

CEA Standards Update

2008 Technology & Standards Spring Forum May 19-23 in Nashville

Register now, *or else* ... you will be charged an on-site registration fee. Register for the Technology & Standards Forum at: www.CE.org/events. Don't forget to make your hotel reservations by calling the Loews Vanderbilt at (615) 320-1700 and asking for the Consumer Electronics Association rate of \$189. The cut-off date for the hotel is **April 17, 2008**. For more details on the Forum hotel see the travel section on the registration site. If you have questions, contact Trina Akers at cakers@CE.org.

New Projects

- ✚ CEA-9, *Standard Method of Measurement for Phonograph Cartridges Used in Analog Disc Playback Equipment* (five year review)
- ✚ CEA-774-B, *TV Receiving Antenna Performance Presentation and Measurement*
- ✚ CEA-CPEB6-A, *Preferred Voltage and Impedance Values for the Interconnection of Audio Products* (five year review)

Recently Published CEA Standards

- ✚ CEA-608-D, *Line 21 Data Service* (published May 2007, recirculation ballot approved 8/29/07, ANSI public review of May 2007 published version closed 10/1/07, ANSI public review of revisions approved by recirculation ballot closed 1/13/08, awaiting final ANSI approval, revised document will be "E" version)
- ✚ CEA-770.3-D, *High Definition TV Analog Component Video Interface* (published February 2008)
- ✚ CEA-775-C, *DTV 1394 Interface Specification* (published February 2008)
- ✚ CEA-861-E, *A DTV Profile for Uncompressed High Speed Digital Interfaces* (published March 2008)
- ✚ CEA-2014-A, *Web-Based Protocol and Framework for Remote User Interface on UPnP™ Networks and the Internet (Web4CE)* (published July 2007, 14 day draft of errata circulated 2/22/08, errata canceled 3/13/08, R7 to decide whether or not to revise standard)
- ✚ ANSI/CEA-2018, *Task Model Representation* (published March 2008)

- ✚ ANSI/CEA-2033, *OpenEPG™ - A Specification for Electronic Program Guide Data Interchange* (published March 2008)

Publications Nearing Completion

- ✚ CEA-709.1-C, *Control Network Protocol Specification* (pre-vote comment period closed 2/19/08, comments being addressed)
- ✚ CEA-766-B, *U.S. and Canadian Rating Region Tables (RRT) and Content Advisory Descriptors for Transport of Content Advisory Information Using ATSC Program and System Information Protocol (PSIP)* (published July 2006, ANSI public review completed 2/5/07, public review comments addressed, revised document approved 9/13/07, ANSI public review of changes closed 2/4/08, awaiting final ANSI approval)
- ✚ CEA-775.2-A, *Service Selection Information for Digital Storage Media Interoperability* (approved 3/12/08, in final editorial review)
- ✚ CEA-827, *Sound Level Measurement – Vehicle Security System Sounding Devices* (withdrawn March 2008)
- ✚ CEA-849-B, *Application Profiles for CEA-775 Compliant DTVs* (approved 3/12/08, in final editorial review)
- ✚ 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-2004, *Audiobook Media and Player Compatibility* (withdrawn March 2008)

Ongoing Work

- ✚ CEA-516, *Joint EIA/CVCC Recommended Practice for Teletext: North American Basic Teletext Specification (NABTS)*, five year review
- ✚ CEA-542-B, *Cable Television Channel Identification Plan*, five year review
- ✚ Revision of CEA-708-C, *Digital Television (DTV) Closed Captioning*
- ✚ Revision of CEA-709.2-A, *Control Network Power Line (PL) Channel Specification*
- ✚ CEA-762-B, *DTV Remodulator Specification*
- ✚ CEA-805-D, *Data Services on the Component Video Interfaces*

