

# CEA Standards Update

## TSC Expands R6 Title, Scope to Include Portable and Handheld Devices

In November CEA's Technology & Standards Council approved a new scope and title for the Mobile Electronics Committee, expanding the group's focus to include portable and handheld devices. This action followed the portable and handheld device discovery group meeting held at the T&S Forum in Las Vegas in October, where a number of possible standards activities related to these devices were discussed. The group's new name is the Portable, Handheld and In-Vehicle Electronics Committee, and it's new scope is to develop standards, bulletins and other technical publications that address portable and handheld consumer electronics products, and consumer electronics products used in private and commercial vehicles, boats and aircraft. It is still co-chaired by Jack DeBiasio of Scosche and Jim Tranchina of Audiovox. Interested? [Join R6](#).

## New Projects

- ✚ CEA/CEDIA-CEB22, *Home Theater Recommended Practice: Audio Design*

## Recently Published ANSI Standards

- ✚ ANSI/CEA-805-D, *Data Services on the Component Video Interfaces* (published November 2008)
- ✚ ANSI/CEA-849-B, *Application Profiles for CEA-775 Compliant DTVs* (published October 2008)

## Recently Published CEA Standards

- ✚ CEA-762-B, *DTV Remodulator Specification* (published November 2008, ANSI public review closes 1/5/09)

## Publications Nearing CEA Completion

- ✚ CEA-9, *Standard Method of Measurement for Phonograph Cartridges Used in Analog Disc Playback Equipment* (approved for withdrawal 10/21/08)
- ✚ CEA-490-A R-2008, *Standard Test Methods of Measurement for Audio Amplifiers* (reaffirmed 10/21/08, in final editorial review)
- ✚ CEA-516 R-2008, *Joint EIA/CVCC Recommended Practice for Teletext: North American Basic Teletext*

*Specification (NABTS)* (pre-vote comments due 12/11/08)

- ✚ CEA-542-C, *Cable Television Channel Identification Plan* (approved 10/23/08, in final editorial review, will be sent to ANSI for public review)
- ✚ CEA-636, *Recommended Loudspeaker Safety Practices*, (approved for withdrawal 10/21/08)
- ✚ CEA-774-B, *TV Receiving Antenna Performance Presentation and Measurement* (approved 11/20/08, in final editorial review, will be sent to ANSI for public review)
- ✚ CEA-819-A, *Cable Compatibility Requirements for Two-Way Digital Cable TV Systems* (approved for withdrawal 8/26/08)
- ✚ CEA-851.1-A, *IP-Based Digital Telephony for the Versatile Home Network* (approved 10/23/08, 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-861-E Errata, *A DTV Profile for Uncompressed High Speed Digital Interfaces* (ballot closes 12/12/08)
- ✚ CEA-2002-A, *Test Procedure for Powerline Carrier Technology* (approved 10/23/08, in final editorial review)
- ✚ CEA-2006-B, *Testing and Measurement Methods for Mobile Audio Amplifiers* (approved 10/20/08, in final editorial review, will be sent to ANSI for public review)
- ✚ CEA-2028-A, *Color Codes for Outdoor TV Receiving Antennas* (approved 11/20/08, in final editorial review, will be sent to ANSI for public review)
- ✚ CEA-2032-A, *Indoor TV Receiving Antenna Performance Standard* (approved 11/20/08, in final editorial review, will be sent to ANSI for public review)
- ✚ CEA-2035 (aka J-STD-070), *Emergency Alert Signaling for the Home Network* (pre-vote comment period closed 9/3/08, comments being addressed)
- ✚ CEA-CEB11-A, *NTSC/ATSC Loudness Matching* (pre-vote comment period closed 10/15/08, comments being addressed)
- ✚ CEA-CEB15, *CRT X-Radiation Compliance Training Manual* (proposed for withdrawal, pre-vote comments due 12/11/08)

## Ongoing Work

- ✚ CEA-709.1-C, *Control Network Protocol Specification*
- ✚ CEA-709.2-B, *Control Network Power Line (PL) Channel Specification*
- ✚ CEA-851.2, *Security Services for the Versatile Home Network*, five year review
- ✚ CEA-852.1, *Enhanced Tunneling Device Area Network Protocols Over Internet Protocol Channels*
- ✚ CEA-2014-B, *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-CEB12-A, *PSIP Recommended Practice*, five year review
- ✚ CEA-CEB20, *A/V Synchronization Processing*
- ✚ CEA-CEB21, *Recommended DTV Audio Metadata Normalization Practices*
- ✚ CEA-CPEB6-A, *Preferred Voltage and Impedance Values for the Interconnection of Audio Products*, five year review

