



Electronic Devices & Networks Annex
EDNA

Overview of ANSI/CTA-2045 and 2047 Communications Protocols

Bill Belt, Senior Director, Technology & Standards, Consumer Technology Association

CTA Technology & Standards - Committee Organization

- R07 - Consumer Electronics Networking Committee
 - R07.08 - Modular Communication Interface for Energy Management
 - R07.08 WG01 - Modular Communications Interface
 - R07.08 WG02 - CE-EUI

R07.08 WG1

- R07.08 WG1's scope is to resolve any technical and editorial issues, and to make recommendations to R07.08 on the MCI standard.
- **Group Chair:** Mr. Rolf Bienert, Technical Director, USNAP Alliance
- **Participants:** AT&T Inc, ClipperCreek, Inc., e-Radio USA, EchoStar Satellite, L.L.C., Electric Power Research Institute, Emerson Electric Co., Home Systems, LG Electronics, LonMark International, Samsung Electronics, TE Connectivity, USNAP Alliance, WJR Consulting, ZigBee Alliance

ANSI/CTA-2045

Modular Communications Interface

- **Published**
- This document is a specification for a modular communication interface. The specification details the mechanical, electrical, and logical characteristics of a socket interface that allows communication devices to be separated from end devices. Although the potential applications of this technology are wide-ranging, it is intended at a minimum to provide a means by which residential products may be able to work with any load management system through user installable plug-in communication modules. This specification identifies the physical and data link characteristics of the interface, along with certain network and application layer elements as needed to assure interoperability over a broad range of device capabilities. In addition, it defines a mechanism through which application layer messages (defined in other standards) may be passed across the interface.

ANSI/CTA-2045 Amendment 1

Modular Communications Interface for Energy Management Amendment 1

■ Published

- Amends ANSI/CTA-2045 Modular Communications Interface to correct the following errors:
 1. Correction of an error in diagram of Figure 16-11
 2. Addition of an ECHONET Lite, KNX, and LonTalk Pass-Through section
 3. Correction of the Checksum calculation in Appendix C
 4. Removal of guide pins on DC form factor
 5. Clarification of Conflict Handling
 6. Formatting changes
 7. Add priority designations to Intermediate DR Application Commands

ANSI/CTA-2045-A

Modular Communications Interface for Energy Management

- **Under Development**
- The new project entails modifying the current published version of ANSI/CTA-2045 to include Amendment 1, address clarification issues that have been identified in the field, reorganized the data-link, and add new features and functions.
- ANSI/CTA-2045 specifies a modular communications interface (MCI) to facilitate communications with residential devices for applications such as energy management. The MCI provides a standard interface for energy management signals and messages to reach devices.

ANSI/CTA-2045.1

Modular Communications Interface for Firmware Transfer Message Set

- **Published**
- This specification is an extension of the ANSI/CTA-2045 Modular Communications Interface (MCI) for Energy Management Specification. It presents messages and methods that enable reprogramming the SGD firmware over the MCI interface.

ANSI/CTA-2045.1 Amendment 1

Modular Communications Interface for Firmware Transfer Message Set

- **Under Development**
- This specification is an extension of the ANSI/CTA-2045 Modular Communications Interface (MCI) for Energy Management standard. It presents messages and methods that enable reprogramming the SGD firmware over the MCI interface.
- Project to amend ANSI/CTA-2045.1 entails correcting an error related to the Intermediate DR OpCode1 of 0x09 messaging.

ANSI/CTA-2045.2

MCI for Generic Display Message Set

- **Published**
- This specification is an extension of the ANSI/CTA-2045 Modular Communications Interface (MCI) for Energy Management Specification. It presents messages and methods that enable generic message display over the MCI interface.

ANSI/CTA-2045.2 Amendment 1

MCI for Generic Display Message Set

- **Under Development**
- This specification is an extension of the ANSI/CTA-2045 Modular Communications Interface (MCI) for Energy Management standard. It presents messages and methods that enable generic message display over the MCI interface.
- Project to amend ANSI/CTA-2045.2 entails correcting an error related to the Intermediate DR OpCode1 of 0x09 messaging.

ANSI/CTA-2045.3

Modular Communications Interface for Thermostat Message Set

- **Published**
- The specification is an extension of the ANSI/CTA-2045 Modular Communications Interface. It presents messages and methods for Thermostat based functionality.

R07.08 WG2

- R07.08 WG02 makes recommendations to R07.08 concerning standards, bulletins, and other documents that describe how consumer electronic devices communicate energy usage information.
- **Group Chair:** Mr. William Rose, President, WJR Consulting
- **Participants:** AGP, LLC, Best Buy Co. Inc., Broadcom Corporation, Cable Television Labs, e-Radio USA, Home Systems, JVC Kenwood, Lawrence Berkeley National Laboratory, LG Electronics, National Cable Telecommunications Assoc., Panasonic Corporation, Sharp Electronics Corporation, USNAP Alliance, WJR

ANSI/CTA-2047

CE Energy Usage Information (CE-EUI)

- **Published**
- This standard will enable consumer electronic devices to communicate their energy usage information for example over a home network as well as optionally respond to basic demand/response commands. The usage data may be a measured or estimated value or may use other methods to indicate energy usage. This standard should enable mapping to/from the NAESB/PAP10 EUI model as well as utilize ANSI/CEA-2045 Modular Communications Interface for Energy Management messaging where possible.

Thank You!

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