Entertainment Services and Technology Association

American National Standard E1.24 - 2006 Entertainment Technology Dimensional Requirements for Stage Pin Connectors

EP/2003-7005r2.1

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This edition of ANSI E1.24 was approved by American National Standards Institute on April 6, 2006.

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The ESTA Technical Standards Program

The ESTA Technical Standards Program was created to serve the ESTA 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. ESTA works closely with the technical standards efforts of other organizations within our industry including USITT, PLASA, and VPLT as well as representing the interests of ESTA members to ANSI, UL, and the NFPA. The Technical Standards Program is accredited by the American National Standards Institute as Accredited Standards Committee E1, Safety and Compatibility of Entertainment Technical Equipment and Practices.

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

ESTA encourages active participation in the Technical Standards Program. There are several ways to become involved. If you would like to become a member of an existing working group, as have over two hundred people, you must complete an application which is available from the ESTA office. Your application is subject to approval by the working group and you will be required to actively participate in the work of the group. This includes responding to letter ballots and attending meetings. Membership in ESTA is not a requirement. You can also become involved by requesting that the TSC develop a standard or a recommended practice in an area of concern to you.

The Electrical Power Working Group, which authored this standard, consists of a cross section of entertainment industry professionals representing manufacturers, consultants, dealers, and end-users. ESTA is committed to developing consensus-based standards and recommended practices in an open setting. Future Electrical Power Working Group projects will include updating this publication as changes in technology and experience warrant, as well as developing new standards and recommended practices for the benefit of the entertainment industry.

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Foreword

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

This Standard is intended to provide for the intermateability of stage pin connectors made by different manufacturers. There are two informative annexes in this Standard. The original version of this Standard was developed from 1995 thru 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. This was submitted to Underwriters Laboratories for incorporation into appropriate ANSI standards administered by UL. For reasons beyond the scope of this document, this has not occurred. In 2003, USITT transferred maintenance of the S3-1997 to ANSI Accredited Standards Committee E1, Safety and Compatibility of Entertainment Technical Equipment and Practices (more commonly known as the ESTA Technical Standards Program - TSP).

The Entertainment Services and Technology Association (ESTA) is a non-profit trade association representing the North American 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. ESTA's Technical Standards Committee (TSC) is accredited by the American National Standards Institute (ANSI) as Accredited Standards Committee E1, Safety and Compatibility of Entertainment Technical Equipment and Practices with ESTA as its Secretariat. This accreditation means that the ESTA 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 ESTA standards. The accreditation allows ESTA to submit standards for the ANSI public review and comment process, and then publish them as ANSI standards. The ESTA Technical Standards Program is now the only ANSI-accredited standards-making program dedicated to the needs of entertainment technology.

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 Conventions

1.2.1 Dash Symbol (-)

The “dash” symbol as used in wiring device ratings indicates that the device is suitable for use on any circuit within the range of the ratings.

1.2.2 Slant Symbol (/)

The “slant” symbol as used in wiring device ratings indicate that two or more voltages are present simultaneously between different terminals.

1.3 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 the E1 Accredited Standards Committee.

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 Definitions

3.1 Attachment Plug (Cap): a plug is a device with male contacts that, when inserted into a receptacle or cord connector, establishes connection between the conductors of the attached flexible cord or cable and the conductors connected to the receptacle or cord connector.

3.2 Cord Connector (Connector Body): a cord connector is a portable female receptacle that is attached to or provided with a means for attachment to a flexible cord or cable, and that is not intended for fixed mounting.

3.3 Grounded Conductor (System Ground): a grounded conductor is a circuit conductor (normally current carrying) that is intentionally connected to earth ground. This conductor is known in the Enter-