## Summary of Projects by CEA Product Division

### Accessories

#### ✚ Smart Antenna Performance

CEA's Antennas Committee approved CEA-774-B, *TV Receiving Antenna Performance Presentation and Measurement*, CEA-2028-A, *Color Codes for Outdoor TV Receiving Antennas*, and CEA-2032-A, *Indoor TV Receiving Antenna Performance Standard* on 11/20/08. CEA-774-B was updated to include test procedures for smart antennas, and CEA-2028-A and CEA-2032-A were updated to include performance requirements for outdoor and indoor smart antennas, respectively. 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. The three documents are now undergoing final editorial review and will be published soon.

## Audio

#### ✚ Standard Audio Levels

The Audio Systems Committee is conducting 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 WG9](#).

#### ✚ Phonograph Cartridges

The Audio Systems Committee withdrew CEA-9, *Standard Method of Measurement for Phonograph Cartridges Used in Analog Disc Playback Equipment* at its 10/21/08 meeting. This standard describes standard test conditions and procedures for testing an electromechanical phonograph cartridge transducer. It also defines a method for reporting test results.

#### ✚ Audio Amplifier Measurement

The Audio Systems Committee reaffirmed CEA-490-A, *Standard Test Methods of Measurement for Audio Amplifiers* on 10/21/08. This standard describes a measurement procedure for measuring various characteristics of multi-channel audio amplifiers.

#### ✚ Loudspeaker Safety

The Audio Systems Committee withdrew CEA-636, *Recommended Loudspeaker Safety Practices* at its 10/21/08 meeting. This standard was superseded by CEA-CEB19, *Recommended Loudspeaker Safety Practices*. Both documents describe recommended practices for producing loudspeakers that do not pose safety hazards.

#### ✚ 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**

### **Mobile Audio Amplifiers**

The Mobile Electronics Committee approved CEA-2006-B, *Testing and Measurement Methods for Mobile Audio Amplifiers* on 10/20/08. This standard describes a method for testing the performance of mobile audio amplifiers and reporting the results. The revised document is in final editorial review and will be published soon. It will also be sent to ANSI for public review.

### **PDMI Connector**

The Mobile Electronics Committee is working on a proposed "digital overlay" for the portable digital media interface (PDMI) connector. It is mapping the pins on the PDMI connector to accommodate additional digital signals. These digital signals, including USB 3.0 and/or HD video, would be supported in addition to the analog signals that have already been accommodated. However, in order to make this work the "digital version" of the connector would sacrifice some analog functionality. For example, the connector likely would not support serial connectivity or analog audio in/out at the same time as USB v3.0 or HD video. This would not mean that serial connectivity or analog audio in/out would be removed from the connector, only that they would not be supported simultaneously with USB v3.0 or HD video.

PDMI connectors comply with CEA-2017, *Common Interconnection for Portable Media Players*, which was approved as an American National Standard in July 2007. 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. Interested? Join [R6 WG15](#).

## **Home Networks**

### **LonTalk®-based Control Network Protocol**

The Home Systems Control Subcommittee is working on 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. Interested? [Join R7.1](#).

### **VOIP for Versatile Home Network**

The Home Networks Committee approved CEA-851.1-A, *IP-Based Digital Telephony for the Versatile Home Network* on 10/23/08. This standard defines IP-based telephony for the Versatile Home Network. It is in final editorial review and will be published soon.

### **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 approved CEA-2002-A, *Test Procedure for Powerline Carrier Technology* on 10/23/08. This standard defines a test procedure that can be

used to validate key aspects of power line carrier systems. It is in final editorial review and will be published soon.

### **Remote User Interface for UPnP™ Devices**

The Home Networks Committee is working on a revision to CEA-2014-A, *Web-Based Protocol and Framework for Remote User Interface on UPnP™ Networks and the Internet (Web4CE)*. This 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](#).

### **Power Line Carrier**

The Home Control Systems 1 Subcommittee is working on CEA-709.2-B, *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 is also working 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](#).

