



# ANSI E1.24 - 2012

## Entertainment Technology

### Dimensional Requirements for Stage Pin Connectors

EP/2002-7005r5

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## Entertainment Technology

### Dimensional Requirements for Stage Pin Connectors

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The PLASA Technical Standards Program was created to serve the PLASA membership and the entertainment industry in technical standards related matters. The goal of the Program is to take a leading role regarding technology within the entertainment industry by creating recommended practices and standards, monitoring standards issues around the world on behalf of our members, and improving communications and safety within the industry. PLASA works closely with the technical standards efforts of other organizations within our industry, including USITT and VPLT, as well as representing the interests of PLASA members to ANSI, UL, and the NFPA. The Technical Standards Program is accredited by the American National Standards Institute.

The Technical Standards Council (TSC) was established to oversee and coordinate the Technical Standards Program. Made up of individuals experienced in standards-making work from throughout our industry, the Council approves all projects undertaken and assigns them to the appropriate working group. The Technical Standards Council employs a Technical Standards Manager to coordinate the work of the Council and its working groups as well as maintain a "Standards Watch" on behalf of members. Working groups include: Control Protocols, Electrical Power, Floors, Fog and Smoke, Followspot Position, Photometrics, Rigging, and Stage Lifts.

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

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Interest category codes:

CP = custom-market producer

DE = designer

DR = dealer rental company

G = general interest

MP = mass-market producer

U = user

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## Foreword

(This foreword is not part of American National Standard E1.24 and contains no requirements.)

This purpose of this Standard is to present the dimensional requirements of stage pin connectors and is intended to provide for the interchangeability of these products made by different manufacturers. The original version of this Standard was developed from 1995 through 1997 by the Engineering Commission of the United States Institute for Theatre Technology, Inc. (USITT) and was known as USITT S3-1997 – Standard for Stage Pin Connectors. In 2003, USITT transferred maintenance of the S3-1997 to PLASA, an ANSI-accredited standards developer.

PLASA is a non-profit trade association representing the entertainment technology industry. Its members include dealers, manufacturers, manufacturer representatives, service and production companies, scenic houses, designers and consultants. The Association addresses areas of common concern such as technical standards, customer service, equipment quality, business practices, insurance, and credit reporting, and provides a wide variety of services to Members. PLASA's Technical Standards Program (TSP) is accredited by the American National Standards Institute (ANSI) to write American National Standards. This accreditation means that the PLASA Technical Standards Program for standards-making has passed a detailed scrutiny by ANSI to insure that it meets the most stringent requirements for fairness and proper public review of proposed PLASA standards. The accreditation allows PLASA to submit standards for the ANSI public review and comment process, and then publish them as ANSI standards.

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The United States Institute for Theatre Technology, Inc. (USITT) is the Association of Design, Production, and Technology Professionals in the Performing Arts and Entertainment Industry. Founded in 1960, the mission of the Institute is to advance the professions of design and technology in the performing arts by disseminating information, actively promoting the advancement of knowledge and skills and facilitating national and international communication among its members. USITT is the United States Center of OISTAT, the International Organization of Scenographers, Theatre Architects and Technicians.

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## **1 General**

### **1.1 Scope**

This configuration standard covers the dimensional requirements and mechanical requirements related to intermateability for a series of split-pin and sleeve wiring devices known as Pin Connectors or Stage Pin Connectors that are used predominately in the theatre, television and motion picture industries in North America. This is not a safety standard.

### **1.2 Compliance**

Compliance with this Standard is strictly voluntary and the responsibility of the manufacturer. Markings and identification or other claims of compliance do not constitute certification or approval by PLASA.

## **2 Normative references**

NFPA 70 National Electrical Code® (NEC)  
National Fire Protection Association  
Batterymarch Park  
Quincy, MA. 02269

Underwriters Laboratories Standard 498 - Attachment Plugs and Receptacles  
Underwriters Laboratories  
333 Pfingsten Road  
Northbrook, IL 60062-2096

## **3 Conventions**

Throughout this publication, the following shall apply:

**3.1** All dimensions are in inches with the SI equivalent following in parenthesis, unless otherwise specified

**3.2** Decimal dimensions without tolerances shall be subject to a plus or minus of 0.005-inch tolerance (0.127 millimeters).

**3.3** Angular dimensions without tolerances shall be subject to a plus or minus 1 degree tolerance.

**3.4** "G" denotes equipment ground.

**3.5** "W" denotes neutral (grounded) conductor.

**3.6** Leading edges of plug pins shall be free of burrs and sharp edges.

**3.7** All sleeves and sleeve tolerances are symmetrically located about center points.

**3.8** Female sleeves associated with pins that are 0.062 minimum longer than other pins are engaged prior to the other female sleeves.

**3.9** Configurations used on alternating current systems are limited to 50 or 60 Hertz unless otherwise specified.

**3.10** Dimensions shown in this standard are for the purposes of intermateability and do not preclude other designs.