

CEA Standard

Tunneling Component Network Protocols Over Internet Protocol Channels

CEA-852-A

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(Formulated under the cognizance of the CEA R7.1 HCS1 Subcommittee.)

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FOREWORD

This standard was developed under the auspices of the CEA R-7.1 Home Control Systems Subcommittee.

CEA-852-A supersedes CEA-852 (formerly EIA/CEA-852)

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1 General

1.1 Scope

The CEA-852 standard specifies a communications method that allows networked data acquisition and control devices to communicate with each other over the internet. The purpose of such devices are widely varying and include functions such as appliance monitoring, meter reading, and HVAC and lighting control to name a few. CEA-852 does not replace existing device communications protocols, but instead allows those protocols to use the internet as a communications medium. CEA-852 currently supports the existing device protocols CEA-600 (CEBus) and CEA-709 (LonTalk ®) and was designed to allow the support of others.

1.2 Revision History

Since the original CEA-852 standard specification was released in 2001, several vendors have released implementations of the standard and more are in development. Unfortunately, as is the case with almost any new specification, experience in its use and interoperation between different implementations has brought to light several errors, omissions, unforeseen limitations and poorly defined requirements. Moreover, the CEA-852 specification is under consideration for adoption by other International standards bodies. In an effort to clean up the specification before it becomes more widely adopted and to better foster interoperability between implementations, Revision A of the CEA-852 specification has been developed. Because Revision A was limited to modifications that would maintain a high degree of backwards compatibility with the installed base of 852 devices, it did not address all of the limitations that have been discovered in the original specification. As a result, a new working group has been set up to begin work on the next Revision B which will address more aggressively performance limitations but at the expense of reduced backwards compatibility.

The significant changes and corrections in Revision A are summarized below.

- Added uni-cast port address field to the channel routing request packet. This change removes the limitation that no two 852 devices with the same IP host address but different uni-cast ports could be members of the same 852 channel. This enables multiple 852 devices to share the same IP host.
- Defined the policy for maintaining backwards and forward compatibility in the event that new fields are added to the end of fixed format configuration packets. This policy supports the future addition of fields without necessarily breaking older implementations that do not recognize the additional fields.
- Redefined the use of the term “configuration packet” or “configuration packets” to only refer to the generic class of configuration packets. The specific packet type that used to be called a configuration packet is now called a “registration packet”. There are now two registration packets types and the particular packet type is determined by the usage.
- Defined the policy for using registration packet types and registration request packet types. This policy allows future implementations to better differentiate between solicited and unsolicited registration packets and match responses to requests.