics in a manner

that will be easy for non-technical consumers to understand. Interested? [Join R3 WG1](#).

✚ Amplifier Performance

Another Audio Systems Committee working group is attempting to write an amplifier measurement standard aimed mainly at home theater in-a-box systems, but which would include some other audio amplifiers as well. There is hope that this standard, and perhaps an accompanying CEA logo program, may help ensure consumers' ability to make apples-to-apples comparisons among these types of products. The new standard would be called CEA-2019, *Testing and Measurement Methods for Audio Amplifiers*. Interested? [Join R3 WG8](#).

✚ Loudspeaker Safety

CEA-CEB19, *Recommended Loudspeaker Safety Practices*, includes guidelines that manufacturers may use, in conjunction with their own safety specifications, to ensure that loudspeakers are safe. It was approved by the Product Safety Committee on 5/23/07 and is now in final editorial review.

Mobile Electronics

✚ Standard Connector for Portable Devices

CEA-2017, *Common Interconnection for Portable Media Players*, defines electrical and mechanical properties for a connector that will pass audio, video and associated metadata signals, control signals, and power between portable electronic devices and in-home and in-vehicle audio/video systems. It was adopted by the Mobile Electronics Committee on 2/28/07, was published in April 2007, and completed ANSI public review on 6/25/07.

Also, CEA-2017.1, *Serial Communication Protocol for Portable Electronic Devices*, was approved by the Mobile Electronics Committee on 6/7/07. This standard is meant to accompany CEA-2017, and describes a serial communication protocol that enables command and control communication between portable electronic devices and accessories attached to those devices. It is now in final editorial review.

✚ Mobile Electronics Cables

The Mobile Electronics Committee adopted CEA-2015, *Mobile Electronics Cabling Standard*, on 12/14/06. It defines size and performance requirements for power and speaker cabling used in mobile electronics applications. It was created to address the problem of “undergauging,” where a supplier provides a cable that is ostensibly of a

particular thickness, but in reality contains less copper than expected. The document was published as a CEA standard in February, and as an ANSI standard in May.

Mobile Audio Amplifiers

The Mobile Systems Committee has begun to review and possibly revise CEA-2006-A, *Testing and Measurement Methods for Mobile Audio Amplifiers*. This standard describes a method for testing the performance of mobile audio amplifiers and reporting the results. Interested? [Join R6 WG10](#).

TechHome

IP Tunneling

The Home Systems Control Subcommittee approved CEA-852-B, *Tunneling Component Network Protocols Over Internet Protocol Channels* on 12/7/06. This standard specifies a communications method that allows networked data acquisition and control devices to communicate with each other over the Internet. It is currently under final editorial review and will be published after CEA-852.1, which it references, is completed.

The subcommittee is also working on CEA-852.1, *Enhanced Tunneling Device Area Network Protocols Over Internet Protocol Channels*. This standard will address limitations in the CEA-852-B protocol and provide improvements in performance, scalability, and robustness. Some of the provisions in CEA-852.1 might not be backward compatible with earlier versions of CEA-852. Interested? [Join R7.1 WG2](#).

Open EPG

The Home Networks Committee recently approved CEA-2033, *OpenEPG™ - A Specification for Electronic Program Guide Data Interchange*. This standard enables home entertainment devices to access program guide information using messages that are based on standard Internet protocols. It was approved on 6/29/07 and is now in final editorial review.

Remote Control Commands over Home Networks

The Home Networks Committee has also developed CEA-931-C, *Remote Control Command Pass-through Standard for Home Networking*. This standard defines methods for communicating basic remote control functions between devices on a home network. It was published in June 2007, and is being sent to ANSI for public review. The ANSI public review deadline has not yet been established.

Remote User Interface for Home Networks

The Home Networks Committee recently approved CEA-2027-B, *A User Interface Specification for Home Networks Using Web-based Protocols*. This standard defines methods for A/V devices to use Web and Internet protocols to display status and control information on a PC, DTV, or other device used to control a home network. It was approved on 6/29/07 and is now in final editorial review.