## **Residential Systems**

### **Multi-room Audio Cabling**

The Residential 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 R10 WG2](#). Note: This project was transferred from R3 WG7.

### **Home Theater Audio Design**

The Residential Systems Committee has begun work on CEA/CEDIA-CEB22, *Home Theater Recommended Practice: Audio Design*. This document will provide baseline recommendations for the design and installation of home theater and multi-channel music playback audio systems in residential spaces. This was the first project started by the new Residential Systems Committee, a committee formed jointly by CEA and CEDIA. Interested? [Join R10 WG1](#).

## **Video**

### **North American Teletext**

The Television Data Systems Subcommittee is considering reaffirmation 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. Pre-vote comments are due 12/11/08. Interested? [Join R4.3](#).

### **Cable Channel Numbering**

The Cable Compatibility Committee approved CEA-542-C, *Cable Television Channel Identification Plan* on 10/23/08. 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. This standard is now in final editorial review. After publication it will be sent to ANSI for public review. Interested? [Join R8 WG3](#).

### **DTV Remodulator Specification**

The DTV Interface Subcommittee published CEA-762-B, *DTV Remodulator Specification*, in November 2008. 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.” This standard has been submitted to ANSI for public review, and the public review comment period closes 1/5/09.

## ✚ Data Over Component Video Interface

The DTV Interface Subcommittee published ANSI/CEA-805-D, *Data Services on the Component Video Interfaces* in November 2008. 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).

## ✚ Two-Way Cable Systems

The Cable Compatibility Committee approved the withdrawal of CEA-819-A, *Cable Compatibility Requirements for Two-Way Digital Cable TV Systems* on 8/26/08. 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.

## ✚ IEEE 1394 Application Profiles

The DTV Interface Subcommittee published ANSI/CEA-849-B, *Application Profiles for CEA-775 Compliant DTVs*, in October 2008. 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.

## ✚ HDMI Reference Standard

The DTV Interface Subcommittee has drafted an errata that will clarify the relationship between the automatic format descriptor (AFD) line numbering scheme used in CEA-861-E, *A DTV Profile for Uncompressed High Speed Digital Interfaces*, and a slightly different line numbering scheme used by the Society of Motion Picture and Television Engineers (SMPTE). The email ballot on this document closes on 12/12/08. Interested? [Join R4.8 WG7](#).

## ✚ XML Schema for Emergency Alert Information

The Cable Compatibility Committee is working on CEA-2035, *Emergency Alert Signaling for the Home Network*. This new standard will define an XML Schema to signal emergency alert information from home network servers to home network client devices, in harmony with existing standards (CAP v1.1, ANSI J-042-A, and ATIS 0800012). The pre-vote comment period closed on 9/3/08

and comments are now being addressed. Interested? [Join R8 WG5](#).

## ✚ Loudness Matching Between Analog/Digital TV

The Video Systems Committee is nearing completion of CEA-CEB11-A, *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. The pre-vote comment period closed on 10/15/08 and comments are now being addressed. Interested? [Join R4 WG10](#).

## ✚ PSIP Recommended Practice

The Television Data Systems Subcommittee is conducting 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](#).

## ✚ DTV Audio Metadata

The Television Data Systems Subcommittee is working on CEA-CEB21, *Recommended DTV Audio Metadata Normalization Practices*, a recommended practice that will give guidance to receiver manufacturers on how to parse the relevant portions of an ATSC audio stream, particularly in situations where the broadcaster is sending audio in multiple languages. It is considering what practices might be followed in order to help consumers most easily find the audio streams that they are looking for. Interested? [Join R4.3 WG12](#).

## ✚ DTV Receiver Audio/Video Synchronization

The Video Systems Committee has begun work on CEA-CEB20, *A/V Synchronization Processing*, a bulletin that will recommend methods for synchronizing audio and video content at the receiver using time stamps in MPEG-2 transport streams. Interested? [Join R4 WG15](#).

## ✚ X-Radiation Compliance

The Video Systems Committee is considering the withdrawal of CEA-CEB15, *CRT X-Radiation Compliance*

*Training Manual.* This document provides guidance to TV manufacturers on how to test CRT products for X-radiation compliance. Pre-vote comments are due 12/11/08.  
Interested? [Join R4.](#)