



ANSI E1.27-1 - 2006 (R2016)
Entertainment Technology—Standard for Portable
Control Cables for Use with ANSI E1.11 (DMX512-A)
and USITT DMX512/1990 Products

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The Control Protocols Working Group, which authored this standard, consists of a cross section of entertainment industry professionals representing a diversity of interests. ESTA is committed to developing consensus-based standards and recommended practices in an open setting.

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Foreword

(This foreword contains no mandatory requirements.)

This standard describes the types of portable cable used to interconnect products which comply with ANSI E1.11, Entertainment Technology – USITT DMX512-A: Asynchronous Serial Digital Data Transmission Standard for Controlling Lighting Equipment and Accessories.

In 2003, The Control Protocols Working Group of ESTA's Technical Standards Program authorized the formation of a DMX512 Cabling Task Group. Writing an American National Standard for the use of portable DMX512-A cables was one of the projects assigned to this Task Group. This document is the result. It was developed under the Policies and Procedures of the ESTA Technical Standards Program, and reaffirmed under the Policies and Procedures of the PLASA Technical Standards Program

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1 General

1.1 Scope

This Standard describes the types of portable cable for the transmission of digital data among products which comply with ANSI E1.11, Entertainment Technology—USITT DMX512-A. It covers recommended cable types, connectors and their internal wiring.

This Standard is intended as a guide for:

1. Equipment manufacturers and system specifiers who wish to integrate systems of lighting equipment and accessories, including dimmers, with controllers made by different manufacturers.
2. System specifiers and consultants who wish to gain detailed information about recommended cable types and allowed connectors.

This standard is intended to supplement ANSI E1.11, Entertainment Technology—USITT DMX512-A - Asynchronous Serial Digital Data Transmission Standard for Controlling Lighting Equipment and Accessories. References to ANSI E1.11, and DMX512-A within this standard all refer to this document.

This standard is not intended to replace existing portable digital data cabling standards or recommended practices other than those described in USITT DMX512 and DMX512/1990.

Unless otherwise noted, references to DMX512 in this document refer to DMX512-A.

1.2 Overview and Architecture

The means of transport of DMX512-A digital data from one compliant device to another is normally a two-pair cable, with each pair serving as a data link. Single pair cables are allowed when properly marked to differentiate them from two-pair cables. Portable cable shall be shielded to protect the data links from interference (RFI and EMI). The physical connection of portable cables at any device is via a 5-pin XLR connector.

The first pair of wires in any DMX512 portable data cable is used as the primary data link. The second pair is used for a variety of purposes, all of which fall within the scope of DMX512-A.

1.3 Compliance

Compliance with this standard is strictly voluntary and the responsibility of the manufacturer. Disclosures and identification or other claims of compliance do not constitute certification or approval by ESTA. See clause 7 for Disclosure requirements.

2 Normative references

ANSI E1.11 *Entertainment Technology—USITT DMX512-A - Asynchronous Serial Digital Data Transmission Standard for Controlling Lighting Equipment and Accessories*

ANSI/TIA/EIA-568-B-2001 *Commercial Building Telecommunications Cabling Standard*

ANSI/TIA/EIA-485-A-1998 *Electrical Characteristics of Generators & Receivers for Use in Balanced Digital Multipoint Systems*. This standard will be referred to as EIA-485-A in this document.

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