Remote User Interface for UPnP™ Devices

The Home Networks Committee approved a revision of CEA-2014, *Web-Based Protocol and Framework for Remote User Interface on UPnP™ Networks and the Internet (Web4CE)*, on 5/11/07. This standard defines how to produce remote user interfaces for UPnP™ devices. The revised version clarifies several points that some readers thought were unclear in the original version. The Home Networks Committee is now beginning a second phase of its efforts to revise ANSI/CEA-2014. This next revision is expected to extend the functionality of ANSI/CEA-2014 while preserving existing functionality and maintaining backward compatibility. It is expected to add new functionality in the following general areas: remote user interface access to the underlying platform resources, the level of security available within the remote user interface and protocol framework, and the remote user interface experience. A call for participants and request for use cases was issued on 6/26/07. Interested? [Join R7 WG9](#).

Task-Based User Interfaces

The Home Networks Committee is also working on CEA-2018, *Task Model Representation*, which will define how to describe tasks performed by consumer electronics products in XML. Interested? [Join R7 WG12](#).

Video

Digital STB Power Consumption (Sleep Mode)

The Video Systems Committee approved CEA-2013-A, *Digital STB Background Power Consumption*, which sets maximum “sleep” mode energy consumption at 15 watts for cable and satellite set-top boxes and 2 watts for set-top boxes used to receive terrestrial DTV signals. The standard also defines how to measure set-top box energy consumption. The ANSI public review period closed on 2/12/07 and no comments were received.

✚ Digital STB Power Consumption (On Mode)

The Video Systems Committee has also approved CEA-2022, *Digital STB Active Power Consumption Measurement*, which specifies how to measure the power consumption of a digital set-top box when it is on (*i.e.*, delivering video to a TV set or other device). It does not set limits on power consumption. CEA-2022 was published in December 2006, and ANSI public review closed on 3/5/07 with no comments received.

✚ Nielsen and Gemstar/TV Guide Waveforms

CEA-2020, *Other VBI Waveforms*, was approved by the Television Data Systems Subcommittee. It defines four vertical blanking interval waveforms carried on analog TV signals – two used by Nielsen Media Research, and two used by Gemstar/TV Guide. The electrical characteristics of the waveforms are defined, but the meaning of the data that is transported via the waveforms is not. This standard was published in August 2006. ANSI public review closed on 2/5/07 and no comments were received.

✚ Cable TV Emergency Alert Messaging

The Cable Compatibility Committee approved CEA-814-A, *Emergency Alert Messaging for Cable* on 2/27/07. This standard describes how cable companies can transmit emergency messages to cable-ready digital equipment sold at retail. It enables cable operators to select a warning method with a level of viewing disruption that is appropriate for the type and scope of the emergency. CEA-814-A was developed jointly by CEA and the Society of Cable Telecommunications Engineers. The standard will be published under its joint CEA/SCTE designation J-STD-042-A.

✚ Parental Guidance

Another standard approved by the Television Data Systems Subcommittee is CEA-766-B, *U.S. and Canadian Region Rating Tables (RRT) and Content Advisory Descriptors for Transport of Content Advisory Information using ATSC A/65-A Program and System Information Protocol (PSIP)*. This standard is one of several that, together, define how TV systems can enable parents to control their children's access to TV programming. CEA-766-B defines the format of the codes that transmit this data. The ANSI public review period closed on 2/5/07 and public review comments are being resolved.

✚ DTV Remodulator

The DTV Interface Subcommittee has approved CEA-761-B, *DTV Remodulator Specification with Enhanced OSD Capability*. This standard enables devices like set-top boxes, DVRs, etc. to feed their output signals into the over-the-air antenna input jack of any ATSC-compliant DTV receiver that supports “monitor mode.” The DVR or other device remodulates the incoming signal onto a fixed output frequency (which has commonly been channel 3 or 4 in similar analog devices). “OSD” is on-screen display, and refers to the ability of the DTV receivers to display graphics and text from the set-top box, DVR, etc. CEA-761-B was published May 2007.

