

IEEE Standards for Local and Metropolitan Area Networks:

**Supplement to Token-Passing Bus Access Method and
Physical Layer Specifications**

Alternative Use of BNC Connectors and Manchester-Encoded Signaling
Methods for Single-Channel Bus Physical Layer Entities

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IEEE Standards Board

Abstract: This supplement to ISO/IEC 8802-4:1990 [ANSI/IEEE Std 802.4-1990] provides the functional, electrical, and mechanical characteristics of single-channel differential and Manchester-data-encoded bus Physical Layer Entities (PLEs).

Keywords: BNC connectors, differential Manchester encoding, eye pattern, local area network, MAC-Symbol encoding, Manchester-encoded signaling, Physical Layer Entity, single-channel bus, token-passing bus access method

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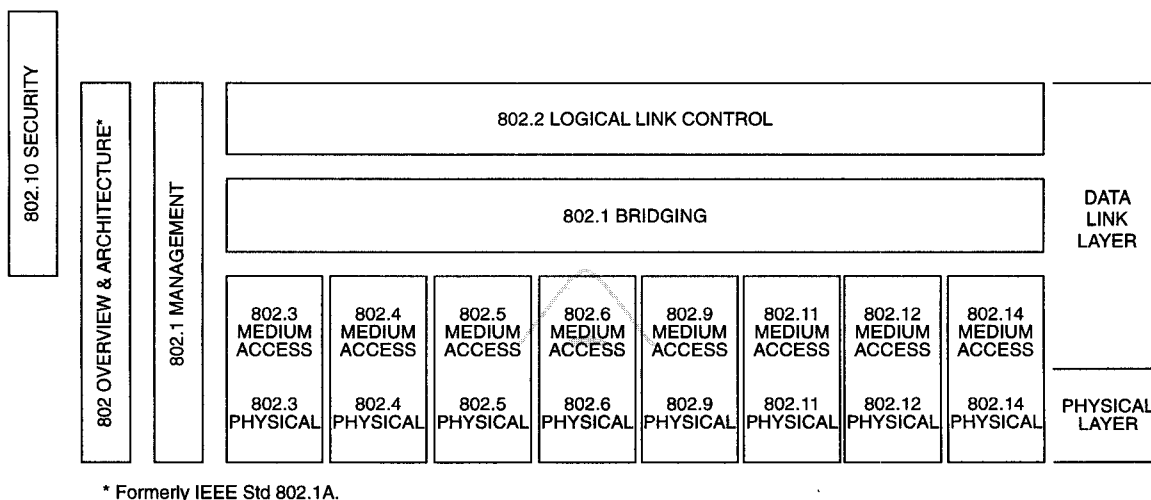
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Introduction

(This introduction is not part of IEEE Std 802.4h-1997, IEEE Standards for Local and Metropolitan Area Networks: Supplement to Token-Passing Bus Access Method and Physical Layer Specifications: Alternative Use of BNC Connectors and Manchester-Encoded Signaling Methods for Single-Channel Bus Physical Layer Entities.)

This standard is part of a family of standards for local and metropolitan area networks. The relationship between the standard and other members of the family is shown below. (The numbers in the figure refer to IEEE standard numbers.)



This family of standards deals with the Physical and Data Link layers as defined by the International Organization for Standardization/International Electrotechnical Commission (ISO/IEC) Open Systems Interconnection Basic Reference Model (ISO/IEC 7498-1: 1994). The access standards define several types of medium access technologies and associated physical media, each appropriate for particular applications or system objectives. Other types are under investigation.

The standards defining the access technologies are as follows:

- IEEE Std 802 *Overview and Architecture.* This standard provides an overview to the family of IEEE 802 Standards. This document forms part of the 802.1 scope of work.
- ANSI/IEEE Std 802.1B and 802.1k [ISO/IEC 15802-2] *LAN/MAN Management.* Defines an Open Systems Interconnection (OSI) management-compatible architecture, and services and protocol elements for use in a LAN/MAN environment for performing remote management.
- ANSI/IEEE Std 802.1D [ISO/IEC 10038] *MAC Bridging.* Specifies an architecture and protocol for the interconnection of IEEE 802 LANs below the MAC service boundary.
- ANSI/IEEE Std 802.1E [ISO/IEC 15802-4] *System Load Protocol.* Specifies a set of services and protocol for those aspects of management concerned with the loading of systems on IEEE 802 LANs.
- ANSI/IEEE Std 802.2 [ISO/IEC 8802-2] *Logical Link Control*
- ANSI/IEEE Std 802.3 [ISO/IEC 8802-3] *CSMA/CD Access Method and Physical Layer Specifications*

- ANSI/IEEE Std 802.4 [ISO/IEC 8802-4] *Token Passing Bus Access Method and Physical Layer Specifications*
- ANSI/IEEE Std 802.5 [ISO/IEC 8802-5] *Token Ring Access Method and Physical Layer Specifications*
- ANSI/IEEE Std 802.6 [ISO/IEC 8802-6] *Distributed Queue Dual Bus Access Method and Physical Layer Specifications*
- ANSI/IEEE Std 802.9 [ISO/IEC 8802-9] *Integrated Services (IS) LAN Interface at the Medium Access Control (MAC) and Physical (PHY) Layers*
- ANSI/IEEE Std 802.10 *Interoperable LAN/MAN Security*
- IEEE Std 802.11 *Wireless LAN Medium Access Control (MAC) and Physical Layer (PHY) Specifications*
- ANSI/IEEE Std 802.12 *Demand Priority Access Method, Physical Layer and Repeater Specifications*

In addition to the family of standards, the following is a recommended practice for a common Physical Layer technology:

- IEEE Std 802.7 *IEEE Recommended Practice for Broadband Local Area Networks*

The following additional working group has authorized standards projects under development:

- IEEE 802.14 *Standard Protocol for Cable-TV Based Broadband Communication Network*

The reader of this standard is urged to become familiar with the complete family of standards.

Conformance test methodology

An additional standards series, identified by the number 1802, was established in 1990 to identify the conformance test methodology documents for the 802 family of standards. Thus the conformance test documents for 802.3 are numbered 1802.3.

IEEE Std 802.4h-1997

This supplement to ISO/IEC 8802-4 : 1990 [ANSI/IEEE Std 802.4-1990] provides the functional, electrical, and mechanical characteristics of single-channel differential and Manchester-data-encoded bus Physical Layer Entities (PLEs).

This standard contains state-of-the-art material. The area covered by this standard is undergoing evolution. Revisions are anticipated within the next few years to clarify existing material, to correct possible errors, and to incorporate new related material. Information on the current revision state of this and other IEEE 802 standards may be obtained from

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IEEE 802 committee working documents are available from

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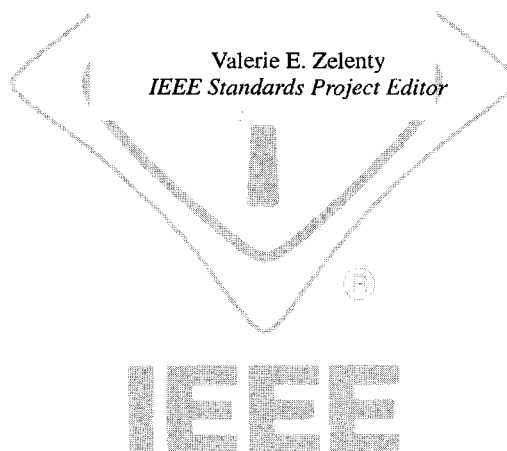
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