ANSI/CEA Standard

Control Networking Protocol Specification Part 5: Implementation Application Layer Guidelines

ANSI/CEA-709.5

September 2015

CEA
Consumer Electronics Association

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(Formulated under the cognizance of the CEA **R7 Home Networks Committee**.)

Published by
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Technology & Standards Department
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FOREWORD

This standard was developed by the Consumer Electronics Association under the auspices of the R7 Consumer Electronics Networking Committee.

CONTENTS

Introduction

This standard is prepared based upon work provided to the Consumer Electronics Association (CEA) R7 Consumer Electronics Networking Committee by LonMark International, a non-profit standards development association. This work has been modified from its original creation to update it to the latest revision. Similar documents have been used in other international standards bodies.

This standard is part of a series of standards for open data transmission in building automation, home automation and control, and in building management systems. The content of this standard covers the data communications used for management, automation/control and field functions.

The CEA-709.5 is part of a series of ANSI/CEA-709 Standards under the general title *Control Network Protocol (CNP)*, which comprises the following parts:

Part 1: *Protocol Stack Specification*
Part 2: *Power Line Channel Specification*
Part 3: *Twisted-Pair Communication*
Part 4: *Fiber-Optic Specification*
Part 5: *Implementation*
Part 6: *Application Elements*

At present this document exists only in English.

Tags

Descriptors: system management, open systems interconnection, interoperability, device communications, network interconnection, buildings, heating, ventilation, air conditioning, data bus, data transmission, protocols, device profiles, building automation, controls, building management

Overview

This standard specifies the Layered Implementation Guidelines (LIG) for the Control Network Protocol (CNP) Specification: ANSI/CEA-709.1-D. The CNP specification model is based on the ISO Open Systems Interconnection Reference Model. There are also important extensions to the 7-layer OSI Reference Model. Figure 1 shows the scope of this specification in reference to the CNP and companion specifications for handling various data-transport media at the lower ISO protocol layers. A dashed line is used to show that the scope of this standard is not as redundancy to the other specifications covering their respective layers but as a complement to those specifications in implementing them in an interoperable fashion.

In this standard, the guidelines for implementing a device based on CNP are specified to increase the ability for devices to interoperate—regardless of installer or manufacturer of the devices. Anything outside this boundary is covered in other parts of the standard. Similar specifications exist for CNP data-transport media.

This standard has been prepared to provide mechanisms through which various vendors of building automation, control, and of building-management systems, may exchange information in a standardised way. It defines communication and internal-documentation requirements.

This standard is contributing to the general US policy for energy savings for building automation, monitoring, and control of energy consuming systems in typical buildings.

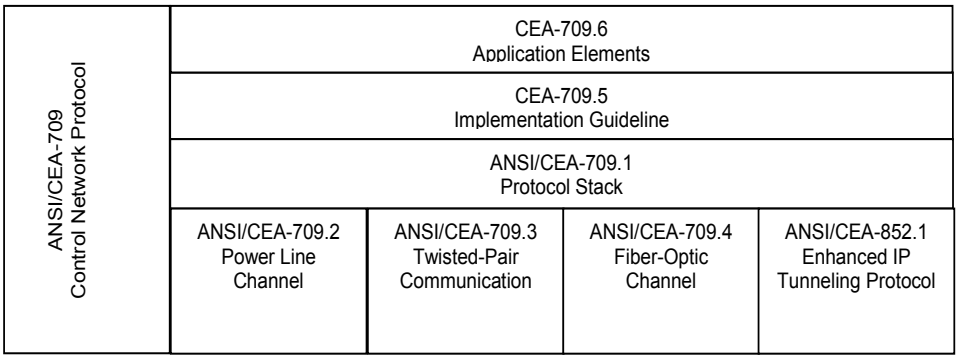

Figure 1 — Scope of the ANSI/CEA-709 suite of standards

1 Scope

This standard contains all the information necessary to facilitate the exchange of data and control information in an interoperable fashion using ANSI/CEA-709.1-D and its associated data-transport media specifications.

This standard establishes a minimal set of rules for compliance. It does not rule-out extended services to be provided, given that the rules are adhered-to within the system. It is the intention of the standard to permit extended services to coexist and defines the bounds in which those services function, including the format for internal device-documentation of those services. Services outside purvey of this specification—so long as they are adherents of the system—are permitted but will not necessarily be interoperable with any other devices and shall not be essential for the functioning of the device.

Certain aspects of this standard are defined in other documents. These documents are referenced where relevant. In the case where a referenced document conflicts with this standard, this standard will prevail.

2 References

2.1 Normative References

The following referenced standards are indispensable for the application of this standard. These standards contain provisions that, through reference in this text, constitute normative provisions of this standard. At the time of publication, the editions indicated were valid. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.