“Monitor mode” is a DTV receiver mode in which the consumer can tune directly to a specific RF channel, such as the one that a set-top box is feeding to the TV. It is necessary to have this special mode because DTV signals are broadcast on different RF channels than their analog counterparts (*e.g.*, the DTV RF signal for NBC4 in Washington is on channel 48), so DTV sets are designed to automatically display the appropriate DTV signal when the consumer selects the analog channel number that the broadcaster has associated with the DTV signal. That is, NBC4 in DC sends a code along with its DTV signal on channel 48 to tell DTV receivers that they should automatically tune to the DTV signal on channel 48 when the consumer directs the DTV to tune to channel 4. This automatic tuning feature becomes a problem in cases where the consumer needs to tune directly to a specific RF channel. For example, if an HD DVR is connected to the TV set and sending its signal to the set on channel 4. To enable consumers to get their sets to look for a DTV signal on channel 4, a special receiver mode is needed. Otherwise, when the consumer tunes the set to channel 4 (in the DC case) the set will likely look for a DTV signal on RF channel 48. This special mode is called “monitor mode,” and recommendations for how DTV sets should behave in this mode are spelled out in CEA-CEB5-B, *Recommended Practice for DTV Receiver "Monitor" Mode Capability*, which was published May 2007.

✚ Loudness Matching Between Analog/Digital TV

The Video Systems Committee is reviewing CEA-CEB11, *NTSC/ATSC Loudness Matching*. This bulletin provides guidance to TV set makers on how to maintain uniform audio loudness between analog NTSC programs and digital ATSC programs. It assumes that NTSC broadcasters follow accepted North American broadcast practices for audio levels, and that ATSC broadcasters have encoded their signals with the correct “dialnorm” value, a number that corresponds to the actual dialog level of the program material. Interested? [Join R4 WG10](#).

DTV Closed Captioning

The Television Data Systems Subcommittee is working on a revision to CEA-708-C, *Digital Television (DTV) Closed Captioning*, which will coordinate the standard with related Advanced Television Systems Committee (ATSC) and Society of Motion Picture and Television Engineers (SMPTE) standards. Interested? [Join R4.3 WG1](#).

Analog Closed Captioning

On 11/9/06 the Television Data Systems Subcommittee approved CEA-608-D, *Line 21 Data Service*. This updated standard explains how to provide or use closed captioning and other data services embedded in line 21 of the vertical blanking interval of an NTSC video signal. It was published in May 2007, and will be sent to ANSI for public review.

DTV 1394 Interface

The DTV Interface Subcommittee is working on a revision to CEA-775-B, *DTV 1394 Interface Specification*, which defines a method by which set-top boxes, DVRs and other similar devices may send MPEG video to a DTV set for decoding using a 1394 interface. This group works to keep CEA-775 up to date with the latest standards developed by the 1394 Trade Association. The working group has also begun five year reviews of CEA-775.2, *Service Selection Information for Digital Storage Media*

Interoperability and CEA-849-A, *Application Profiles for EIA-775A Compliant DTVs*. Interested? [Join R4.8 WG1](#).

HDMI and DVI Interfaces

The DTV Interface Subcommittee is working on a revision to CEA-861-D, *A DTV Profile for Uncompressed High Speed Digital Interfaces*, which applies to a variety of DTV-related high-speed interfaces such as the Digital Visual Interface (DVI) and the High Definition Multimedia Interface (HDMI). Interested? [Join R4.8 WG7](#).

Analog Component Interface

The DTV Interface Subcommittee has completed CEA-770.2-D, *Standard Definition TV Analog Component Video Interface*. It defines a three-cable method for sending standard definition analog video signals between products in both 4:3 and 16:9 aspect ratios. The document was approved on 11/9/06 and published in April 2007.