- ✚ CEA-819-A, *Cable Compatibility Requirements for Two-Way Digital Cable TV Systems*, five year review
- ✚ CEA-851.1, *IP-Based Digital Telephony for the Versatile Home Network*, five year review
- ✚ CEA-851.2, *Security Services for the Versatile Home Network*, 5-year review
- ✚ CEA-852.1, *Enhanced Tunneling Device Area Network Protocols Over Internet Protocol Channels*
- ✚ CEA-2002, *Test Procedure for Powerline Carrier Technology*
- ✚ CEA-2006-B, *Testing and Measurement Methods for Mobile Audio Amplifiers*
- ✚ Revision to CEA-2014-A, *Web-based Protocol and Framework for Remote User Interface on UPnP™ Networks and the Internet (Web4CE)*
- ✚ CEA-2017-A, *Common Interconnection for Portable Media Players*
- ✚ CEA-2019, *Testing and Measurement Methods for Audio Amplifiers*
- ✚ CEA-2021, *Auto Discovery & Self-configuring Home Control Networks*
- ✚ CEA-2030-A, *Multi-Room Audio Cabling Standard*
- ✚ CEA-2034, *Standard Method of Measurement for In-Home Loudspeakers*
- ✚ CEA-CEB11-A, *NTSC/ATSC Loudness Matching*
- ✚ CEA-CEB12-A, *PSIP Recommended Practice*, five year review
- ✚ Possible consumer guidelines for using indoor TV antennas

Summary of Projects by CEA Product Division

Accessories

✚ Smart Antenna Performance

CEA's Antennas Committee is beginning work on CEA-774-B, *TV Receiving Antenna Performance Presentation and Measurement*. It plans to add a procedure for testing the performance of "smart" antennas. Smart antennas automatically steer themselves, usually by adjusting the positions of nulls or lobes in their patterns. They enable consumers to enjoy free over-the-air television without having to manually adjust their antennas every time they change channels. It is hoped that this project will lead to a smart antenna certification program, and then to AntennaWeb.org recommendations for the use of certified smart antennas. AntennaWeb.org, jointly sponsored by CEA and the National Association of Broadcasters, predicts television reception when given an address, and recommends the types of antennas that will provide best reception at that address. Interested? [Join R5](#).

✚ 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

✚ Standard Audio Levels

The Audio Systems Committee has begun its five year review of CEA-CPEB6-A, *Preferred Voltage and Impedance Values for the Interconnection of Audio Products*. The bulletin defines preferred voltage and impedance values for inputs and outputs of generally available, mass produced, audio products and accessories. By following these guidelines manufacturers can facilitate the interconnection of products from different manufacturers and permit the addition of other products or accessories to integrated systems. Interested? [Join R3](#).

✚ Phonograph Cartridges

The Audio Systems Committee has begun its five year review of CEA-9, *Standard Method of Measurement for Phonograph Cartridges Used in Analog Disc Playback Equipment*. This standard describes standard test conditions and procedures for testing an electromechanical phonograph cartridge transducer. It also defines a method for reporting test results. Interested? [Join R3](#).

✚ Distributed Audio

The Audio Systems Committee is working on an addition to CEA-2030, *Multi-Room Audio Cabling Standard*, which defines how to configure cabling and connectors in order to distribute analog and digital audio throughout a home. The new addition will explain how to document distributed audio systems installed in homes. Interested? [Join R3 WG7](#).

✚ 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](#).

Mobile Electronics

On 2/13/08 the Mobile Electronics Committee approved the withdrawal of CEA-827, *Sound Level Measurement – Vehicle Security System Sounding Devices*. This standard defines how to measure the noise level from car alarms. It does not define noise limits, it only defines a measurement method. It was officially withdrawn in March 2008.

Mobile Audio Amplifiers

The Mobile Systems Committee is working on CEA-2006-B, *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](#).

PDMI Connector

The Mobile Electronics Committee is studying the possibility of sending high definition multimedia interface (HDMI) signals over portable digital media interface (PDMI) connectors. PDMI connectors comply with CEA-2017, *Common Interconnection for Portable Media Players*, which was approved as an American National Standard earlier this year. It is hoped that this connector will eventually become a standard feature on vehicle dashboards, making it easy for consumers to plug their portable media devices into their vehicle power supplies and audio/video systems. Anyone interested in joining this effort should visit <http://www.CE.org/Standards/1447.asp> and sign up for R6 WG15.

Audiobooks

On 2/13/08 the Mobile Electronics Committee approved the withdrawal of CEA-2004, *Audiobook Media and Player Compatibility*. This standard defines audiobook characteristics considered essential for consumers to have a good listening experience, independent of the audiobook format. It was officially withdrawn in March 2008.

