

# ANSI/CEA Standard

## Symbol Encoding Sublayer

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## **CEA-600.37**

### **Symbol-Encoding Sublayer**

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## EIA-600.37 Symbol-Encoding Sublayer

### 1. Introduction

This document describes the portion of the Node Physical Layer that interfaces to the Medium Access Control (MAC) Sublayer and to Layer System Management (LSM). This sublayer is called the Symbol Encoding (SE) Sublayer. The SE Sublayer provides two primary functions:

- (1) Accepts symbol transmission requests (PH\_CC\_DATA.request service primitive) from the MAC Sublayer, converts the symbols into correct medium state change timing, and produces requests (M\_STATE.request) for state changes on the physical medium. This function is symbol encoding.
- (2) Accepts state change indications (M\_STATE.indication service primitive) from the Control Channel Medium Dependent Physical (MDP) Sublayer, converts the time between state changes to symbols, and produces indications of symbol reception (PH\_CC\_DATA.indication) for the MAC Sublayer. This function is symbol decoding.

Figure 1-1 illustrates the lower part of the CEBus layered model with the section described by this document shaded. Shown to the left of each sublayer is the document number covering that sublayer. Between the sublayers are the service primitives that exchange information and interact with the internal state machines. Within each sublayer block is the basic unit of information handled by that sublayer. The bottom block represents the Control Channel MDP Sublayer.

This Symbol Encoding Sublayer operates in conjunction with MAC Sublayers that perform error detection. This Sublayer supports Twisted Pair, Coax, and IR media, and possibly others in the future. Other Symbol Encoding Sublayers are defined that perform their own error detection for the MAC Sublayer.

The next section provides a functional description of the SE Sublayer. Sections 3 and 4 detail the service primitives supported by this sublayer. Section 5 provides a prose description of the states, events, variables, and actions found in the SE state machine. Section 6 presents the state transition tables (state machine).