



ANSI E1.58 – 2017

Electrical Safety Standard for Portable Stage and Studio Equipment Used Outdoors

Document number EP/2015-7020r4

This standard was approved by the American National Standards Institute on 11 October 2017.

© 2017 the Entertainment Services and Technology Association (ESTA). All rights reserved.

[This page was intentionally left blank.]

Notice and Disclaimer

ESTA does not approve, inspect, or certify any installations, procedures, equipment or materials for compliance with codes, recommended practices, or standards. Compliance with a ESTA standard or recommended practice, or any American National Standard developed under ESTA's Technical Standards Program is the sole and exclusive responsibility of the manufacturer or provider and is entirely within their control and discretion. Any markings, identification or other claims of compliance do not constitute certification or approval of any type or nature whatsoever by ESTA.

ESTA neither guarantees nor warrants the accuracy or completeness of any information published herein and disclaim liability for any personal injury, property or other damage or injury of any nature whatsoever, whether special, indirect, consequential or compensatory, directly or indirectly resulting from the publication, use of, or reliance on this document.

In issuing and distributing this document, ESTA does not either (a) undertake to render professional or other services for or on behalf of any person or entity, or (b) undertake any duty to any person or entity with respect to this document or its contents. Anyone using this document should rely on his or her own independent judgment or, as appropriate, seek the advice of a competent professional in determining the exercise of reasonable care in any given circumstance.

Published by:

The Entertainment Services and Technology Association
630 Ninth Avenue, Suite 609
New York, NY 10036
USA
Phone: 1-212-244-1505
Fax: 1-212-244-1502
Email: standards@esta.org

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 and represents the interests of ESTA 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 and Assistant 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, Event Safety, Floors, Fog and Smoke, Followspot Position, Photometrics, Rigging, and Stage Lifts.

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, but there is an annual participation fee. A participation fee fund is available to help those who find the fee is an impediment to their participation due to their financial situation. 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 a diversity of interests. 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.

Investors in Innovation

The Technical Standard Program is financially supported by companies and individuals who make undirected donations to the TSP. Contributing companies and individuals who have helped fund the TSP are recognized as “Investors in Innovation.” The Investors in Innovation when this standard was approved by ANSI, 11 October 2017, included these companies and individuals:

VISIONARY LEADERS (\$50,000 & up)

ETC

ProSight Specialty Insurance

VISIONARY (\$10,000 & up; >100

employees/members)

Chauvet Professional

Columbus McKinnon Entertainment

Technology

Robe

United States Institute for Theatre
Technology

VER

Walt Disney Parks and Resorts

VISIONARY (\$5,000 & up; 20–100

employees/members)

Altman Lighting, Inc.

German Light Products

JR Clancy

McLaren Engineering Group

Rose Bramd

Stage Rigging

TMB

Tyler Truss Systems, Inc.

VISIONARY (\$500 & up; <20

employees/members)

B-Hive Industries, Inc.

Scott Blair

Boston Illumination Group

Candela Controls Inc.

Clark Reder Engineering

Tracey Cosgrove & Mark McKinney

Doug Fleenor Design

EGI Event Production Services

Entertainment Project Services

Neil Huff

Hughston Engineering Inc.

Interactive Technologies

Jules Lauve

Brian Lawlor

Limelight Productions, Inc.

John T. McGraw

Mike Garl Consulting

Mike Wood Consulting

Reed Rigging

Reliable Design Services

Alan M. Rowe

David Saltiel

Sapsis Rigging Inc.

Stageworks

Dana Taylor

Steve Terry

Theatre Projects

Theatre Safety Programs

Tobins Lake Sales Theatrical Supply

Vertigo

Steve A. Walker & Associates

Westview Productions

WNP Services

INVESTOR (\$3,000–\$9,999; >100 employees/members)
 Barbizon Electric
 Golden Sea Professional Equipment Limited
 IATSE Local 891
 Lex

NAMM
 Rosco Laboratories
 Texas Scenic Company

INVESTOR (\$1,500–\$4,999; 20–100 employees/members)
 American Society of Theatre Consultants
 City Theatrical Inc.
 InterAmerica Stage, Inc.
 Lycian Stage Lighting

Morpheus Lights
 Niscon Inc.
 Syracuse Scenery and Stage Lighting
 XSF Xtreme Structures and Fabrication

INVESTOR (\$200–\$499; <20 employees/members)
 About the Stage
 Benjamin Cohen
 Bruce Darden
 Tony Giovannetti

Indianapolis Stage Sales & Rentals, Inc.
 Jason Kyle
 Eric Loader
 Moss LED
 Stephen Vanciel

SUPPORTER (<\$3,000; >100 employees/members)
 Ian Foulds, IATSE Local 873
 Harlequin Floors

PSAV
 Thern Stage Equipment

SUPPORTER (<\$1,500; 20–100 employees/members)
 Aerial Arts
 Blizzard Lighting, LLC
 Creative Stage Lighting
 Geiger Engineers
 H&H Specialties
 High Output
 InCord
 iWeiss
 Oasis Stage Werks

Serapid
 Stage Equipment & Lighting
 Stagemaker
 Thermotex Industries, Inc.
 Tomcat
 Total Structures
 Ultratec Special Effects
 Vincent Lighting Systems

SUPPORTER (<\$200; <20 employees/members)
 AC Power Distribution, Inc.
 Michael Cowger
 Peter Donovan
 Mitch Hefter
 Bill Hektner
 Alan Hendrickson

John Musarra
 Shawn Nolan
 Lizz Pittsley
 Phil Reilly
 Robert Scales
 Charles Scott
 Michael Skinner