TechHome

LonTalk®-based Control Network Protocol

The Home Systems Control Subcommittee is considering revisions to CEA-709.1-C, *Control Network Protocol Specification*. This standard describes a control network protocol that can be used over different physical links. This protocol is suitable for implementing both peer-to-peer and master-slave system strategies. Pre-vote comments were due 2/19/08 and comments are now being addressed.

VOIP for Versatile Home Network

The Home Networks Committee has begun its five year review of CEA-851.1, *IP-Based Digital Telephony for the Versatile Home Network*. This standard defines IP-based telephony for the Versatile Home Network. Interested? [Join R7](#).

Security Services for Versatile Home Network

The Home Networks Committee has begun its five year review of CEA-851.2, *Security Services for the Versatile Home Network*. This standard defines security services for the home network defined in ANSI/CEA-851-A, *Versatile Home Network*. It assumes a VHN that is digital and IP-based, and that uses web tools like HTTP for device control. Interested? [Join R7](#).

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](#).

Powerline Carrier Test Procedure

The Home Networks Committee has begun its five-year review of CEA-2002, *Test Procedure for Powerline Carrier Technology*. This standard defines a test procedure

that can be used to validate key aspects of powerline carrier systems. Interested? [Join R7](#).

Remote User Interface for UPnP™ Devices

The Home Networks Committee published CEA-2014-A, *Web-Based Protocol and Framework for Remote User Interface on UPnP™ Networks and the Internet (Web4CE)*, in July 2007. Shortly thereafter, several errors were discovered, and an errata document was developed. However, on 3/13/08 the Home Networks Committee decided that the proposed revisions were more substantive than were appropriate for an errata document, and development of this document was halted. The committee will now determine whether or not to incorporate the changes into the next revision of CEA-2014. CEA-2014-A defines how to produce remote user interfaces for UPnP™ devices. Revisions from the previous version clarify several points that some readers thought were unclear. The next revision is expected to extend the functionality of the standard 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. Interested? [Join R7 WG9](#).

Task-Based User Interfaces

The Home Networks Committee published ANSI/CEA-2018, *Task Model Representation*, in March 2008. This standard defines how to describe tasks performed by consumer electronics products in XML.

Power Line Carrier

The Home Control Systems 1 Subcommittee is working on a revision to ANSI/CEA-709.2-A, *Control Network Power Line (PL) Channel Specification*. This standard describes the physical characteristics of a communications network that uses power lines to collect and distribute information. Interested? [Join R7.1](#).

The Home Control Systems 1 Subcommittee has also begun work on CEA-2021, *Auto Discovery & Self-configuring Home Control Networks*. This standard is expected to define a method for devices on a home control network to automatically discover each other and exchange data. It will facilitate the development of future home automation devices that may be installed by CE installers, electricians, or do-it-yourself homeowners. It will provide a set of standard application-layer services for the ANSI/CEA-709.1 protocol, thus enabling devices and

appliances from different manufacturers to work together in a home network. Interested? [Join R7.1](#).

Open EPG

The Home Networks Committee published ANSI/CEA-2033, *OpenEPG™ - A Specification for Electronic Program Guide Data Interchange* in March 2008. This standard enables home entertainment devices to access program guide information using messages that are based on standard Internet protocols.

Video

North American Teletext

The Television Data Systems Subcommittee has begun its five-year review of CEA-516, *Joint EIA/CVCC Recommended Practice for Teletext: North American Basic Teletext Specification (NABTS)*. This standard describes the transmission technique, coding language, and user interface for one-way broadcast teletext service applications in North America using NTSC television signals. Interested? [Join R4.3](#).

DTV Remodulator Specification

The DTV Interface Subcommittee has begun to update CEA-762-A, *DTV Remodulator Specification*. This standard defines minimum specifications for a one-way data path utilizing an 8-VSB trellis remodulator that complies with ATSC Standard A/53B, Annex D. This standard applies to any device used to connect to an ATSC compliant digital television (DTV) receiver. Devices meeting this standard should interoperate with any ATSC compliant receiver that also supports “monitor mode.” Interested? [Join R4.8 WG6](#).

IEEE 1394 Service Selection Information

The DTV Interface Subcommittee recently approved CEA-775.2-A, *Service Selection Information for Digital Storage Media Interoperability*. This standard defines how to store Service Selection Information when recording a program over the IEEE 1394 high performance serial bus described in CEA-775-B. Service Selection Information includes information such as the title of the program, the program duration, descriptors related to the program such as content advisories, the name of the source channel from which the program was recorded, etc. The revised standard was approved on 3/12/08 and is undergoing final editorial review.

✚ IEEE 1394 Application Profiles

The DTV Interface Subcommittee recently approved CEA-849-B, *Application Profiles for CEA-775 Compliant DTVs*. This standard defines profiles for various applications of the IEEE 1394 high performance serial bus described in CEA-775-B. The applications covered include ATSC digital television streams, direct broadcast satellite digital streams, US cable digital streams and standard definition digital video camcorder digital streams. The revised standard was approved on 3/12/08 and is undergoing final editorial review.

✚ Data Over Component Video Interface

The DTV Interface Subcommittee is working on CEA-805-D, *Data Services on the Component Video Interfaces*. This standard describes how to transmit data over the analog component video interfaces (CVI) described in CEA-770.2-C and CEA-770.3-D, and it covers all CE devices carrying data on the CVI vertical blanking interval (VBI).

✚ HD Analog Component Video Interface

The DTV Interface Subcommittee published CEA-770.3-D, *High Definition TV Analog Component Video Interface* in February, 2008. This standard defines two raster-scanning systems for high definition analog component video. The first system uses 1280 x 720 samples (pixels) inside a total raster of 750 lines, and the second uses 1920 x 1080 samples (pixels) inside a total raster of 1125 lines. Both image formats have an aspect ratio of 16:9. This standard will be sent to ANSI for public review.

✚ Two-Way Cable Systems

The Cable Compatibility Committee is beginning its five year review of CEA-819-A, *Cable Compatibility Requirements for Two-Way Digital Cable TV Systems*. This standard defines minimum requirements for two-way digital cable TV systems and two-way digital TV receivers whose RF inputs and outputs connect directly to these cable systems. These systems permit the viewing of analog and digital TV programs, as well as additional features such as impulse pay-per-view purchases, interactive shopping and audience opinion polling. Interested? [Join R8](#).

✚ Cable Channel Numbering

The Cable Compatibility Committee has begun its five year review of CEA-542-B, *Cable Television Channel Identification Plan*. This standard defines 6 MHz channel allocations for 158 channels up to 1002 MHz, and includes a method for specifying higher channels. It does not

preclude channel mapping in cable systems. It applies to channels carrying analog or digital signals, though it does not specify a numbering plan for the tuning of digitally multiplexed services within one or more RF channels. Interested? [Join R8](#).

✚ Parental Guidance

Another standard approved by the Television Data Systems Subcommittee is CEA-766-B, *U.S. and Canadian Rating Region Tables (RRT) and Content Advisory Descriptors for Transport of Content Advisory Information Using ATSC 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. Comments were received and addressed, and a revised document was approved via letter ballot on 9/13/07. The ANSI public review period for these revisions closed on 2/4/08 and the standard is now awaiting final ANSI approval.

✚ 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 ANSI public review of this published version was completed on 10/1/07. A correction and a clarification were approved by recirculation ballot to

the Television Data Systems Subcommittee on 8/29/07, and ANSI public review of these changes closed 1/13/08. Upon final ANSI approval the modified standard will be published as ANSI/CEA-608-E.

DTV 1394 Interface

The DTV Interface Subcommittee published CEA-775-C, *DTV 1394 Interface Specification*, in February, 2008. This standard 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. The DTV Interface Subcommittee works to keep CEA-775 up to date with the latest standards developed by the 1394 Trade Association. It is also working on 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 approved CEA-861-E, *A DTV Profile for Uncompressed High Speed Digital Interfaces*, on 1/21/08. This standard applies to a variety of DTV-related high-speed interfaces such as the Digital Visual Interface (DVI) and the High Definition Multimedia Interface (HDMI). It was published in March 2008.

PSIP Recommended Practice

The Television Data Systems Subcommittee has begun its five year review of CEA-CEB12-A, *PSIP Recommended Practice*. This bulletin provides guidance for designing DTV receivers, cable TV receivers, video recorders and other consumer products that make use of the Advanced Television Systems Committee's (ATSC) Program and System Information Protocol (PSIP). It provides recommendations and suggestions for device functionality. Interested? [Join R4.3](#).